

HCI 460: Usability Evaluation Methods

Winter Quarter 2024

Instructor	Course Information
Ken Douros, Instructor College of Computing & Digital Media DePaul University Office: Mobile Email: kdouros@depaul.edu Mobile phone: 847-284-7090 (emergencies only) Office hours: Monday before/after class (By appt via BlueStar only) 25 E. Jackson, room 1110	HCI 460 Section 801/810 Class time: Monday, 5:45 PM – 9:00 PM Room: 25 E Jackson Blvd, room 1110 Chicago, IL 60604, USA Campus: Loop Course homepage: https://d2l.depaul.edu/ Last day to drop with no penalty is January 19th . After that date, a grade of “W” will be assigned. Last day to withdraw from class is February 23rd . Last day of normal class is March 11th Final Exam March 18th .

Course Description

This course surveys methods for evaluating user interfaces. For projects, students will perform a heuristic evaluation, a cognitive walkthrough, a usability test and how to communicate their findings. Class meetings will also introduce, discuss and occasionally practice additional methods for usability evaluation.

The coursework consists of:

- Lectures;
- Class-time activities;
- Reading assignments;
- An individual assignment;
- Team assignments; and
- Mid-term and final exams.

Students perform UCD activities on a team-selected project throughout all team assignments.

Learning Objectives (LO)

By the end of this course, students will be able to:

1. Conduct a variety of methods for evaluating the usability of interactive systems (L01)
2. Select an appropriate evaluation method and articulate its advantages and disadvantages (L02)
3. Critique the validity of usability measures (L03)
4. Explain the role of evaluation in the design process (L04)
5. Establish useful test objectives (L05)
6. Prepare usability reports and present results (L06)

Prerequisites

HCI 440 is a prerequisite for this and most other HCI courses in this program.

Qualifying coursework in Statistics (eg: IT 403) is also required. For the most part, a basic understanding of descriptive statistics will be sufficient for this course.

Required Materials

Handbook of Usability Testing by Jeffrey Rubin, (2nd edition: ISBN 0-470-18548-1 preferred, 1st edition is okay)

Ebook: https://i-share-dpu.primo.exlibrisgroup.com/permalink/01CARLI_DPU/8tvalj/cdi_skillsoft_books24x7_bks00025203

Task-Centered User Interface Design: A Practical Introduction by Clayton Lewis and John Rieman

This is available online: <http://www.hcibib.org/tcuid/>

Measuring the User Experience by Tom Tullis and Bill Albert (Second Edition ISBN 978-0-12-415781-1 preferred, 1st or 3rd editions are okay).

Recommended Materials, particularly if you need help with the statistics

Quantifying the User Experience, by Jeff Sauro and James R. Lewis (ISBN 978-0-12-384968-7 – 1st edition is okay).

Ebook: https://i-share-dpu.primo.exlibrisgroup.com/permalink/01CARLI_DPU/8tvalj/cdi_safari_books_v2_9780123849687

Class Format

Class meetings include a combination of lectures, discussions, hands-on activities, presentations of projects, and group work (during and outside of class). Success and enjoyment of this class depends on your participation, so I strongly encourage participation and cooperation from each student. You will obtain the most value and networking opportunities from the course if you are willing to collaborate and learn from one another.

Class Schedule

A detailed course schedule with lecture topics, assignments and due dates is provided in the Calendar on D2L. The D2L Calendar represents the definitive class schedule for all coursework and will be updated, if necessary, as the quarter progresses.

Tentative Course Schedule (see D2L Calendar for the definitive class schedule)

Date/ Week	Classroom Lecture Topic	Reading	Assignments & Exams
Jan 08	Course Overview, Usability Principles, Heuristic Evaluation	Rubin & Chisnell ch. 1, Lewis & Rieman ch. 4. Tullis & Albert ch. 1.	<i>Determine site, app or product to test</i>
Jan 15	Cognitive Walkthrough, Pluralistic CW & other Inspection Methods	Course notes	HW1 Heuristic Evaluation due
Jan 22	Introduction to Usability Testing	Rubin & Chisnell ch. 5-7, Tullis & Albert ch. 2-3. Sauro & Lewis ch. 2 & 8.	HW2 Cognitive Walkthrough due
Jan 29	Usability Test Planning & Preparation	Rubin & Chisnell ch. 8-10, Tullis & Albert ch. 4-6. Sauro & Lewis ch. 6.	Team Agreement due CITI IRB certification due
Feb 05	Pilot Testing	Review Rubin & Chisnell ch. 9	GHW1 Usability Test Plan due <i>Midterm Exam posted</i>
Feb 12	Assessment and Reporting	Rubin ch. 11-12, Review Tullis & Albert 2.1- 2.4, 2.7. Sauro & Lewis ch. 3-5.	<i>Conduct Pilot Test</i> Midterm Exam due
Feb 19	Remote Testing & Variant Testing Methods	Rubin & Chisnell ch. 13 Course notes	GHW2 Pilot Test & Updates due
Feb 26	Competitive & Comparison Studies	Tullis & Albert ch. 8-10 Course notes Sauro & Lewis ch. 8.	<i>Conduct Usability Tests</i>
Mar 04	GOMS KLM and other user modeling	Review Tullis & Albert ch. 4 Course notes	GHW3 Usability Test Results Due
Mar 11	Presentations & Review		Team Final Report & Presentation <i>Final Exam Posted</i>
Mar 18	Final Exam		Final Exam due Team Evaluation

Evaluation & Grading

Coursework includes the following components:

Coursework	Grade Proportion
Individual Assignments (2)	20%
Team Assignments (3)	30%
Project Presentation	20%
Midterm Exam	10%
Final Exam	20%
Total	100%

Individual Participation

In-Class Students

In-class students are expected to attend every class session and participate in all class activities. This is not mandatory but recommended to get the most out of class exercises when they are available. Students are individually responsible for material they may have missed due to absence or tardiness. (L01)

Online Students

OL students (or in-class students that miss a lecture) are expected to view the COL recording of the class as soon as possible, usually within 2-3 days of the in-class meeting. (L01)

Individual Assignments (20% total) – 10 points each for HW1 Heuristic Evaluation and HW2 Cognitive Walkthrough

The individual assignments introduce students to the most common structured inspection methods and act as a foundation for other usability evaluations. (L01-L03)

Team Assignments/Team Participation (50% total) – 30 points for Team Assignments, plus 20 points for Project Presentation

These are done as part of a team consisting of 3-5 students. The team assignment is a comprehensive usability test, broken down into 3 stages, each with distinct deliverables. The team project culminates in a team final presentation summarizing the entire evaluation process and insights obtained.

Each team must complete a team working agreement. All students on each team are expected to contribute equally to every assignment. If a student does not contribute their fair portion to an assignment, that student's grade on the assignment is reduced. At the end of the quarter, students must complete a final Peer Review of their teammates, however students are encouraged to complete an online Peer Review of their teammates at each assignment in order to improve team performance. Review scores will be used, if necessary, to adjust a student's grade on an assignment, and in determining each student's final team assignment participation grade component. (L01-L06)

Midterm and Final Exams (30% total) – 10 points for Midterm and 20 points for Final

Both the midterm and comprehensive final exams test for comprehension of vocabulary, concepts, and application of the practical elements of various usability evaluation methods.

Time Budget

Students should allow approximately 3-4 hours of work outside of class for each scheduled hour of class; this works out to 10-12 hours each week (on average) for most students. Team meetings and team assignment collaboration may increase the amount of time required.

Grading Scale

Final letter grades will be given based on the following minimum percent of total points earned:

If the final numeric grade is less than:	And greater than or equal to:	The final letter grade is:
-	93	A
93	90	A-
90	87	B+
87	83	B
83	80	B-
80	77	C+
77	73	C
73	70	C-
70	67	D+
67	60	D
60	0	F

Grading and Final Grade Posting

Grading during the quarter is completed as soon as possible, usually within one week of assignment submission. Final grades will be posted as soon as possible after the end of the quarter, but not later than **22 March 2023** at 11:59 PM.

Grade Responsibility

Every effort is made to provide the student with the resources and support needed to succeed in the course. Grades are assigned fairly and impartially based on the coursework submitted by the student, without regard to external circumstances such as GPA goals or employer tuition reimbursement minimum grade requirements. It is the student's responsibility to earn his or her final grade. Please do not ask for a grade which you do not earn.

In-Class and Online Sections

Every effort is made to accommodate and be inclusive of online students. Since test materials are delivered online, OL students do not need to make proctoring arrangements for these. Adequate time is given to complete all assignments, so all students must submit assignments by the same day and time.

Student Support & Communication

Support for both in-class and online students is provided through weekly office hours dedicated to the course and through online question-and-answer discussion forums on D2L. Students in the Chicago area may come to the instructor's posted office hours before or after class, or by appointment. Online students may call during these posted office hours; however, it is recommended that such calls be scheduled in advance in order to ensure a place in the queue. Other means of communication (video conferencing, etc.) may be made available upon advance coordination.

Online discussion forums are available to all students and should be used for posting general coursework questions and comments. The instructor makes every effort to respond to postings within 24 hours. However, due to schedule issues, it occasionally may take longer to receive an instructor response. Email should be used only for personal issues or for student- or team-specific coursework questions that cannot be addressed through the discussion forums. For technical issue (as opposed to personal issue) team emails, please Cc: all team members. Make all questions clear and specific.

Please include the course number and section (e.g., HCI 460 - OL) in the email Subject: field and include your full name in the body of the email.

Note: The instructor does not generally preview homework assignments, however will answer specific questions about assignments.

Instructor availability:

- The best way to contact me is through email or the class discussion forum. You may reach me at kdouros@depaul.edu.

Class Policies & Expectations

An asterisk '' following a heading indicates that the section includes an instructor-specific policy.*

Guidelines for Class Behavior

- Be on time.
- Take an active role in class discussions and activities.
- Be a respectful participant by keeping phones in silent mode.
- Please keep eyes up (and off your electronic devices) when attention should be paid to the group discussion or presentation. It is unprofessional and disrespectful to the instructor and other students to be surfing the internet, chatting, or checking social media.
- Practice professionalism in your communications (face-to-face, emails, etc.) with the professor and fellow students.

Attendance:

- You are expected to attend in person OR view all videoconference classes and participate in class activities as scheduled. Instructions and additional details for assignments and exams are provided during class lectures, so viewing these as close to real-time as possible ensures you have adequate time to respond to in-class instructions.

Attitude

A professional and academic attitude is expected throughout this course. Measurable examples of non-academic or unprofessional attitude include but are not limited to: talking to others when the instructor is speaking, mocking another's opinion, cell phones ringing, emailing, texting, or using the internet whether on a phone, tablet, or computer. If any issues arise a student may be asked to leave the classroom. The professor will work with the Dean of Students Office to navigate such student issues.

Civil Discourse

DePaul University is a community that thrives on open discourse that challenges students, both intellectually and personally, to be [Socially Responsible Leaders](#). It is the expectation that all dialogue in this course is civil and respectful of the dignity of each student. Any instances of disrespect or hostility can jeopardize a student's ability to be successful in the course. The professor will partner with the Dean of Students Office to assist in managing such issues.

Respect for Diversity and Inclusion at DePaul University as aligned with our Vincentian Values

At DePaul, our mission calls us to explore "what must be done" in order to respect the inherent dignity and identity of each human person. We value diversity because it is part of our history, our traditions and our future. We see diversity as an asset and a strength that adds to the richness of classroom learning. In my course, I strive to include diverse authors, perspectives and teaching pedagogies. I also encourage open dialogue and spaces for students to express their unique identities and perspectives. I am open to having difficult conversations and I will strive to create an

inclusive classroom that values all perspectives. If at any time, the classroom experience does not live up to this expectation, please feel free to contact me via email or during office hours.

Team Management and Behavior*

Teamwork is an integral part of this course. The primary purpose of teams in this course is to provide diverse perspectives and skills for the coursework, not to reduce the amount of work done by individual students. Whenever possible, all team members should attempt every element of the coursework, then the team as whole should combine the individual efforts into the final product for submission. This gives all students experience in every element of the coursework, and provides a richer and more coherent final product.

Since team sizes are small, teams are encouraged to use a consensus approach to decision making:

- Discuss and weigh the pros and cons of each decision option;
- Work toward the options that have the most benefit for the project;
- When it is clear which option is most suitable, work with its opponents to help them accept it— persuade, do not dictate.

Consensus takes more time than majority rule by vote, but reduces team friction and generally is more effective for small teams.

Team Peer Reviews

It is expected that all members of a team participate fully and equally in all team planning efforts, meetings, decisions, and coursework. To encourage and assess this participation, the course utilizes a confidential online Peer Review system. The following team member participation criteria are evaluated in the Peer Review:

Initiative: Was the individual a leader in organizing the project effort or did the individual take initial actions to successfully get the project started?

Reliability: Did the individual attend required meetings, promptly answer email, and provide materials when they were due?

Quantity of work: Did the individual contribute an average (expected) amount of work, contribute more work than other team members, or contribute less work than others?

Quality of work: Did the individual contribute work that required little additional editing or few corrections?

Support of learning: Did team members learn from the individual, possibly through informed discussion or constructive feedback? Did the person contribute to a supportive environment where thoughts and ideas were welcomed?

Students receive extra credit for completing the final Peer Review. However, if you rate everyone a 25 or a 0, your evaluations will *not* be counted and you will not receive credit for the peer review—the instructor expects thoughtful evaluations.

For the results of Peer Reviews that are applied toward coursework grades, the following grade adjustment policy applies:

The average of the scores you receive from your team members acts as a multiplier for the relevant coursework. The scores you give to yourself are not included in the average. The following gives the resulting percentage of the coursework element grade you receive based on your average Peer Review score from your team members:

- Average score of 15 to 25 points: 100% of coursework element grade.
- Average score of 11 to 14 points: 90% of coursework element grade.
- Average score of 6 to 10 points: 80% of coursework element grade.
- Average score of 1 to 5 points: 70% of coursework element grade.
- Average score of 0 points will be investigated.

Anti-slacker rule:

- Much of your grade is based on your group project. Therefore, it is imperative that you significantly contribute to your team project. I have built in several checkpoints to mitigate slacking (see assignments). However, in EXTREME cases, if group members have clear evidence that another member is not contributing in a substantial manner to the project, they can formally “fire” that team member.
- First, the team should formally communicate their concerns and evidence of lack of engagement with the instructor via email, copying all the members other than the one in question. The instructor will then send ONE written warning to the team member. If the team member in question still does not participate in a satisfactory manner, the group should send me another email with evidence of lack of participation and again explaining the circumstances. The team member will then receive written notification from me that they have been removed from that group. A removed member will still be required to submit the same assignments on the syllabus on the same topic as their former group, but will automatically lose 40% of the points for ALL previously received submissions for the team project.

COVID-19 Health and Safety Precautions

The health and safety of everyone at DePaul depend on the cooperation of all who come to campus. By taking care of yourself, you protect the entire community. DePaul’s COVID-19 response plans are based on the latest guidance from the Centers for Disease Control and Prevention, the Chicago Department of Public Health and the university’s medical advisor from AMITA Health.

Mandatory protocols must be followed by DePaul students, faculty and staff at all times on both campuses <https://resources.depaul.edu/coronavirus/guidance/health-safety-practices/Pages/default.aspx>.

Exceptional Circumstances*

Every effort is made to accommodate students who encounter exceptional personal circumstances during the quarter. Students who experience unanticipated personal, work, health, or family

emergencies should notify the instructor by email or phone as soon as possible after the emergency with a brief explanation of the circumstances and any anticipated impact these might have on coursework. All such exchanges are treated as strictly confidential. Students who have anticipated exceptional circumstances such as secular or religious holiday observances, planned medical treatment, or travel should notify the instructor as early as possible of these circumstances and any anticipated impact these might have on coursework. In both unanticipated and anticipated cases, a suitable plan for dealing with the coursework impact is agreed upon by the student and instructor. In some cases, suitable documentation of the exceptional circumstances may be requested by the instructor.

Incomplete Grades

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. CDM policy requires the student to initiate the request for incomplete grade before the end of the term in which the course is taken. Prior to submitting the incomplete request, the student must discuss the circumstances with the instructor. Students may initiate the incomplete request process in MyCDM.

- All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptional cases will receive such approval.
- If approved, students are required to complete all remaining course requirements independently in consultation with the instructor by the deadline indicated on the incomplete request form.
- By default, an incomplete grade will automatically change to a grade of 'F' after two quarters have elapsed (excluding summer) unless another grade is recorded by the instructor.
- An incomplete grade does NOT grant the student permission to attend the same course in a future quarter.

Information about the Incomplete Grades policy can be found at

<http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx>

Withdrawal

Students who withdraw from the course do so by using the Campus Connection system (<http://campusconnect.depaul.edu>). Withdrawals processed via this system are effective the day on which they are made. Simply ceasing to attend, or notifying the instructor, or nonpayment of tuition, does not constitute an official withdrawal from class and will result in academic as well as financial penalty.

Instructor Request: Withdrawal*

Because of the strong inter-dependency among team members and teams, please notify me and, if you choose, your other team members, as soon as possible after any decision to withdraw from the course. This will allow me to make appropriate adjustments to teams to accommodate the loss of a team member.

Retroactive Withdrawal

This policy exists to assist students for whom extenuating circumstances prevented them from meeting the withdrawal deadline. During their college career students may be allowed one medical/personal administrative withdrawal and one college office administrative withdrawal, each for one or more courses in a single term. Repeated requests will not be considered. Submitting an appeal for retroactive withdrawal does not guarantee approval.

College office appeals for CDM students must be submitted online via MyCDM. The deadlines for submitting appeals are as follows:

- Autumn Quarter: Last day of the last final exam of the subsequent winter quarter
- Winter Quarter: Last day of the last final exam of the subsequent spring quarter
- Spring Quarter: Last day of the last final exam of the subsequent autumn quarter
- Summer Terms: Last day of the last final exam of the subsequent autumn quarter

Coursework Grade Review Requests*

Every effort is made to grade in a fair and consistent manner. Should a disagreement arise about a coursework grade, the student or team may submit a grade review request in writing to the instructor. The request must be submitted within 48 hours after the assignment grade has been posted. The request must include the student's or team's argument for a different grade evaluation, based on verifiable evidence presented by the student. The instructor handles grade review requests and responds to the student with a review decision as soon as possible.

Academic Integrity Policy and Plagiarism*

This course will be subject to the academic integrity policy passed by faculty. More information can be found at <http://academicintegrity.depaul.edu/>.

The university and school policy on plagiarism can be summarized as follows: Students in this course should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic grade of 'F' in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work any assignment which has been prepared by someone else.

Preferred Name & Gender Pronouns

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the quarter so that I may make appropriate changes to my records. Please also note that students may choose to identify within the University community with a preferred first name that differs from their legal name and may also update their gender. The preferred first name will appear in University related systems and documents except where the use of the legal name is necessitated or required by University business or legal need. For more information and instructions on how to do so, please see the

Student Preferred Name and Gender Policy at:

<http://policies.depaul.edu/policy/policy.aspx?pid=332>

Resources for Students with Disabilities

Students seeking disability-related accommodations are required to register with DePaul's Center for Students with Disabilities (CSD) enabling them to access accommodations and support services to assist with their success. There are two office locations:

- Loop Campus (312) 362-8002
- Lincoln Park Campus (773) 325-1677
- Email: csd@depaul.edu

Students who register with the Center for Students with Disabilities are also invited to contact Dr. Gregory Moorhead, Director of the Center, privately to discuss how he may assist in facilitating the accommodations to be used in a course. This is best done early in the term. The conversation will remain confidential to the extent possible.

Please see <https://offices.depaul.edu/student-affairs/about/departments/Pages/csd.aspx> for Services and Contact Information.

Online Instructor Evaluation

Instructor and course evaluations provide the best way for students to provide valuable feedback that can improve teaching and the learning environment. Detailed feedback can help the instructor to build on the elements of the course that are strong and improve those that are weak, tailoring teaching methods and materials to those aspects the students find most valuable. Positive comments identify those areas that are most valuable and can even be further emphasized; constructive criticism provides the opportunity to revisit course materials or methods and make modifications to improve the course content. The evaluation of the instructor and course provides you an opportunity to make your voice heard the quality of teaching at DePaul. The evaluations are anonymous; while you will continue to receive periodic reminders to participate, the instructor and administration will not be able to associate ratings with any particular respondent. Students are encouraged to complete the evaluation online in [CampusConnect](#) and make your voice heard!

Please see <https://resources.depaul.edu/teaching-commons/teaching/Pages/online-teaching-evaluations.aspx> for additional information.

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under *News* in D2L and sent via email.