

# HCI 440: Introduction to User-Centered Design

## Section 702/711 — Autumn 2023

### Instructor Information

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*Office Hours:* Tuesday 10:30-11:30a and by appointment

### Class Information

*Dates:* Sept 12 – Nov 14; Final Report Due Nov 21  
*Time:* Tuesdays 5:45 – 9p  
*Classroom:* CDM 220  
*Campus:* Loop  
*Course Homepage:* <https://d2l.depaul.edu>

### Important Dates

Dates to add and drop are in accordance with university-wide calendar available here: <https://academics.depaul.edu/calendar/Pages/default.aspx>. Please note the drop date (with no penalty) is Tuesday September 19, 2023, the day of our second class meeting; drops after this date are assigned a 'W'. The last date to withdraw is Tuesday October 24, 2023.

We will meet in-person/online on each Tuesday between Sept 12 and Nov 14 (inclusive). There will be no final exam; instead there will be an individual final report due at the time of our final exam session.

### Course Description

This course presents the principles and practices of user-centered design (UCD), which include user and task analysis, conceptual modeling and design, detailed design, prototyping, and evaluation. Students apply these UCD principles and practices in individual and team assignments. The course introduces the essential elements of these practices and sets the context for further study in other foundation and advanced courses.

Topics covered in the course include:

- The fundamentals and process of UCD
- User research and establishing requirements, including task description and analysis
- Conceptualizing and modeling interactions
- Cognitive aspects of interaction

- Interaction design, prototyping, and construction, and
- Usability inspection and evaluation

The coursework consists of the following:

- Lectures
- Class-time activities
- Reading assignments
- Three individual assignments
- Team assignments, culminating in a final presentation
- An individual final report

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

## Course Objectives

After this course, students will be able to:

- (LO1) Understand the vocabulary, principles, practices, and methodology involved in user-centered design and its application areas.
- (LO2) Understand and apply the essential elements of the user-centered design process.
- (LO3) Understand and apply research methods such as secondary research, user observation, and user interviews to establish interaction design requirements.
- (LO4) Apply user-centered design principles to create coherent interaction designs that implement requirements and reflect design and usability principles.
- (LO5) Apply iterative design and prototype evaluation methods to refine their interaction designs.
- (LO6) Communicate the results of their work effectively and professionally.
- (LO7) Understand and apply principles of practical interpersonal skills to participate and contribute to the efforts of a multidisciplinary team.

## Textbooks & Software

Required Textbook: *The UX Book 2: Agile UX Design for a Quality User Experience*, by Hartson, R. and P.S. Pyla (2019). ISBN: 978-0-12-805342-3

OR

*The UX Book: Process and Guidelines for Ensuring a Quality User Experience*, by Hartson, R. and P.S. Pyla (2012). ISBN: 978-0-12-385241-0 (the previous edition)

Software: You can use whatever tools you would like on assignments in this course; the goal here is not to make you an expert with a specific tool, but rather to familiarize yourself with

the underlying principles. That said, common tools that might be useful to you are: (1) *Figma* (<https://www.figma.com/>), which allows for remote collaboration and is free for a few basic designs; and (2) *Axure RP* (<https://www.axure.com/edu>) which has a free education license.

## Prerequisites

None

## Class Format

Class meetings involve a combination of lecture, discussions, and class-time activities.

## Tentative Schedule (see D2L Calendar for definitive schedule)

The following is a *tentative* schedule for the course.

	Date	Topic	Reading <i>UX v1 2012</i>	<i>UX v2 2019</i>
01	09/12	Intro to UCD, Syllabus/Logistics	Ch 1-2	Ch 1-3, 5
02	09/19	Exploration: Structured Observation	Ch 3, 4	Ch 7, 8
03	09/26	Exploration: Structured Inquiry	Ch 3, 4	Ch 7, 8
04	10/03	Definition: Task Analysis, Diagramming, Modeling	Ch 5-6, 21	Ch 9-10, 12-13, 31
05	10/10	Definition: Personas, Narrative, Requirements	Ch 5, 7, 10	Ch 10, 14, 22
06	10/17	Design: Ideation, Concept, Prototyping	Ch 8-9, 11, 20	Ch 15-18, 20, 30
07	10/24	Evaluation: Structured Inspection	Ch 12-14	Ch 21, 23
08	10/31	Evaluation: Usability Testing	Ch 15-18	Ch 24-27
09	11/07	Standards and Documentation	Ch 9, 12, 17, 22	Ch 16, 21, 27, 32
10	11/14	Final Class - Presentations	Ch 19, 23-24	Ch 4, 29
11	11/21	Final Report Due (No Physical Class)	N/A	N/A

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.

## Evaluation and Grading

The course grade is determined by the following components:

Weekly Participation and D2L Discussion	15%
Individual Assignments	20% (10%, 5%, 5%)
Team Assignments	30% (10% each)
Team Presentation	17.5%
Final Report	17.5%

*Weekly Participation (15%)*

In-class students should 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 available. Students are individually responsible for material they may have missed due to absence or tardiness. (LO1)

Online 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. (LO1)

All students must post at least one substantive comment relevant to the class topics and activities for the week to the online participation forum. A substantive comment further explores a topic covered in class or posted by another student. A “thank you” or “that’s interesting” does not constitute a substantive comment, nor does simply posting a URL without a substantive discussion of its relevance.

Participation grades will be assessed based on interaction in class and on D2L at the discretion of the instructor; while the majority of this participation grade can be earned through attendance and interaction, the depth and quality of engagement with the material will also be considered.

#### *Individual Assignments (20%)*

The first major individual assignment, worth 10%, is a foundation exercise for the rest of the coursework, particularly the team assignments. The completed secondary research analysis will help inform the team research assignment. (LO1-LO3)

The second and third individual assignments (5% each) will be reflection and synthesis activities standing in the place of quizzes.

#### *Team Assignments/Team Participation (47.5% total)*

These are done as part of a team of 3-5 students. Team assignments consist of practical exercises in performing various user-centered interaction design (UCD) activities, culminating in a team final project presentation summarizing the entire research and design process and outputs.

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 is reduced. Twice throughout the quarter, students must complete an online Peer Review of their teammates. If necessary, the review adjusts a student’s grade on the assignment and determines each student’s final team assignment participation grade component. (LO1- LO7)

#### *Final Report (17.5%)*

Instead of a final exam, you will (individually) prepare a summary report of your understanding and experience of the UX Design process.

### **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.

## **Grade Scale**

Final grades will be assigned according to the following scale:

A	≥93.0	C+	≥77.0
A-	≥90.0	C	≥73.0
B+	≥87.0	C-	≥70.0
B	≥83.0	D+	≥67.0
B-	≥80.0	D	≥60.0

Note that these cutoffs are applied without rounding; anything lower than 60.0 results in an 'F'.

## **Grading and Final Grade Posting**

Assignments and projects will be generally graded with a letter grade and converted to a 10-point scale (10 for an A, 9.5 for A/A-, 9 for an A-, 8.5 for a B, 8 for a B-, etc).

Late assignments will be accepted up to 3 days late, with a 1 point penalty. Assignments submitted more than 3 days after the due date will not be accepted without an excused absence cleared by the dean of students office.

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 30 November 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. Adequate time is given to complete all assignments, so in-class and online students must submit assignments by the same day and time.

## **Student Support and 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. 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. 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 emails within 24 hours. 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 440 - in-person/online) in the email 'Subject' field and include your full name in the body of the email.**

## **AI Policies**

You are absolutely encouraged to use any and all AI tools to improve and expedite your work, in all forms. If you do, please note it. If the tool is particularly helpful, please bring it to my attention so I can integrate into my teaching.

That said, tools like ChatGPT fail suddenly and catastrophically; they may appear trustworthy, but hallucinate plausible-but-utterly-wrong information. These failures can be hard to catch if you do not have expertise. While these tools may eliminate the need for content generation, they do not eliminate the need for full understanding and verification. You *\*must\** thoroughly review and endorse any submitted AI content as if you wrote it yourself.

Thus, if you use a tool in your homework ChatGPT, I reserve the right to (1) ask you to submit a short summary of your process for verification/curation of what was generated; and (2) if I find that you have failed to apply your process to any AI-generated data (a.k.a, if a hallucinated primary sources make it into your writing, nonsense or gibberish appears in your logic, etc), you will fail the assignment. One mistake is catastrophic for your assignment, just as it will be in your career.

To be clear, you cannot successfully review AI generated content without understanding it deeply. I also reserve the right to (3) verbally question your knowledge to ensure you were, in fact, capable of curating the AI content successfully (rather than submitting work that is beyond your comprehension). Should I find that you have submitted something that is beyond your ability to verify, you will receive a zero for the assignment.

For my part, as your instructor, I will not ask you to regurgitate common knowledge 'in your own words'. Any generated content will require drawing upon personal experience or domain-specific synthesis.

## **Phone and Device Policies**

**Please bring a laptop to class;** if you do not have access to one, please contact the instructor to discuss alternative options. All electronic devices should be turned off and put away during class except when required for an in-class activity. Use of such devices outside of these activities can result in dismissal from class. If there is an issue which requires you to need a phone in class, discuss this with your instructor.

## **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.

All assignment submissions to D2L are subjected to automated plagiarism analysis using Turnitin. Originality analysis results are visible to the student. Students must complete a short Academic Integrity Awareness Quiz before submitting their first assignment. If you have any questions about what constitutes an academic integrity violation or what its consequences might be, please be sure to have these questions answered before submitting your first assignment.

Publicly sharing or posting online any prior or current materials from this course (including exam questions or answers), is considered to be providing unauthorized assistance prohibited by the policy. Both students who share/post and students who access or use such materials are considered to be cheating under the Policy and will be subject to sanctions for violations of Academic Integrity.

## **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 and electronics put away.
- Practice professionalism in your communications (face-to-face, emails, etc.) with the professor and fellow students.

## **Attitude**

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

## **Team Management**

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 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 possibilities 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

All team members must participate fully and equally in all team planning efforts, meetings, decisions, and coursework. The course utilizes a confidential online Peer Review system to encourage and assess this participation. 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 get the project started successfully?
- *Reliability*: Did the individual attend required meetings, promptly answer emails, and provide materials when they were due?
- *Quantity of work*: Did the individual contribute an average (expected) amount, contribute more work than other team members, or contribute less?
- *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 credit for completing each 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.

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

- average of 15 to 25 points: 100% of coursework element grade
- average of 11 to 14 points: 85% of coursework element grade
- average of 6 to 10 points: 70% of coursework element grade
- average of 1 to 5 points: 50% of coursework element grade



Average results less than 5 points will be investigated by the instructor. Students whose grades are reduced due to the Peer Review process will receive an explanatory email from the instructor.

Teams with significant participation, behavioral, or other difficulties with a team member should first attempt to resolve the problems with the team member causing the difficulties. Be firm and explicit with the problematic team member: communicate clearly to the problematic team member that there is a problem and work with them to resolve it. Do not simply make vague or oblique statements or suggestions. Examples of problematic behavior include: a team member refusing input or persisting in failing to participate, exhibiting inappropriate behavior, or causing other disruptive conditions. In such cases, the team should contact the instructor via email rather than wait to raise the issue via the Peer Review process. The team should provide the instructor with a clear description of the issue(s), evidence supporting their issue claims (such as emails or samples of the problematic team member's contributions), and a suggested action to be taken by the instructor.

In most cases, the instructor will attempt to resolve the issue with the least disruption to the team. Most problematic team members will receive one written email warning from the instructor. After the warning, if the disruptive behavior persists and the team feels it is warranted, it may request that the instructor remove the team member from the team. The instructor may immediately remove the problematic team member in exceptional situations without an email warning. Removal from a team is at the instructor's discretion. A removed student must complete all remaining team assignments individually and incurs a 20% grade penalty on all remaining team assignments.

## **Civil Discourse**

DePaul University is a community that thrives on open discourse that challenges students 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 disrespect or hostility can jeopardize a student's ability to succeed in the course. The professor will partner with the Dean of Students Office to assist in managing such issues.

## **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, the student and instructor agreed upon a suitable plan for dealing with the coursework impact. In some cases, the instructor may request suitable documentation of the exceptional circumstances.

## **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 an incomplete grade before the end of the term in which the course is taken. Before submitting the incomplete request, the student must discuss the circumstances with the instructor. Students may initiate the incomplete request process in MyCDM.

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

## Withdrawal

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

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

## Retroactive Withdrawal

This policy assists 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 requests are as follows:

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

## **Coursework Grade Review Requests**

Every effort is made to grade fairly and consistently. Should a disagreement arise about a course-work 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.

## **Resources for Students with Disabilities**

Students who feel they may need accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) on the Loop Campus:

25 East Jackson Boulevard  
Lewis Center, Suite 1420  
Chicago, IL 60604-2287  
Phone: (312)362.8002  
Fax: (312)362.6544  
TTY: (773)325.7296  
Email: [csd@depaul.edu](mailto:csd@depaul.edu)

## **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. Evaluating the instructor and course allows you to make your voice heard in the quality of teaching at DePaul. The evaluations are anonymous; while you continue to receive periodic reminders to participate, the instructor and administration will not be able to associate ratings with any respondent.

Students are encouraged to complete the evaluation online in CampusConnect and make their voices heard.

## **My Commitment to Respect**

I will gladly honor your request to address you by your preferred name and salutation. Please advise me of this preference early in the quarter so that I may make appropriate changes to my records.

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.

### **Acknowledgements**

In creating this syllabus and this course, I've drawn heavily on the prior work of Craig Miller, Joseph Wanka, and Danyell Jones (who have all taught this course in the last year). I am very grateful for their help.

### **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.