CSE 463: Introduction to Human-Computer Interaction

Details

Class Format: Online
Class Dates: 7.1.20-8.11.20

Instructor

Dr. Robert K. Atkinson
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Catalog Description

CSE463 is a 3-credit course that covers issues, trends, and research related involved in the design, evaluation, and implementation of interactive software intended for human use.

Enrollment Requirements

Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major: CSE 310 with C or better OR Informatics BS or Digital Culture (Media Processing) BA major: CPI 310 with C or better OR Computer Science and Engineering graduate student.

Overview

Why doesn't this phone I just bought work? Why is this website so hard to use? These are frustrations that we have all faced from systems not designed with people in mind. The question this course will focus on is: *How can we design human-centered systems that people find usable, desirable,* and *useful*? This is one of the central questions in Human-Computer Interaction (HCI), an interdisciplinary field drawing on computer science, engineering, psychology, and design. Professionals in the field use diverse methods and tools to understand, improve, and create technology that harmonizes with and improves human capabilities, goals, and social environments.

This course is an introduction to user-centered practice in HCI. We will cover theory as well as the practical application of ideas from Human-Computer Interaction. This course covers five interrelated themes: understanding a problem, generating an idea, prototyping an idea, implementing an idea, and then evaluating an idea. Through this course, you will learn key methods for understanding people and identifying opportunities for design. You will use a principled process for developing an idea, iterating on it, and communicating it to others. You

will develop knowledge about the characteristics of good interfaces and tools that can be used for prototyping and implementation. You will evaluate and improve upon your designs at all stages of the design process. Finally, you will learn how to communicate relevant details of your vision or product to relevant stakeholders. As you improve your understanding of these HCI methods, you will also be encouraged to relate the methods to current important technologies and interaction techniques (e.g., mobile, tangible) and application areas (e.g., health, education).

Course Format

CSE463 is conducted in a student-centered environment that requires active student participation. This means that the instruction features narrated PowerPoint asynchronous lectures, Zoom synchronous discussion, student-generated information, demonstrations, and projects. Students are active participants in their own learning experience. I consider it a privilege to have each of you in my class. As your instructor, I will do whatever I can to help you learn and do well on the course assignments. However, please keep in mind that your grade in this class is earned by you, not given by the instructor. I will give you many opportunities to learn the material and demonstrate what you have learned. It is also expected that students check our course Canvas site and their email daily for any important announcements.

Sample Course Topics

- History and Foundations of HCI
- Human Cognitive Architecture
- Design Principles (e.g., Web, Mobile)
- Optimizing User Experience
- Measuring the Interactive User Experience
- Research Frameworks in HCI
- Game Design and Gamification
- Speech- and Gesture-based Interfaces
- Social and Embodied Interfaces
- Emotion and HCI
- Future of HCI

Assessment of Concepts and Skills/Evaluation of Student Progress

Online Assignments

There are a set of assignments that you must complete as part of the course. Assignments generally consist of an activity designed to demonstrate your understanding of the course material.

Exams

The course involves two exams--midterm and final, which will cover the content from lectures, readings, discussions, and activities, up to the specified point of the semester. The exams

typically consist of 12-15 open-ended response items. Each of these items requires a short answer that takes about 5 minutes to complete.

Prototype Development

The goal of this project is for you to design and implement a prototype of this website and for you to learn how to evaluate your peers. The new design should be informed by the principles and theory (CLT, Usability, UX, User-centered design, heuristic evaluation, etc.) covered in the class and evaluated through a usability test.

REQUIREMENT: The Design Project must be a website with a purchase functionality i.e. e-commerce, airlines, etc. You need to at least identify two tasks on improving the design flow of the website.

The Design Project is divided into 4 milestones:

- Milestone 1: Project Proposal
- Milestone 2: Project Midterm Report Submissions
- Milestone 3: Project Final Submission
- Milestone 4: Peer Evaluation Submission

Course Policies

Academic Integrity

Students in this class must adhere to ASU's academic integrity policy, which can be found at https://provost.asu.edu/academic-integrity/policy). Students are responsible for reviewing this policy and understanding each of the areas in which academic dishonesty can occur. In addition, all engineering students are expected to adhere to both the ASU Academic Integrity Honor Code and the Fulton Schools of Engineering Honor Code. All academic integrity violations will be reported to the Fulton Schools of Engineering Academic Integrity Office (AIO). The AIO maintains a record of all violations and has access to academic integrity violations committed in all other ASU college/schools.

Classroom Behavior and Professionalism

Students are required to adhere to the behavior standards listed in the Student Code of Conduct found in the Arizona Board of Regents Policy Manual. (http://students.asu.edu/files/StudentCodeofConduct.pdf). It is expected that students exhibit professional behavior while participating in this class. Professional conduct includes but is not limited to positively contributing to the learning environment, adhering to the policies and procedures of the class and university, notifying the instructor in case of absence, being open to feedback from instructor, attending class on time, presuming positive intent when discussing a concern with the instructor or fellow classmates, showing initiative when collaborating with others, submitting good quality work that follows the conventions of standard English, being prepared for class with the required materials, and completing required reading and note taking before class. In your email communications with the instructor, maintain professionalism, consider your audience and purpose, take your time, and communicate

clearly. Professional standards that apply to your assignments should also be exhibited in email communications.

Copyright

Course content, including lectures, are copyrighted materials and students may not share outside the class, upload to online websites not approved by the instructor, sell, or distribute course content or notes taken during the conduct of the course (see ACD 304–06, "Commercial Note Taking Services" and ABOR Policy 5-308 F.14 for more information). You must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

Course/Instructor Evaluation

The course/instructor evaluation for this course will be conducted online 7-10 days before the last official day of classes of each semester or summer session. Response(s) to the course/instructor are anonymous and will not be returned to your instructor until after grades have been submitted. The use of a course/instructor evaluation is an important process that allows our college to (a) help faculty improve their instruction, (b) help administrators evaluate instructional quality, (c) ensure high standards of teaching, and (d) ultimately improve instruction and student learning over time. Completion of the evaluation is not required for you to pass this class and will not affect your grade, but your cooperation and participation in this process is critical. About two weeks before the class finishes, watch for an email with "ASU Course/Instructor Evaluation" in the subject heading. The email will be sent to your official ASU e-mail address, so make sure ASU has your current email address on file.

Disability Accommodations

Suitable accommodations will be made for students having disabilities. Students needing accommodations must register with the ASU disabilities resource Center and provide documentation of that registration to the instructor. Students should communicate the need for an accommodation in sufficient time for it to be properly arranged.

Discussion Forums

Discussion forums for assignments and projects will be available for the students to discuss, ask questions, answer queries from peers and also contribute by sharing new technologies, articles or information related to the class. Use them regularly and be active on the forums.

Emailing Guidelines

It is important to include your **ASURITE User ID** with your email. Please direct all course-related queries to the TA for faster responses. If it needs the instructor's attention, please CC the TA as well. Please use the **Subject Format:** CSE463: Issue - ASUID/FullName

Grade Appeal Deadlines

Any grade for the in-class activity, online modules and exams can be appealed within **two weeks** of publishing the grades. There will be no adjustments in grades after the two-week deadline has passed. **Please note that a request for regrading will trigger a complete regrading of the assignment in question**.

Grading Scale

Course grades will be based on Online Modules, an advanced project, examinations, and class participation. The maximum obtainable points are as follows:

Activity	% of Overall Grade
Assignments (4 @ 10% each)	40%
Exams (2 @ 15%)	30%
Peer Review	10%
Final Project	20%

Grade	%
A	100-93
A-	92.99-90
B+	89.99-87
B	86.99-83
B-	82.99-80
C+	79.99-77
C	76.99-70
D	69.99-60
E	<59.99

Harassment and Sexual Discrimination

Arizona State University is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty members, staff employees, and guests. ASU expressly prohibits discrimination, harassment, and retaliation by employees, students, contractors, or agents of the university based on any protected status: race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, and genetic information.

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the

basis of sex or sexually assaulted, you can find information and resources at https://sexualviolenceprevention.asu.edu/faqs.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, https://eoss.asu.edu/counseling, is available if you wish to discuss any concerns confidentially and privately.

Honors Credit

This course can be adapted for Honors College credit. Students should consult with the instructor to determine an appropriate project and complete the necessary paperwork within the first two weeks of the semester.

Instructor Responsibility

I consider it a privilege to have each of you in my class. As your instructor, I will do whatever I can to help you learn and do well on the course assignments. However, please keep in mind that your grade in this class is earned by you, not given by the instructor. I will give you many opportunities to learn the material and demonstrate what you have learned.

Late Assignments

All assignments are due on the dates listed on the course Canvas site (unless announced by the instructor). There will be no deductions for small infractions of "late" assignments (e.g. if submission is done at 2 AM the next day when it is due at midnight). Late assignments will be subject to a drop of at least 20% of the total grade per day - no questions asked. Although it is encouraged to submit the assignment even after 5 days passed the due date. **Missing or corrupted assignments will also incur a penalty of 20% per day.** It is the responsibility of the student to submit every assignment and project milestones on time and ensure the assignment meets all the requirements and is correct.

Syllabus

The syllabus is intended as a general plan of study and may be adjusted (with notice) depending on needs.

Threatening Behavior

Policy against threatening behavior, per the Student Services Manual, SSM 104–02. Students, faculty, staff, and other individuals do not have an unqualified right of access to university grounds, property, or services. Interfering with the peaceful conduct of university-related business or activities or remaining on campus grounds after a request to leave may be considered a crime. All incidents and allegations of violent or threatening conduct by an ASU student (whether on- or off-campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students.

Twitter

I post articles related to the class (azprofessor).

Important Dates

Note: Tentative - Subject to change **with** announcement.

Week/Date	**Assignment/Project/Event**
Week 1 (7.1-7.7)	Assignment 1: Axure Prototyping
Week 2 (7.8-7.14)	Assignment 2: Advanced Axure Prototyping
Week 3 (7.15-7.21)	Midterm/Assignment 3: Heuristic Evaluation
Week 4 (7.22-7.28)	Assignment 4: Cognitive Walkthrough
Week 5 (7.29-8.4)	Final Project
Week 6 (8.5-8.11)	Peer Review/Final Exam