

Course Name: Introduction to Usability Engineering
Course Number: CS 352
Credits: 4
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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 or Corequisites

Prerequisite: CS 151 with C or better or CS 161 with C or better or CS 165 with C or better
or CS 295 with C or better or ECE 151 with C or better

Equivalent to: CS 252

Communication

Please post all course-related questions in the Ed Discussion Forum so that the whole class may benefit from our conversation. Please join Microsoft Team for synchronous communication needs. Please contact me privately for matters of a personal nature. I will strive reply to course-related questions within 24 hours during working days. I will strive to return your assignments and grades for course activities to you within five days of the due date.

Time Expectations

This course combines approximately 120 hours of instruction, online activities, discussions, quizzes, Individual assignments, and group work for 4 credits.

- In a regular 10-week quarter (spring, fall, winter), the expected workload for this class is 12 hours per week.
- **NOTE:** In an accelerated, 8-week summer term, the expected workload for this class is 15 hours per week.
- See also here: <https://blogs.oregonstate.edu/inspire/2020/07/06/managing-the-pace-workload/>.

Table 1 provides a detailed breakdown of all activities in this course.

Learning activities	hours
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Video lectures & reviewing slides	10
Individual activities w/o submission, e.g., explorations, reflections	10
Individual assignments with submissions, e.g., peer reviews	15
Asynchronous discussion posts	10
Nano quizzes	2
Study of open educational resources and supplemental materials	30
Research, design and writing activities regarding group projects	40
Unproctored final exam	3
Total	120

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

- **Textbooks:** This course uses open educational resources. No textbook is necessary.
- **Software:** Canvas, Google Tools, Microsoft Teams, Ed Discussion, Figma and Balsamiq Wireframes (educational license will be provided).
- **Hardware:** Computer, Internet, Microphone.

Course Learning Outcomes

After the successful completion of this course, students will be able to:

- Describe the human-centered design process and usability engineering process and their roles in system design and development.
- Discuss usability design guidelines, their foundations, assumptions, advantages, and weaknesses.
- Describe the basics of ethical research with human participants.
- Design a user interface based on an analysis of human needs and prepare a prototype system via state-of-the-art design tools.
- Assess user interfaces using different usability engineering techniques.
- Make a final report that justifies design decisions.
- Create a research portfolio to market themselves as a UX Researcher.

Module Learning Outcomes

Module 1:

- Present yourself to an audience of your peers via a short biography
- Explain and evaluate ethical research with human participants
- Explain key terms and concepts in Usability Engineering

Module 2:

- Name and explain the different roles and responsibilities in a typical UX team
- Name and explain important aspects relevant to professional UX research
- Explain different UX research and design processes in Usability Engineering

Module 3:

- Name and explain foundational activities in exploratory UX research
- Name and explain the user interview process, including its advantages and disadvantages
- Name and explain the process, advantages, and disadvantages of user observations
- Use a state-of-the-art design tool to create a simple, interactive prototype

Module 4:

- Plan, execute, analyze, and report on a primary user research study, using exploratory interviews and observations
- Name and explain personas and scenarios, including their advantages and disadvantages
- Name, explain, identify, and apply fundamental UX design principles

Module 5:

- Collaborate in a team environment, create an initial design concept, and provide a design critique
- Name and explain approaches and tools for generative UXR, which can serve as a starting point in ideation.
- Be able to conduct an ideation session using method 635
- Define and describe the general process of paper prototyping

Module 6:

- Conduct a heuristic evaluation of a website or app
- Create an interactive prototype in a team environment
- Plan a usability test and a heuristic evaluation of a UX project
- Define and describe non-empirical testing approaches in UX research
- Define and describe empirical testing approaches in UX research

Module 7:

- Create an interactive, UX testing asset and prototype.
- Conduct a usability test and a heuristic evaluation of a UX project
- Create research-based, design recommendations to improve a UX project
- Define and describe different prototypes and UX deliverables

Module 8:

- Create, justify and implement research-based, design recommendations to improve a UX project
- Define and describe the concepts of usability, emotional design, and user experience
- Define and describe accessibility key terms

Module 9:

- Name and explain UX-specific and UX-adjacent job titles and roles
- Name and explain UX Researcher and UX Designer-related deliverables
- Name and explain technical and soft skills necessary for a successful career as a UX Researcher or UX Designer
- Name and describe the Design Thinking process and types of secondary research in UX Engineering

Module 10:

- Create a professional presentation showcasing a finished UX research project

Evaluation of Student Performance

Learning outcomes are measured in six assignment groups: Group Project Assignments, Peer Reviews, Individual Assignments, Nano Quizzes, Individual Discussions Posts and the Final Exam.

- 9 * Group Project Assignments — 162 points
- 6 * Peer Review — 30 points
- 4 * Individual Assignments — 37 Points
- 6 * Nano Quizzes (including syllabus quiz) — 60 points
- 3 * Individual Discussion Posts — 11 Points
- 1 * Final Exam — 24 points
- Total — 324 points

The six assignments groups have individual weights:

Assignment Groups and Weights

Assignment Group	Weight	Points
Group Project Assignments	30%	162
Peer Reviews	10%	30
Individual Assignments	20%	37
Nano Quizzes	15%	60
Individual Discussion Posts	10%	11
Final Exam	15%	24
Total	100%	324

Letter Grade

Grade	Percent Range
A	100—92.5
A-	< 92.5 —90
B+	< 90 — 87
B	< 87 — 83
B-	< 83 — 80
C+	< 80 — 77
C	< 77 — 73
C-	< 73 — 70
D+	< 70 — 67
D	< 67 — 62.5
D-	< 62.5 — 60
F	< 60

Course Content*

Week**	Topic	Learning Activities
1	Introduction and in-depth exploration of HCI / IxD, UXR and Usability	<ul style="list-style-type: none"> • Introduce Yourself via a Short Bio • Mandatory IRB Training • Your initial project idea: Brainstorm a UX project idea • Syllabus Quiz
2	Introduction to Design Processes & Professional UX Research	<ul style="list-style-type: none"> • Nano Quiz 1 • Project Kick Off • Project Scope • Peer Review: Project Scope
3	Exploratory User Research	<ul style="list-style-type: none"> • Learn how to use a UX Design and Prototyping Tool
4	Personas, Scenarios, and Design Principles	<ul style="list-style-type: none"> • Nano Quiz 2 • Research & Insights • Peer Review: Research & Insights
5	Initial Design, Concepts, and Paper Prototypes	<ul style="list-style-type: none"> • Nano Quiz 3 • Comment on the Concepts of Two Other Teams in Design Gallery # 1 • Post Your Initial Concepts to Design Gallery #1 • Initial Designs & Concepts • Peer Review: Initial Designs & Concepts
6	Expert Reviews and Empirical Evaluations	<ul style="list-style-type: none"> • Conduct a Heuristic Evaluation of a Website • Initial Prototype & Evaluation Plan • Peer Review: Initial Prototype & Evaluation Plan
7	Interactive Prototyping	<ul style="list-style-type: none"> • Nano Quiz 4 • Prototype Evaluation • Peer Review: Prototype Evaluation
8	User Experience, Emotional Design, and Accessibility	<ul style="list-style-type: none"> • Post Your Improved Prototype to Design Gallery #2
9	A UX Researcher Career	<ul style="list-style-type: none"> • Evaluate the Prototypes of two other Teams in Design Gallery #2
10	UX Stakeholder Presentation	<ul style="list-style-type: none"> • Final Prototype Presentation • Peer Review: Final Prototype Presentation
Finals Week		<ul style="list-style-type: none"> • Final Exam

*Course Content

Course content is not fully available from the start of the class. Instead, the course modules unlock progressively over the course of the term:

- At the start of week 1, you have access to the content up to week 2.
- At the start of week 2, you have access up to week 3.
- At the start of week 3, you have access up to week 4.

**Week

In the accelerated 8-week term, selected weeks are combined and consolidated to accommodate for the shorter quarter. This means the summer term causes higher workload for students in comparison to the regular, 11-week term.

Course Policies

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 due to the nature of the group project and iterative design loops

Late Work Policy

As a general rule, I do not accept late submissions after the deadline. Exceptions are higher circumstances (family emergencies, sicknesses, accidents, or personal issues), which must be communicated and/or documented well before (in case of a foreseeable event) or immediately, in case of an emergency. If you have personal predicaments that affect your performance in the class, please sent me an email as early as possible. The earlier I know, the earlier we can work together toward a solution.

Higher circumstances are not:

- *"I had to babysit/take an extra shift at work/help XYZ out";*
- *"I forgot the assignment/submission deadline.";*
- *"the Wi-Fi did not work";*
- *"my computer had a virus and did not work";*
- *"I had a hard time 2 weeks ago."*

Any requests for exceptions/acceptance of late work past the deadline have to be communicated to me, clearly and via email or a private message. I will decide, on a case-by-case basis, if I allow late submissions or work considering the situation, including penalties for late submissions. In order to altogether avoid late submissions, pay attention to the weekly announcements, which will give you an overview of the to-dos and deliverable for the specific week and module. Also, do not submit work exactly at the deadline (e.g., Monday at 23:59 PM). Submit the work 10 minutes before instead.

Quizzes and Final Exam

All Quizzes and the Final Exam are open book exam and not proctored. Quizzes cover all materials in the preceding weeks and modules. The Final Exam covers all class materials. (e.g., lectures, readings, activities, discussions, individual and group). Everything we will / have discussed in the class is testable material in essence. The Final Exam consists of a set of open-ended questions that you will respond to in a short essay style. Your answers will be evaluated on the accuracy and completeness. I will release information and a study guide on the Final Exam 7 days in advance.

Makeup Exams

- Makeup exams will be given only for missed exams excused in advance by the instructor.
- Excused absences will not be given for airline reservations, routine illness (colds, flu, stomach aches), or other common ailments.
- Excused absences will generally not be given after the absence has occurred, except under very unusual circumstances.

Extra Credit

There are no extra credit opportunities or assignments in this class.

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 completing the coursework, please don't wait until the end of the term; let me know right away.

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](#).

General Guidelines for a Productive and Effective Online Classroom

(Adapted from Dr. Susan Shaw, Oregon State University)

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.

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://beav.es/codeofconduct>). Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility.

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.

Ground Rules for Online Communication & Participation:

Online threaded discussions are public messages, and all writings in this area will be viewable by the entire class or assigned group members. 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. Posting personal contact information is discouraged (e.g., telephone numbers, address, personal website address).

- *Online Instructor Response Policy:* I will check email somewhat frequently and will respond to course-related questions within 24 hours on Monday-Fridays, if possible. I will also be available on slack for direct messages Monday-Friday. Expect a 48-hour response times on the weekends. That means, if you sent me a message on Saturday morning, expect an answer by Monday morning.
- *Observation of "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.

Please check the Announcements 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 someone through chat or discussion boards.

Ed Discussion / MS Teams Guidelines for a Productive and Effective Online Classroom:

The Ed Discussion board / MS Teams 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. Participate actively in the discussions and chat conversations at all times, having completed the readings and thought about the issues.

Pay close attention to what your classmates write in their online comments. Ask clarifying questions, when appropriate. These questions are meant to probe and shed new light, not to minimize or devalue comments. Think through and reread your comments before you post them. Assume the best of others in the class and expect the best from them. Value the diversity of the class.

Recognize and value the experiences, abilities, and knowledge each person brings to class. Disagree with ideas, but do not make personal attacks. Do not demean or embarrass others. Do not make sexist, racist, homophobic, or victim-blaming comments at all. Be open to being challenged or confronted on your ideas or prejudices.

Academic Integrity

Integrity is a character-driven commitment to honesty, doing what is right, and guiding others to do what is right. Oregon State University Ecampus students and faculty have a responsibility to act with integrity in all of our educational work, and that integrity enables

this community of learners to interact in the spirit of trust, honesty, and fairness across the globe.

Academic misconduct, or violations of academic integrity, can fall into seven broad areas, including but not limited to: cheating; plagiarism; falsification; assisting; tampering; multiple submissions of work; and unauthorized recording and use.

It is important that you understand what student actions are defined as academic misconduct at Oregon State University. The OSU Libraries offer a [tutorial on academic misconduct](#), and you can also refer to the [OSU Student Code of Conduct](#) and [the Office of Student Conduct and Community Standard's website](#) for more information. More importantly, if you are unsure if something will violate our academic integrity policy, ask your professors, GTAs, academic advisors, or academic integrity officers.

In general, I have a zero-tolerance policy for academic dishonesty or misconduct.

- You **MAY** discuss (verbally) the meaning of assignments, general approaches, and strategies with other students in the course.
- You **MAY** show your assignment to the TAs or instructor for feedback and help.
- You **MAY NOT** share assignments or documentation of any kind with any other student in the course unless permitted as part of the design shares.
- You **MAY NOT** show your assignments with any student who is not in your group for any reason unless permitted as part of the design shares.
- You **MAY NOT** plagiarize documents from any other source, including the Internet or past classes and you **MUST** submit your own documents, reports and your own final exam.

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?](#)

Welcome Statement Regarding Equity, Inclusion & Diversity

Welcome class! My name is Philipp Jordan and you can call me simply Phil (or Dr. Jordan if you prefer a more formal way to address me). I am happy to be your online instructor for this class! My primary goal as your instructor is to make you feel welcome and safe by providing you with an equal, fair, and inclusive classroom environment throughout the term. While all of us might have differing points-of-view, beliefs, identities, experiences, and values, we all

have one thing in common at the same time - we are human beings. As such, I ask all of you to treat each other with respect, kindness, empathy, and dignity at all times and strive toward a respectful class atmosphere throughout the term - may it be in your discussions, assignments or your conversations on slack or Canvas. If you ever feel this is not the case, please do not hesitate to contact me anytime.

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://ds.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.

Accessibility of Course Materials

All materials used in this course are accessible. If you require accommodations please contact [Disability Access Services \(DAS\)](#).

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

Tutoring and Writing Assistance

TutorMe is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Access TutorMe from within your Canvas course menu.

The Oregon State [Online Writing Suite](#) is also available for students enrolled in Ecampus courses.

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:**

Learn about [counseling and psychological resources for Ecampus students](#). 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).

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>.

Student Evaluation of Courses

During Fall, Winter, and Spring term, the online Student Evaluation of Teaching system opens to students the Wednesday of week 8 and closes the Sunday before Finals Week. Students will receive notification, instructions and the link through their ONID email. They may also log into the system via Online Services. Course evaluation results are extremely important and used to help improve courses and the learning experience of 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.

End

Syllabus v.1.0 9/20/2021