CS 352 Introduction to Usability Engineering

Credits: 4

This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits.

Instructor name: Hann Scott

Instructor email: scothann@oregonstate.edu (if you have a request or question of a personal nature)

This syllabus and schedule are subject to change in the event of extenuating circumstances.

Course Introduction

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 151 with C or better or CS 161 with C or better or ENGR 103 with C or better or CS 295 with C or better or ECE 151 with C or better

Equivalent to: CS 252

Technical Assistance

If you experience any errors or problems while in your online course, contact 24-7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Service Desk for assistance. You can call (541) 737-8787 or visit the IS Service Desk online.

Learning Resources

This course does not have a required textbook. Reading assignments will be provided in the form of lectures, articles online through OSU’s library, and other online resources.

Course Learning Outcomes

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 the basics of human subject’s research.
4. Complete a basic human subject’s research certification form.
5. Design a user interface based on an analysis of human needs and prepare a prototype system.
6. Assess user interfaces using different usability engineering techniques.
7. Make a presentation that justifies design decisions.

Course Content and Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Due Tues</th>
<th>Due Fri</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Human-Centered Design Process</td>
<td>Syllabus Quiz (Individual)</td>
<td>Research Certification (Individual)</td>
</tr>
<tr>
<td></td>
<td>Your Research and Design Project</td>
<td></td>
<td>Brainstorm Discussion (Individual graded discussion)</td>
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<tr>
<td>2</td>
<td>Usability and Cognition</td>
<td>Quiz 1 (Individual)</td>
<td>Heuristic Evaluation (Individual)</td>
</tr>
<tr>
<td></td>
<td>Usability Heuristics</td>
<td></td>
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<tr>
<td>3</td>
<td>Project Scope and Inclusive Design</td>
<td>Figma (Individual)</td>
<td>Project Roles &amp; Scope (Group)</td>
</tr>
<tr>
<td></td>
<td>Universal Design Resources</td>
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<tr>
<td>4</td>
<td>Observational Research</td>
<td>Quiz 2 (Individual)</td>
<td>Generative Research Report (Individual)</td>
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<td></td>
<td>Interviews</td>
<td></td>
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<tr>
<td>5</td>
<td>Concept Sketching</td>
<td>Design Gallery Post (Individual graded discussion)</td>
<td>Design Gallery Replies (Individual graded discussion)</td>
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<tr>
<td>6</td>
<td>Prototyping</td>
<td>Quiz 3 (Individual)</td>
<td>Research Insights (Group)</td>
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<td></td>
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<td></td>
<td>Mid-term Reflection (Individual)</td>
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</tbody>
</table>
Empirical Evaluations
Personas and Walkthroughs

Design Gallery Post (Individual graded discussion)
Design Gallery Replics (Individual graded discussion)

History of HCI
Why Don’t More Planes Crash?

Quiz 4 (Individual)
Formative Research Report (Individual)

UX Jobs

Evaluation Insights (Group)

Presentations

Make-up Quiz (optional)
Final Prototype (Group)
Final Project Reflection (Individual)

Final Prototype Presentation (Individual; DUE TUESDAY)

The deadline to choose your own groupmates for the term project (rather than being assigned to a group randomly) is the [drop day for a 100% refund](#).

Holidays this term (Instructors and TAs will not be working):
- January 15

Extra credit discussion opportunities may be presented throughout the term.

When you’ve finished reviewing this syllabus, please take the [Syllabus Quiz](#).

### Grading Policies

#### Letter Grade Floors

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent Floor</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>90</td>
</tr>
<tr>
<td>A-</td>
<td>88</td>
</tr>
<tr>
<td>B+</td>
<td>85</td>
</tr>
<tr>
<td>B</td>
<td>80</td>
</tr>
<tr>
<td>B-</td>
<td>78</td>
</tr>
<tr>
<td>C+</td>
<td>75</td>
</tr>
<tr>
<td>C</td>
<td>70</td>
</tr>
<tr>
<td>C-</td>
<td>68</td>
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<tr>
<td>D+</td>
<td>65</td>
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<tr>
<td>D</td>
<td>60</td>
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<tr>
<td>D-</td>
<td>58</td>
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<tr>
<td>F</td>
<td>0</td>
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#### Distribution of Points by Assessment

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Project</td>
<td>20</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20</td>
</tr>
<tr>
<td>Discussions</td>
<td>20</td>
</tr>
<tr>
<td>Individual Assignments</td>
<td>28</td>
</tr>
<tr>
<td>Final Presentation</td>
<td>12</td>
</tr>
</tbody>
</table>

In this course, the points are transparent (meaning, an assessment worth, e.g., 3 points, is worth 3% of your grade).

### Course Policies

#### Grading Policy

Your grade for each assessment will be based on the rubric, which will be visible to you as soon as the assignment becomes available. Graders will all follow the same rubric. Submitting assessments (quizzes, reports, assignments, discussion board posts) according to the instructions/rubric in accordance with the syllabus policies and deadlines is the only way to earn points toward your final grade in this course.

I cannot ever give points or change your grade for any of the following reasons:
- Your boss won't reimburse tuition unless you get an A / passing grade.
- You would be eligible for the Dean’s List, or some other recognition or scholarship, if you were to get an A in this class.
- Your groupmates / classmates / friends think you are a good student.
- You are on probation and have to get an A in this course.

If you do not participate in a group assignment, your grade for that assignment may be reverted to 0 regardless of the group's score.

If you think there has been a mistake in the grading of one of your assignments (i.e. the grade you were given does not align with the rubric), email your grader to get clarification (you can CC me). If you are not satisfied with the grader’s explanation/resolution on an assignment, you may email me (once) to ask for a regrade of that assignment. If you are not satisfied with my regrade decision, you may email the Associate School Head Chris Hundhausen. [chris.hundhausen@oregonstate.edu](mailto:chris.hundhausen@oregonstate.edu).
Deadline, Revision, and Late Work Policy

You must submit all assignments before the due date. With the exception of the mandatory IRB training assignment, we will not accept submissions if the deadline is missed. If you do not submit before the due date, Canvas will automatically fill in your grade with a 0.

However, we do have a "revision grace period" policy for the assignments. If you (or your group) are unable to fulfill an assignment or project step to your satisfaction before the due date—for any reason—you may notify the TA (via a Canvas comment along with the original on-time submission) that you plan to submit a revision. You may then submit a revision within 3 days. You don't have to give a reason, just let your grader know that you plan to resubmit so that they don't grade your work until it's finished.

Discussion posts/replies, quizzes, and the Final Prototype, Final Reflection, and Final Presentation are not eligible for late revisions. You should see a note in the assignment instructions stating whether the assignment is eligible for the revision grace period.

Put another way, you can get unlimited, no-questions-asked 3-day extensions on the reports up until (but not including) the last regular week of the term if you follow these steps:

1) submit a partial fulfillment of the requirements before the due date,
2) notify the grader via Canvas comment when you submit your first attempt, and then
3) resubmit a revised version of your work within three days (ending at midnight 72 hours after the original deadline).

Your grade will reflect your final submission only, without incurring penalties. If you do not resubmit within 3 days, your grader will grade whatever was submitted on time, even if that submission is incomplete.

You may submit your draft early (most assignments will have templates that you can use to start your draft) with your comment in Canvas to guarantee your 3-day revision extension, even if you don't end up needing it. If nothing is submitted by the deadline, Canvas will put an automatic 0 in the gradebook for that assignment. Graders will skip grading assignments that have a 0 put in it already. For eligible Assignments, if you submit something (anything) before the deadline, then Canvas won't put that 0 in and your grader will see your submission. They will check for a comment to see if you are planning to use the revision period, and if so then they will hold off on grading your work until the revision period ends. So if you want an extension, submit something before the deadline, or you'll get a 0 that won't change.

Exceptions may be made at the instructor's discretion for unavoidable emergencies e.g. hospitalization, or extraordinary extenuating circumstances.

Here are some examples of things which are NOT unavoidable emergencies, and which would therefore not qualify a student for an exception to the deadline/revision policy:

- forgetting to turn it in
- assuming it was a group assignment and that groupmepes would complete the work and turn it in
- not knowing when the deadline was
- working on the assignment until 11:58:59 and then not having enough time to upload your file before the deadline
- meaning to turn it in without actually turning it in
- birthdays
- working part time / full time / overtime
- being busy
- taking too many classes

Individual and Group Reports

Most of the assessments in this course need to be submitted individually and will be graded on an individual basis. A few assignments are group assessments where you will work with groupmates and turn in a single report with your consolidated work as a group. You should assume that the assignments, quizzes, and discussions are individual unless the assessment instructions state otherwise. Assuming that an assignment is a group assessment and that your groupmates will do the work and turn it in for you does not constitute an emergency and will not render an assignment eligible for late submission.

Discussion Participation

Students are expected to participate in all graded discussions. While there is great flexibility in online courses, this is not a self-paced course. Discussions are not eligible for the revision period.

Quizzes and Assigned Reading

This course has four quizzes that are intended to help you absorb the content in the exploration pages and assigned reading. You will have unlimited attempts to do each quiz, but the questions will be pulled randomly and thus may not be the same for repeated attempts.

The quizzes are open-note, but questions may not use identical wording as the reading, so I recommend being familiar enough with the text that you possess a basic understanding of its contents before attempting the quiz (rather than relying on searching the articles for phrases from the questions). Only your latest attempt will be recorded in the gradebook.

There will be an optional make-up quiz at the end of the term to replace your lowest quiz score.

Proctored Exams

There will be no exams in this course. Quizzes are open-note and untimed with unlimited attempts, but are not eligible for the revision period.

Incompletes

Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final paper). If you are having any difficulty that might prevent you from completing the coursework, please don't wait until the end of the term; let me know right away.

Guidelines for a Productive and Effective Online Classroom

Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university's regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

<table>
<thead>
<tr>
<th>Allowed :)</th>
<th>NOT allowed &gt;:(</th>
</tr>
</thead>
<tbody>
<tr>
<td>Showing your work to an instructor or TA, sharing your research reports with your groupmates.</td>
<td>Posting assignment instructions or solutions outside of class.</td>
</tr>
<tr>
<td>Discussing strategies and concepts with classmates.</td>
<td>Submitting someone else's work as your own or claiming their work as yours.</td>
</tr>
<tr>
<td>Activity</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
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</tr>
<tr>
<td>Submitting incomplete Reports before the deadline with a note saying you are going to resubmit.</td>
<td>Asking for an extension after missing the deadline for an assignment, unless there was an unavoidable emergency.</td>
</tr>
<tr>
<td>Asking your grader for clarification about a grade that doesn't seem to match the rubric specifications.</td>
<td>Asking repeatedly for a change in your grade or for an extension or exception to a policy after receiving a clear answer.</td>
</tr>
<tr>
<td>Disagreeing with someone on the message board(s).</td>
<td>Name-calling, stalking, or counter-productive comments.</td>
</tr>
<tr>
<td>Discussing the assigned reading or quiz questions in Teams, on Ed Discussion, or in your Canvas discussion group.</td>
<td>Sharing the quiz questions or answers publicly or outside of a class communication medium.</td>
</tr>
</tbody>
</table>

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

**Expectations for Student Conduct**

Student conduct is governed by the university’s policies, as explained in the Student Conduct Code ([https://bear.es/codeofconduct](https://bear.es/codeofconduct)). Students are expected to conduct themselves in the course (e.g., on discussion boards, email, Canvas messages, Teams chat) in compliance with the university's regulations regarding civility.

We also expect polite conduct toward the instructor and graders. When you need help, are confused, if there has been a mistake in grading, or if you just don’t understand your grade, I want you to contact me so that I can try to help. But we (myself and the graders) are human and deserve to be treated with respect. Harassment of the instructor and/or graders (e.g., sending repeated messages arguing for a grade change or policy exception after being given a clear answer) may be reported to the office for misconduct.

We also expect that work submitted by you in full or partial fulfillment of rubric requirements will be authored by you personally. Any content not authored by you (or your groupmates, in the case of a group assignment) should be used only with permission and proper citation. See the [Academic Integrity Policy for Students](#) for details and examples of how published or AI-generated work should or should not be used in this class.

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**Instructor Communication and Where to Go for Help**

**Hann Scott** (instructor, first name rhymes with Dan/Ann): [scothann@oregonstate.edu](mailto:scothann@oregonstate.edu) (for requests of a personal nature). I check my email once each business day, and you can expect a response within 2 business days.

We have a class forum on [Ed Discussions](https://ed discussions), and [Teams](https://teams) (for more informal, synchronous interaction with other students as well as office hours).

**The best way to reach me is via the Ed Discussions board.** You can make your post private if you want only instructional staff to see it, or you can post anonymously if you're shy about other students knowing you asked a question. I will sometimes post optional content there as well. I check Ed Discussions several times per business day and even occasionally on the weekends, so it's generally the fastest way to get a response if you have a question.

**Teams, Graders, and Office Hours**

You may message me on Teams whenever you have questions, without an appointment, and I will answer the next time I log in to Teams. I try to check my Teams messages once a day, and I will be on Teams from 1-2pm on Mondays if you'd like to chat synchronously.

ULAs and GTAs will also hold office hours (i.e., times when they will be available to chat with you) on Teams during weeks 2-10. See this term's graders and their office hour schedule in the [Start Here - Where to go for help (Communication and Office Hours)](https://example.com) page.

I will post any changes to assignments, and make any otherwise necessary announcements on Canvas. We have a Teams workspace and Ed Discussions message board for your convenience, but you do not have to keep up with all activity on Teams/Ed Discussions.

Please note that we do not get notifications for comments made on assignment submissions in Canvas. We only see those if we happen to go look at your submission after the comment has been posted. So if you make a comment after your grader puts the grade in, they are very unlikely to ever see it or know about it. (This is similar to how, if a professor grades your paper and hands it back to you in class, if you then write comments on it in response to their feedback, they won't know about it unless you then give the paper back to them so that they can see the notes that you've written.)

We will strive to have assignments graded within 5 business days after the due date.

**Ecampus Student Resources**

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**University Policies**

**Academic Calendar**

All students are subject to the registration and refund deadlines as stated in the Academic Calendar: [https://registrar.oregonstate.edu/osu-academic-calendar](https://registrar.oregonstate.edu/osu-academic-calendar)

**Statement Regarding Students with Disabilities**

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at [http://dis.oregonstate.edu](http://dis.oregonstate.edu). DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

**Statement Regarding Religious Accommodation**

Oregon State University is required to provide reasonable accommodations for employee and student sincerely held religious beliefs. It is incumbent on the student making the request to make the faculty member aware of the request as soon as possible prior to the need for the accommodation. See the [Religious Accommodation Process for Students](#).

**Accessibility of Course Materials**

All materials used in this course are accessible. If you require accommodations please contact [Disability Access Services (DAS)](https://dis.oregonstate.edu).

Additionally, Canvas, the learning management system through which this course is offered, provides a [vendor statement](https://example.com) certifying how the platform is accessible to students with disabilities.

**Academic Integrity**

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The Code of Student Conduct prohibits Academic Misconduct and defines it as:

Any action that misrepresents a student or group’s work, knowledge, or achievement, provides a potential or actual inequitable advantage, or compromises the integrity of the educational process.

To support understanding of what can be included in this definition, the Code further classifies and describes examples of Academic Misconduct, including cheating, plagiarism, assisting and others. See the Code of Student Conduct for details.

You are expected to do your own work and demonstrate academic integrity in every aspect of this course. Familiarize yourself with the standards set forth in the OSU Code of Student Conduct Section 4.2. You must only access sources and resources authorized by the instructor. You may not show your work to any other current or future students without the instructor’s authorization. Violations of these expectations or the Code of Student Conduct will be reported to the Office of Student Conduct and Community Standards. If there is any question about whether an act constitutes academic misconduct, it is your responsibility to seek clarification and approval from the instructor prior to acting.

Ecampus Reach Out for Success

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it’s important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about resources that assist with wellness and academic success. Ecampus students are always encouraged to discuss issues that impact your academic success with the Ecampus Success Team. Email ecampus.success@oregonstate.edu to identify strategies and resources that can support you in your educational goals.

For mental health:

Through the Anytime Anywhere program, Ecampus students now have access to free and confidential mental health and wellness counseling at any time of day, from anywhere in the world, 365 days a year.

Students can connect with counselors in real time by calling or using the chat function. Help is available 24/7 in five languages: English, Mandarin, Cantonese, Spanish and French. Additional language support is available by request. The app is ADA compliant and TTY accessible.

Students can request a counselor that matches their same identity by sexual orientation, gender identity, ethnicity, language, and more. These requests are best handled through short-term scheduled appointments rather than in real time. Students can use scheduled short-term therapy for individual or relationship counseling, which are available in 160 languages. The app also includes mental wellness articles, assessments, podcasts, and videos! This service is free to all students taking classes on the Corvallis and Cascades campuses, as well as through Ecampus.

If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).

For financial hardship:

Any student whose academic performance is impacted due to financial stress or the inability to afford groceries, housing, and other necessities for any reason is urged to contact the Director of Care for support (541-737-8748).

Tutoring and Writing Assistance

NetTutor is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real-time environment. They also have an online writing suite where tutors critique and return essays within 24 to 48 hours. Access NetTutor from within your Canvas class by clicking on the Tools button in your course menu.

The Oregon State Online Writing Suite is also available for students enrolled in Ecampus courses.

TurnItIn

Your instructor may ask you to submit one or more of your writings to Turnitin, a plagiarism prevention service. Your assignment content will be checked for potential plagiarism against Internet sources, academic journal articles, and the papers of other OSU students, for common or borrowed content. Turnitin generates a report that highlights any potentially unoriginal text in your paper. The report may be submitted directly to your instructor or your instructor may elect to have you submit initial drafts through Turnitin, and you will receive the report allowing you the opportunity to make adjustments and ensure that all source material has been properly cited. Papers you submit through Turnitin for this or any class will be added to the OSU Turnitin database and may be checked against other OSU paper submissions. You will retain all rights to your written work. For further information, visit Academic Integrity for Students: Turnitin – What is it?

Establishing a Positive Community:

It is important you feel safe and welcome in this course. If somebody is making discriminatory comments against you, sexually harassing you, or excluding you in other ways, contact the instructor, your academic advisor, and/or report what happened at https://studentlife.oregonstate.edu/studentconduct/reporting so we can connect you with resources.

Student Evaluation of Courses

The online Student Evaluation of Teaching system opens to students during the week before final and closes Monday following the end of finals. Students receive notifications, instructions, and the link through their ONID. They may also log into the system via Online Services. Course evaluation results are extremely important and used to help improve courses and the online learning experience for future students. Responses are anonymous (unless a student chooses to “sign” their comments, agreeing to relinquish anonymity) and unavailable to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/supervisor. Anonymous (unsigned) comments go to the instructor only.

Student Bill of Rights

OSU has twelve established student rights. They include due process in all university disciplinary processes, an equal opportunity to learn, and grading in accordance with the course syllabus: https://asosa.oregonstate.edu/advocacy/rights.