

ICT 690, Section 401 Human-Computer Interaction

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I usually respond to emails within 24 hours, or the first business day after the weekend or holiday.

Course Description

Human computer interaction (HCI) is an interdisciplinary field in which computer scientists, engineers, psychologists, social scientists, and design professionals play important roles. The goal of HCI is to solve real problems in the design and use of technology, making computer-based systems easier to use and more effective for people and organizations. Ease of use and effectiveness are critical to the success of people interacting with systems, including software systems, home, office and factory appliances, and web and phone applications. This course provides an overview and introduction to the field of human-computer interaction, with a focus on how it applies to managers, technology executives, and others who will work with HCI professionals. Particular emphasis will be placed on what HCI methods and HCI-trained specialists can bring to design and development teams. The course will introduce students to proven tools and techniques for creating and improving user interfaces, such as Participatory Design, Contextual Inquiry, and Usability Testing. Students at the end of the course will have learned some useful techniques and an understanding of systematic procedures for creating usable and useful designs and systems.

Required Texts

All class readings will be made available online or through UK Libraries Course Reserve.

Student Learning Outcomes

There are three broad learning goals for this course. At the end of this course, you will understand:

- 1- Fundamental principles and characteristics of human-computer interaction, such as direct manipulation, usability, affordances, and interaction design heuristics.
- 2- The workflow for designing and evaluating user-centered designs, from need finding to prototyping to evaluation.
- 3- The current state of research and development in human-computer interaction, such as augmented reality, wearable devices, tangibles, and robotics

Connected to those three learning goals are three learning outcomes. The learning outcomes are subsumed under the general learning outcome, "To design effective interactions between humans and computers". At the end of this course, you will be able to:

- 1- Design user interfaces and experiences grounded in known principles of usability and human-computer interaction.
- 2- Iteratively prototype, evaluate, and improve user-centered designs with user feedback.
- 3- Apply those skills to open or new areas of development in human-computer interaction.

Description of Course Assignments

Class Assignments

Class Participation. This is a seminar styled class and its success depends on reading weekly material before each class and active engagement in discussions. Students are therefore expected to contribute to the discussion in each class.

Discussion Leader Duty (2 rounds of scheduled duty). Most class sessions, 2 students will serve as designated discussion leaders. Lead discussants are charged with directing a designated portion of our weekly class. Discussion leaders will be expected to do the following:

1. At least 2 weeks prior to their assigned week, post the required and recommended reading selections for class discussion to the Canvas Seminar Calendar tool. Discussants should choose from the required reading on the schedule (at the end of this syllabus) and recommended texts on the schedule and/or found on their own in preparing for class discussion.
2. Work collaboratively with fellow lead discussants to post a brief (4 paragraphs max) synopsis of the reading and design 3 concise questions (with specific references to the readings) to focus our class discussion. Lead discussant synopses and questions must be posted to the Canvas discussion area for seminar participants' review no later than Sunday by 6pm (the evening before our class).
3. Coordinate presenting analyses of a specific issue raised by the assigned reading to the seminar group (sharing a roughly equal amount of the time allotted for your informal presentations among co-discussants).
4. Coordinate taking notes on the questions and comments raised by fellow seminar participants. Specifically, discussion leaders will serve as discussants, synthesizing the points and questions raised during class discussion.

Evaluation of your performance as a discussant will be based on your active engagement with fellow seminar participants.

Assignments. There will be four assignments for individual completion (not a group effort). You will have about a week to complete each one. The goal of the assignment is to give you practical experience in the processes and methods used in this field. They might range from observing people in a mini field study, to sketching a prototype, to mocking up an interface in Photoshop or Sketch, to designing a research study.

Group Project. In this class, you will undertake a group project to accomplish the following goals:

- evaluate some computing-related task or problem
- develop interface design alternatives for the task or problem
- implement a prototype of your design
- evaluate your design

This project should provide you with hands-on experience with the tasks that interface designers face every day. Ideally, the topic of the project will be a problem that matters to some "real-life" people. These people then will serve as your "clients", with whom you must communicate and from whom you will learn about their tasks and problems. The instructor will provide a list of possible projects for you to consider. You are also free to develop a topic on your own, but you must get it approved a priori. It is your responsibility to contact the clients / informants for your project, as they will not come to you.

Grading

Assignment/Activity	Percentage of Total
Class Participation	10%
Discussion Leader Duty	10%
Assignments (4)	30%
Group Project	50%
Preliminary Research and Task Analysis	10%
Design Alternatives	10%
Prototype	10%
Evaluation	10%

Assignment/Activity	Percentage of Total
Final Report / Presentation	10%

Grading Scale (No Rounding)

A	90–100%
B	80–89%
C	70–79%
E	Below 70%

Tentative Course Schedule

Week	Topic	Readings
1	No Class – MLK Day	
2	Course Introduction & Interaction Design	Interaction Design – CH 1,4&6
3	Introduction to User-Centered Design	The Design of Everyday Things – CH 1-3 Interaction Design – CH 3&5
4	Design Bias, Ethics, and IRB	Dell et al. “Yours is Better!” Participant Response Bias in HCI (from CHI 2012)
5	Qualitative Data & Methods	Interaction Design – CH 12 & 13 Blomberg, J., & Burrell, M. (2009). An ethnographic approach to design. Human-Computer Interaction, 71-94. Dourish “Implications for Design” (from CHI 2006)
6	Contextual Inquiry, Usability, & Prototyping	The Design of Everyday Things – CH 4-6 Interaction Design – 7&8
7	Heuristic Evaluation and Project Planning	Greenberg Usability Evaluation Considered Harmful (Some of the Time) (from CHI 2008) Interaction Design – 10&11 Nielsen “10 Usability Heuristics for User Interface Design” https://www.nngroup.com/articles/ten-usability-heuristics/
8	Introduction to Design	Lean UX
--	Spring Break	
9	Design Basics and Digital Design	The Design of Everyday Things – CH 7 Interaction Design – CH 9 Beatrice Warde, The Crystal; Goblet, Dieter Rams: ten principles for good design.

Week	Topic	Readings
10	Participatory Design	Bødker, K., Kensing, F., & Simonsen, J. (2009). <i>Participatory IT design: designing for business and workplace realities</i> . Kensing, F., & Blomberg, J. (1998). Participatory design: Issues and concerns. <i>Computer Supported Cooperative Work (CSCW)</i> , 7(3-4), 167-185.
11	Social & Ubiquitous Computing	Dourish, P. (2001). <i>Where the action is: The foundations of embodied interaction</i> . CH 3 Dourish, P., & Bell, G. (2011). <i>Divining a digital future: Mess and mythology in ubiquitous computing</i> . CH 1-3
12	HCI for Development, & Social Good	Irani et al. "Postcolonial computing: a lens on design and development" (from CHI 2010). Dell, N., & Kumar, N. The Ins and Outs of HCI for Development. (from CHI 2016) Toombs, A., Bardzell, S., and Bardzell, J. (2014). Becoming Makers: Hackerspace Member Habits, Values, and Identities. <i>Journal of Peer Production</i> .
13	Case Study: Lexmark Visit	
14	Final Project Presentation	

Submission of Assignments

Assignments and Group Project deliverables will be submitted online through Canvas and will be due by 11:59PM EST on the date due.

Course Policies

Attendance Policy

This is a class whose success is dependent on everyone's participation. Also, there is a strong correlation between class attendance and grades. Therefore, attendance is vital for your achievement.

If you are absent on a day when an in-class assignment or an exam is given, you will be allowed to make-up that work **only** if the absence is **officially excused**. You will be asked to provide official written documentation for excused absences within one week of your return to class. If you do not turn in the written documentation on time, the absence will be counted as unexcused. Please see the definition of excused absences in the next section.

If you know ahead of time that you will be absent from class without an excused absence, please discuss this with your instructor and turn in any assignments ahead of time. Excuses for university-sponsored activities must be made *prior* to such absences. **For unexcused absences, no make-up work is available for in-class exercises, workshops, or exams unless approved in advance by your instructor.**

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

Note: Please reference the definition of excused absence in the current edition of *Students Rights and Responsibilities* or on the web at <http://www.uky.edu/StudentAffairs/Code/>.

For any emergency situation that arises, **email your instructor** as soon as you know about the situation.

Excused Absences

Students need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Per *Senate Rule 5.2.4.2*, students missing any graded work due to an excused absence are responsible: for informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required); and for making up the missed work. The professor must give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

Verification of Absences

Students may be asked to verify their absences in order for them to be considered excused. *Senate Rule 5.2.4.2* states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

Academic Integrity

Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Senate Rules 6.3.1 (see <http://www.uky.edu/Faculty/Senate/> for the current set of *Senate Rules*) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However,

nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations Due to Disability

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. It is located on the corner of Rose Street and Huguélet Drive in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at (859) 257-2754 and via email at drc@uky.edu. Their web address is <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/>.

Military Members and Veterans

We recognize the complexities of being a member of the military community and also a student. If you are a member of the military or a military veteran or dependent, please inform your instructor if you are in need of special accommodations. Drill schedules, calls to active duty, mandatory training exercises, complications with GI Bill disbursement, and other unforeseen military and veteran related developments can complicate your academic life. If you are aware of a complication, we will work with you and put you in contact with university staff members who are trained to assist you. Please contact the Coordinator of the University of Kentucky Veterans Resource Center at (859) 257-1148 for additional assistance. Visit <http://www.uky.edu/veterans> for more available resources.

Civility and Professionalism

Ideally the classroom environment should be supportive and comfortable. Do not equate a relaxed atmosphere with a lack of academic standards. You are expected to be on time for class, be prepared for class and conduct yourself appropriately for a respectful academic environment. For example, frequent tardiness demonstrates a lack of respect for others and violates the values of this learning community. If you are late for class, enter the classroom with as little disruption as possible. Similarly, if you must leave the class early, leave with as little disruption to the activity in the class as possible. In case you miss class, it is your responsibility to obtain class notes from your classmate(s).

Students must learn to meet the standards of professional behavior and treat each other with respect. Critical inquiry is important, but attacking other persons, verbally or otherwise, is not accepted. Students must learn to receive and act on constructive criticism, be reliable and responsible, polite and respectable of others, and focus on producing above quality work.

Important Notes

- Be sure to complete readings prior to the class meeting.
- You are responsible for all information, announcements, and changes addressed in classes and/or Canvas.
- The instructor reserves the right to alter the syllabus during the semester, if necessary.

Discussing Grades

Students who have grade or exam concerns must approach the professor during office hours, or through appointment. In order to give our full attention to grade issues, the professor will NOT discuss grades or exams before or after class. Once grades are posted online, you may visit the professor during office hours or by appointment to review your exam. Grades will not be discussed over email or the telephone.

I operate with the 24/7 rule. This means that, once you receive a graded assignment back, you must wait at least 24 hours to come and discuss it with me. I am more than happy to discuss grades with you, but ask that you take the time to thoroughly review the feedback provided beforehand and carefully compare your work with the assignment requirements and grading rubric. Students need to contact the professor for an appointment to discuss the issue and you must also come and talk to me within one week (7 days) of receiving the grade. Once that one-week period has passed, the grade will not be changed under any circumstances. Students must bring a written explanation of their dispute with them to this appointment. If the matter is still unresolved, students need to contact the Instructional

Communication Coordinator. Students that do not fulfill these requirements will not be addressed and the original grades will be final.

Additional Student Resources

The Graham Office of Career Management is dedicated to assisting students in their career development process and employment success by working closely with employers who seek to hire world ready interns and graduates. More information can be found at <http://gaton.uky.edu/career/>.

Presentation U provides tutoring assistance and training with multimodal communication. UK students have the opportunity to attend scheduled workshops and work individually with highly trained faculty members, graduate students, and peer tutors. Located at the Hub in W. T. Young Library and on the first floor of Champions Court 1, Presentation U can help with any of the following: brainstorming project topics, creating outlines, effectively using APA/MLA style, practicing oral presentations, designing and constructing effective visual aids, including PowerPoint, Prezi, websites, videos, and digital projects. Visit their website: www.uky.edu/presentationu or call (phone 859-218-5186) for our tutoring hours or to make an appointment.

The Writing Center is located in W. T. Young Library, Room 108B in the Hub (phone: 859-257-1368). The staff can help you identify and correct problems with your writing. You can also schedule an appointment online at: <http://wrđ.as.uky.edu/writing-center>

The Media Depot is a student digital media space located in the Hub at William T. Young Library. The Media Depot provides access to recording equipment and space, editing stations with specialized multimedia software, and technical support for students' development of their academic media projects. The Media Depot is funded by the Student Technology Fee and is a collaboration between the University of Kentucky Analytics and Technologies (UKAT) and UK Libraries and is in support of the QEP. More information can be found at <http://www.uky.edu/ukat/mediadepot>

TECHNOLOGY INFORMATION & RESOURCES

Distance Learning Students are expected to have a minimum level of technological acumen and the availability of technological resources. Students must have regular access a computer with a reliable Internet connection and audio capabilities. Internet Explorer 7 (IE) or Firefox 2.x are the recommended browsers for those using a Windows-based PC. Those using Firefox 3.x may encounter problems with assignment uploads. Those using an Apple computer with MAC OS X (10.5.x) may use Firefox 3.x or Safari 3.x.

Please be certain that your computer and/or browser allow you to view Adobe Reader documents (.pdf). Microsoft Office and other software products are free for students: <http://download.uky.edu/>.

As your instructor, I am your first go-to person for technology problems. If you need more immediate assistance, please contact UKIT.

Information Technology Customer Service Center (UKIT)

<http://www.uky.edu/UKIT/>; 859-218-4357

Library Services & Distance Learning Services

<http://www.uky.edu/Libraries/DLLS>

- Carla Cantagallo, DL Librarian
- Local phone number: (859) 257-0500, ext. 2171; long-distance phone #: (800) 828-0439 (option #6)
- Email: dllservice@email.uky.edu
- DL Interlibrary Loan Service: http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llib_id=16

For more resources about online classes and student resources, visit <http://www.uky.edu/ukonline/>

The School of Information Science has a page with a comprehensive list of technology resources here:
<http://ci.uky.edu/sis/students/techtips>

Tentative and Subject to Change