UNIVERSITY OF CALIFORNIA
UCMERCED

Syllabus for CSE155-01: Intro Human-Comp Interaction

Fall 2018
Instructor: Ahmed Arif

Designation:	
Catalog Description:	Introduces students to the basic concepts in the theory and practice of Human-Computer Interaction (HCI). Teaches how hardware and software design influence the interaction between human and computers to provide insights into the design and development of safe, effective, and enjoyable interactive systems.
Text Books and Other Required Materials:	I. Scott MacKenzie. 2013. Human-Computer Interaction: An Empirical Research Perspective. Morgan Kaufmann, San Francisco, CA, USA. ISBN-13: 978-0124058651
Course Objectives/ Student Learning Outcomes:	Students participating in this course are expected to achieve the following learning outcomes through an understanding of basic theory and practices in Human-Computer Interaction (HCI). The ability to: Think critically about interactive computer systems; Account for both human and system factors in the design of interactive computer systems; Make design decisions by applying appropriate concepts and strategies; Verbalize, discuss, and articulating key concepts and issues; Describe interactive computer systems, issues, and solutions in clear, understandable language; Practice a high standard of professional ethics. In addition, this course will encourage students to engage in continuing professional development by adapting new methods, technologies, and tools.
Program Learning Outcomes:	1) An ability to apply knowledge of computing and mathematics appropriate to the discipline. 2) An ability to analyze a problem and identify the computing requirements appropriate for its solution. 3) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs. 4) An ability to function effectively as a member of a team in order to accomplish a common goal. 5) An understanding of professional, ethical, legal, security, and social issues and responsibilities. 6) An ability to communicate effectively with a range of audiences. 7) An ability to analyze the local and global impact of computing on individuals, organizations, and society. 8) Recognition of the need for an ability to engage in continuing professional development. 9) An ability to apply mathematical foundations, algorithmic principles, and computer science theory to the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. 10) An ability to apply design and development principles in the construction of software systems of varying complexity.
Prerequisites by Topic:	CSE 100 (Algorithm Design and Analysis)
Course Policies:	Class participation is required. Late submission is not permitted.

Lecture: Typically, lectures will consist of the following, a) the instructor or a guest instructor will deliver a lecture and b) the class will engage in a discussion on a particular topic. All students must prepare for each lecture ahead of time by studying the respective reading material, when applicable.

Group Project: Students will form a group of 3-4 to work on a project to apply the techniques and skills they have acquired in the class. Each project will involve the design, development, and evaluation of an interactive computer system of the respective group's choice. All groups will report the findings of their projects in a report (maximum 6 pages, excluding references, in the ACM SIGCHI format). Groups projects will prepare students for real-world software and systems design. Upon completion of the projects, all students will anonymously rate their group members based on their contribution in the project.

Lab: Most labs will be dedicated to students seeking assistance and resolutions to problems they are facing with their projects, including a design or development issues. However, some labs will be dedicated to specific learning objectives, such as how to use common statistical analysis tools or how to create demonstration videos using popular video editing tools.

Academic Dishonesty Statement:

a. Each student in this course is expected to abide by the University of California, Merced's Academic Honesty Policy. Any work submitted by a student in this course for academic credit will be the student's own work.
b. You are encouraged to study together and to discuss information and concepts covered in lecture and the sections with other students. You can give "consulting" help to or receive "consulting" help from such students. However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in the form of an e mail, an e mail attachment file, a diskette, or a hard copy. Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment. Penalty for violation of this Policy can also be extended to include failure of the course and University disciplinary action.
c. During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the examinations will result in failure of the exam, and may lead to failure of the course and University disciplinary action.

Disability Statement:

Accommodations for Students with Disabilities: The University of California Merced is committed to ensuring equal academic opportunities and inclusion for students with disabilities based on the principles of independent living, accessible universal design and diversity. I am available to discuss appropriate academic accommodations that may be required for student with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester, except for unusual circumstances. Students are encouraged to register with Disability Services Center to verify their eligibility for appropriate accommodations.

Topics:

- Understanding users' needs, desires, and expectations.
- Identifying and modelling human and system factors.
- Interactive system design methodologies, usability testing, and user experience design (UX).
- Qualitative and quantitative research methods and data analysis.
- Research ethics and working with human subjects.
- Preparing demonstration videos, writing papers, and presentations.

Class/laboratory Schedule:	Lecture, Tuesday & Thursday, 4:30 PM - 5:45 PM, COB 113; Lab, Wednesday, 7:30 PM - 10:20 PM, SSM 154.
Midterm/Final Exam Schedule:	Midterm, Tuesday, October 23, 2018. Final, Tuesday, December 11, 2018.
Course Calendar:	Aug 23, 2018: Introduction Aug 28, 2018: Historical Perspective Aug 30, 2018: Design vs. Engineering vs. Research Sep 4, 2018: No Class Sep 6, 2018: No Class Sep 11, 2018: Human Factors 1 Sep 13, 2018: Human Factors 2 Sep 18, 2018: Human Factors 3 Sep 20, 2018: Interaction Elements 1 Sep 25, 2018: Interaction Elements 2 Sep 27, 2018: Scientific Foundation 1 Oct 2, 2018: Scientific Foundation 2 Oct 4, 2018: Tactile, Mobile, & Tangible Interaction Oct 9, 2018: Accessibility Oct 11, 2018: Project Progress Presentation & Discussion 1 Oct 16, 2018: Project Progress Presentation & Discussion 2 Oct 18, 2018: Project Progress Presentation & Discussion 3 Oct 23, 2018 - Midterm Oct 25, 2018: Empirical Research 1 Oct 30, 2018: Empirical Research 2 Nov 1, 2018: Qualitative Research 1 Nov 6, 2018: Qualitative Research 2 Nov 8, 2018: Hypothesis Testing 1 Nov 13, 2018: Hypothesis Testing 2 Nov 15, 2018: Modeling Interaction 1 Nov 20, 2018: Modeling Interaction 2 Nov 22, 2018: Thanksgiving Holiday Nov 27, 2018: Final Project Presentations 1 Nov 29, 2018: Final Project Presentations 2 Dec 4, 2018: Final Project Presentations 3 Dec 6, 2018: Final Project Presentations 4 Dec 11, 2018: Final Exam --LABS-- The labs are for seeking assistance with course projects and class material. In addition, some labs will be dedicated to the following learning outcomes. Aug 29, 2018: Literature Review Sep 5, 2018: No Lab Sep 12, 2018: Research Ethics Sep 19, 2018: Participant Recruitment Sep 26, 2018: Project Assistance Oct 3, 2018: Project Assistance Oct 10, 2018: Research Design Assistance Oct 17, 2018: Research Design Assistance Oct 24, 2018: Research Design Assistance Oct 31, 2018: Video Editing Nov 7, 2018: Project Assistance

	Nov 14, 2018: Statistical Software Nov 21, 2018 - Non-Instructional Day Nov 28, 2018: Project Assistance Dec 5, 2018: Review
Professional Component:	
Assessment/Grading Policy:	Participation (10%) • Lecture 5% • Lab 5% Final Report (30%) • Design 5% • Development 5% • Evaluation 5% • Demo video 5% • Writing 10% Exams (60%) • Midterm 30% • Final 30%
Coordinator:	Ahmed Sabbir Arif
Contact Information:	SE2 212 Science and Engineering Building II 5200 N. Lake Road, Merced, CA 95343 asarif@ucmerced.edu
Office Hours:	Wednesday, 3:00 PM - 5:00 PM, SE2 212; also by appointment.