

I ILLINOIS

DTX 495

Design Thinking: Student-

Centered App Design

Fall Semester 2023 – Section

B

Course Information

- Duration: Fall Semester 2023 – 8 Weeks (Second Half, Section B)
- Credit Hours: 2 Credit Hours
- Class Meeting Time: Tuesdays and Thursdays, 2:00–3:20 PM
- Location: 1002 Siebel Center for Design
- Format: In-Person
- Prerequisites: None. No prior programming or design experience required.

Instructor Information

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- Office Hours: By appointment

Course Description

DTX 495: Design Thinking: Student-Centered App Design is an 8-week, project-based course that focuses on utilizing Human-Centered Design (HCD) principles and user research to examine and enhance the Illinois app. Students will work in teams to explore the following central question: How might we develop a student-centered university app that is intuitive, engaging, and meets the diverse needs of the university

community? Answering this question will guide an iterative process of prototyping, testing, and refining app concepts.

This course provides a hands-on introduction to the fundamentals of app design, with an emphasis on design thinking and user experience (UX) design. Students will work collaboratively to identify user needs, create wireframes, brainstorm solutions, and propose design concepts. Throughout the course, students will also develop effective storytelling skills to present their app concepts to peers and potential stakeholders. By the end of the course, students will have gained valuable experience in app design and user-centered design methodologies. Students from all academic backgrounds are encouraged to enroll — no prior programming or design experience is required.

Learning Outcomes

Upon successful completion of this course, students will be able to:

- Apply Human-Centered Design (HCD) principles and design thinking methodologies to design a feature for a student-centered app that addresses a specific problem faced by the university community.
- Conduct user research to understand and address the needs of the target audience for the Illinois app.
- Develop wireframes, prototypes, and user interfaces that adhere to UX design principles and best practices, incorporating user feedback through iterative design and testing processes.
- Employ storytelling skills to present app concepts and prototypes to peers and potential stakeholders, demonstrating the impact of design choices on user experience.

Prerequisites

None. Students from all academic backgrounds are welcome. No prior programming or design experience is required.

Course Materials

Course Readings

No textbook is required for this course. All readings and supplementary resources will be provided through the course Resource Kit on Canvas.

Course Requirements and Policies

Grading Breakdown

Instructional Activity	Point Value	Percentage of Grade
Prototyping and Testing (20 pts group,	40 points	40%

20 pts individual)		
Design Presentation (20 pts group, 10 pts individual)	30 points	30%
Written Assignments	15 points	15%
Attendance	15 points	15%
Total	100 points	100%

Grading Scale

Final letter grades are determined based on the total percentage of points earned across all course components.

Percentage	Letter Grade
93–100	A+, A
90–92	A–
87–89	B+
83–86	B
80–82	B–
77–79	C+
73–76	C
70–72	C–
67–69	D+
63–66	D
60–62	D–
Below 60	F

Course Components

Prototyping and Testing (40 points)

Students will complete prototyping and testing activities throughout the course, contributing both as a group (20 points) and individually (20 points). These activities form the core of the design thinking process and include creating wireframes, conducting usability tests, and iterating on designs based on user feedback.

Design Presentation (30 points)

Teams will present their final app prototypes to peers and potential stakeholders during Week 8. The presentation is assessed on both group performance (20 points) and individual contribution (10 points). Strong presentations will demonstrate a clear design rationale, evidence of user research, and effective storytelling.

Written Assignments (15 points)

Written assignments throughout the course reinforce key concepts and encourage reflection on the design process. Specific prompts and submission details will be provided on Canvas.

Attendance (15 points)

Regular attendance is expected, as a significant portion of course work takes place during in-person class sessions. Because this course is heavily team-based, missing class affects not only your own progress but your group's as well. See the Attendance Policy below for full details.

Late Assignment Policy

Assignment deadlines are listed on Canvas. If you anticipate difficulty meeting a deadline, please contact the instructors in advance to discuss options. Getting behind on deadlines puts both you and your team at risk, so proactive communication is strongly encouraged.

Attendance Policy

Unless otherwise stated, attendance at all in-person class meetings is required. Sign-in sheets will be provided at each class session. Because this course relies heavily on in-class and collaborative group work, students can miss no more than one class session before falling behind.

If you are ill, experiencing a family emergency, observing a religious holiday, or facing any other circumstance that prevents attendance, please notify the instructors before class. No documentation is required — we trust you. Please prioritize your well-being. Unless the instructors contact you with concerns about your attendance, you can assume you are earning all available attendance points.

Participation

Students are welcome to participate in whatever way is most useful to them. Active verbal participation in whole-class discussions is one form of engagement, but the instructors recognize that this model does not fit every personality, ability, or cultural background. Listening attentively and taking notes is equally valid. Above all, this course depends on active engagement within your project team — please make your best effort to contribute to group discussions and activities. Unless the instructors contact you with concerns about your participation, you can assume you are earning all available participation points.

Classroom Conduct

The University of Illinois Student Code (Section 1-201(b)) states that students are expected to conduct themselves at all times in accordance with accepted principles of responsible citizenship and with due regard for the rights of others. The instructors are committed to maintaining an inclusive, safe, and supportive learning environment for all students.

This course has a zero-tolerance policy for personal attacks or statements that denigrate others on the basis of race, sex, religion, sexual orientation, age, linguistic background, ability or disability, physical appearance, or national or regional origin. Students who engage in such behavior will be asked to leave the class and will be marked absent for that session.

The instructors respect each student's right to be addressed by the name and pronouns of their choice, and the right of all people to be treated with dignity and respect. If you have ideas for how to make the classroom more inclusive or accommodating, please share them.

Land Acknowledgement

As a land-grant institution, the University of Illinois at Urbana-Champaign has a responsibility to acknowledge the historical context in which it exists. We are currently on the lands of the Peoria, Kaskaskia, Piankashaw, Wea, Miami, Mascoutin, Odawa, Sauk, Mesquaki, Kickapoo, Potawatomi, Ojibwe, and Chickasaw Nations. It is necessary for us to acknowledge these Native Nations and to work with them as we move forward as an institution. Over the next 150 years, we will be a vibrant community inclusive of all our differences, with Native peoples at the core of our efforts.

Disclosure on Artificial Intelligence (AI)

ChatGPT, a language model developed by OpenAI, was used in the development of this course syllabus. It was used to generate some content, including examples of topics, learning objectives, and assessment methods. All AI-generated content was carefully reviewed and edited by the instructors for accuracy and appropriateness. While AI

language tools are powerful, they are not infallible — please feel free to reach out with any questions or concerns about course content.

Course Schedule

Class meets Tuesdays and Thursdays, 2:00–3:20 PM, at 1002 Siebel Center for Design.

Week	Topic	Topics Covered
UNIT 1 – DEFINING AN OPPORTUNITY		
Week 1	Introduction to Design Thinking and Human-Centered Design	Design thinking principles and process; Human-Centered Design (HCD) overview
Week 2	Understanding the Product and User; Defining the Problem; Ideation	Identifying user needs; Exploring user research; Intro to the Illinois App; Problem statement formulation; Brainstorming techniques and idea generation
UNIT 2 – PROTOTYPING AND FEEDBACK		
Week 3	Wireframing and Prototyping	Creating wireframes and storyboards; Introduction to prototyping tools
Week 4	User Experience Design	UX design principles and best practices; Designing app interfaces with a focus on usability; Guest Presentation: Feature Case Study from Concept to Execution
Week 5	Iterative Design and Testing	Usability testing and iteration; Incorporating user feedback into design
Week 6	Fall Break	No class
UNIT 3 – COLLABORATIVE DESIGN AND STORYTELLING		
Week 7	Collaborative Design and Storytelling	Collaborating with developers and other stakeholders; Developing effective storytelling skills for presentations
Week 8	Final Presentations and Course Wrap-Up	Presenting app prototypes to peers and potential stakeholders; Reflecting on the design thinking process and lessons learned

Campus Academic Policies & Statements

Academic Integrity

The University of Illinois Urbana-Champaign [Student Code](https://studentcode.illinois.edu/) (https://studentcode.illinois.edu/) should also be considered as a part of this syllabus. Students should pay particular attention to Article 1, Part 4: Academic Integrity.

Academic dishonesty may result in a failing grade. Every student is expected to review and abide by the [Academic Integrity Policy](https://studentcode.illinois.edu/article1/part4/1-401/) (https://studentcode.illinois.edu/article1/part4/1-401/). Ignorance is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Do not hesitate to ask the instructor(s) if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

Students with Disabilities

The University of Illinois Champaign-Urbana, is committed to ensuring that all students, including students with disabilities, do not experience barriers to learning and participating fully in class. Students who have a letter of accommodation from DRES are advised to share that with instructors as soon as possible to ensure accommodation needs can be discussed and met.

To obtain disability-related academic accommodations, disabled students must contact Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES, please visit 1207 S. Oak Street, Champaign, call (217) 333-1970, email disability@illinois.edu, or visit the [DRES website](https://dres.illinois.edu/) (https://dres.illinois.edu/).

Family Educational Rights and Privacy Act (FERPA)

See [FERPA – Office of the Registrar](https://registrar.illinois.edu/academic-records/ferpa/) (https://registrar.illinois.edu/academic-records/ferpa/) for more information on the Family Educational Rights and Privacy Act (FERPA).

Mental Health

Significant stress, mood changes, excessive worry, substance/alcohol misuse or interferences in eating or sleep can have an impact on academic performance, social development, and emotional wellbeing. The University of Illinois offers a variety of confidential services including individual and group counseling, crisis intervention, psychiatric services, and specialized screenings which are covered through the Health Service Fee. If you or someone you know experiences any of the above mental health concerns, it is strongly encouraged to contact or visit any of the University's resources provided below. Getting help is a smart and courageous thing to do for yourself and for those who care about you.

- Counseling Center (217) 333-3704
- McKinley Health Center (217) 333-2700
- National Suicide Prevention Lifeline (800) 273-8255

- Rosecrance Crisis Line (815) 720-4953 (available 24/7, 365 days a year)

If you are in immediate danger, call 911.

This statement is approved by the University of Illinois Counseling Center

Community of Care

As members of the Illinois community, we each have a responsibility to express care and concern for one another. If you come across a classmate whose behavior concerns you, whether in regard to their well-being or yours, we encourage you to refer this behavior to the Connie Frank CARE Center (formerly the Student Assistance Center) in the Office of the Dean of Students. You may do so by calling (217) 333-0050 or by submitting an [online referral](https://odos.illinois.edu/community-of-care/referral) (<https://odos.illinois.edu/community-of-care/referral>). Based on your report, staff in the Connie Frank CARE Center will reach out to offer support and assistance.

Further, as a Community of Care, we want to support you in your overall wellness. We know that students sometimes face challenges that can impact academic performance (examples include mental health concerns, food insecurity, homelessness, personal emergencies). Should you find that you are managing such a challenge and that it is interfering with your coursework, you are encouraged to contact the [Connie Frank CARE Center](https://odos.illinois.edu/community-of-care/CAREcenter) (<https://odos.illinois.edu/community-of-care/CAREcenter>) (formerly the Student Assistance Center) in the Office of the Dean of Students for support and referrals to campus and/or community resources.

Disruptive Behavior

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the [Office for Student Conflict Resolution](https://go.illinois.edu/ReportMisconduct) (<https://go.illinois.edu/ReportMisconduct>), conflictresolution@illinois.edu, or (217) 333-3680 for disciplinary action.

Emergency Response Recommendations

Emergency response recommendations and campus building floor plans can be found at [Public Safety's Run, Hide, Fight website](https://police.illinois.edu/em/run-hide-fight/) (<https://police.illinois.edu/em/run-hide-fight/>). I encourage you to review this website within the first 10 days of class.

Religious Observances

It is the policy of the University of Illinois Urbana-Champaign to reasonably accommodate its students' religious beliefs, observances, and practices that conflict with a student's class attendance or participation in a scheduled examination or work requirement, consistent with state and federal law. Students must make requests for accommodation in advance of the conflict to allow time for both consideration of the request and alternate procedures to be prepared. Requests should be directed to the

instructor. An optional resource to assist students in making such requests can be found on The Office of the Dean of Students' [Religious Observances website](https://odos.illinois.edu/resources/students/religious-observances) (<https://odos.illinois.edu/resources/students/religious-observances>).

Sexual Misconduct Reporting Obligation

The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX Office. In turn, an individual with the Title IX Office will provide information about rights and options, including supportive measures, resources, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found on [We Care Student Resources](https://wecare.illinois.edu/resources/students/#confidential) (<https://wecare.illinois.edu/resources/students/#confidential>).

Other information about resources and reporting is available on [At Illinois We Care](https://wecare.illinois.edu) (<https://wecare.illinois.edu>).

Veterans and Military Students

As a military-friendly institution, and per federal regulations and Illinois statutes, the University of Illinois Urbana-Champaign has established policies and procedures to accommodate military-connected students. In addition to the support available at the [Chez Veterans Center](https://chezveteranscenter.ahs.illinois.edu/) (<https://chezveteranscenter.ahs.illinois.edu/>), members of the National Guard or Reserves and active-duty military personnel with military obligations (e.g., deployments, training, drills) are encouraged to communicate these, in advance whenever possible, to the instructor. For policy details, see the Student Code on [Excused Absences and Departure from the University for U.S. Military or other U.S. National Defense Services](https://studentcode.illinois.edu/article3/part3/3-313) (<https://studentcode.illinois.edu/article3/part3/3-313>).