

COMM 3545 Human-Computer Interaction & User Experience

Spring 2021 – Last updated 1/12/2021

Lecture:	Online Tuesday/Thursday 11:10-12:30pm
Instructor:	Dr. Kelly Garrett email: garrett.258@osu.edu <i>Please include "Comm3545" in the subject line</i>
Office Hours:	Monday 4:00 - 5:00pm + by appointment Zoom link available on Carmen
Website:	https://carmen.osu.edu (please access Zoom from Carmen)

Rationale and objectives

This course is an introduction to human-computer interaction (HCI) and user experience (UX). The goal of this class is to help you learn how to design usable interactive technologies. To that end, we will consider what constitutes good design, we will study a variety of ways to conceptualize design problems, we will examine how users' cognitive abilities and emotions influence design, and we will learn about interfaces.

The class is designed to complement Comm 3165: Evaluation & Usability Testing, which provides an introduction to research methods used in HCI and UX.

This class is worth 3 credit hours. According to OSU 3335-8-24 A-1, "One credit hour shall be assigned for each three hours per week of the average student's time, including class hours, required to earn the average grade of 'C' in this course." Thus, it is expected that you will spend an average of 9 hours per week for this course. We spend less than 3 hours in class; the remaining time should be devoted to reading, studying, and working on course assignments.

Course Objectives:

Students who successfully complete this course will be able to:

1. Explain the theoretical origins for the study of HCI/UX and their application to design
2. Apply communication concepts and theories to interactive technologies
3. Develop strategies for evaluating and designing interactive technologies
4. Provide you with the critical skills to analyze and interpret interactive technologies
5. Start developing a toolkit for understanding user experience design (UXD) and conducting UX-relevant research

6. Illustrate your understanding of these principles through practice

Required Textbooks

Sharp, H., Rogers, Y., and Preece, J. (2019). Interactive Design: Beyond Human-Computer Interaction. (5th edition) West Sussex: John Wiley & Sons, Ltd. (**"ID" in schedule**)

Lidwell, W., Holden, K., & Butler, J. (2015). The pocket universal principles of design: 150 essential tools of artists, designers, developers, engineers, inventors, and makers. Beverly, MA: Rockport Publishers.

These are available at the campus bookstore in person or via this link:

<https://tinyurl.com/W21-COMM-3545-28821>

All other required readings are available through CARMEN.

Copyright Disclaimer: The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Policies and Expectations

Class communication: I will post class updates, extra credit opportunities, and/or additional materials as announcements on Carmen and/or to your OSU email. Please check Carmen and read your email regularly (at least 2-3 times per week) because you are responsible for this information, just as you are responsible for information in class.

Synchronous participation is required. Although this class is being conducted online, you are still expected to be present and to actively participate in real-time (barring health issues that prevent it). Although asynchronous classes, which allow students to complete course requirements whenever they are able, afford flexibility, this comes at a price. Creating a sense of community in asynchronous classes is difficult. The format also makes it impossible for me, as the instructor, to respond to your questions as they arise. In classes such as this one, which cover complicated material and move quickly, this is a fatal flaw. This is why this class uses synchronous class sessions.

It is also important that you turn on your webcam. Seeing one another helps build community. It also provides me with essential visual feedback about the class.

While sickness and unexpected emergencies arise from time to time, *regular* absence will hurt your grade. I routinely evaluate participation via graded in-class activities. For example, you may be required to upload materials to Carmen, take a poll with TopHat,

or participate in a breakout group. *If you are absent on a day when there is an in-class activity, you will not receive credit for it.* It is not possible to make up missed in-class work, but everyone can miss a few activities without penalty (see Course Requirements, below, for more details).

My top priority, though, is your physical and mental wellbeing. Life during the coronavirus pandemic is anything but ordinary. If you are incapacitated for an extended period (e.g., by illness or anxiety), please contact me as soon as you are able. We will work together to create appropriate accommodations. See the section on COVID-19, below, for more information about how the university can help support you.

I will post lecture slides and links to a video recording of the lecture on Carmen. I aim to upload these materials within 24 hours. When you do miss a class session, please review these materials.

Written Assignments: Assignment due dates are listed in the tentative schedule, below. All assignments must be turned in to Carmen before the start of class on the day the assignment is due. Assignments should be submitted in one of the following formats: .doc, .docx, .rtf, or .odt. When there are paper formatting requirements for an assignment, they are described in the assignment description.

Late Assignments: It is your responsibility to confirm that your assignment has been successfully uploaded to Carmen. Anything submitted after that will be considered late. There will be a 15% score deduction the first day an assignment is late and an additional 15% deduction on the second day. After the second day, I will no longer accept the assignment.

Challenging a Grade: I am always willing to discuss your grades with you, but I will not do so during class time. To challenge a grade, you must wait 24 hours after the assignment is returned and then email me to make an appointment *within one week* of the assignment being returned to you. When we meet, you must present your concerns in writing and attach the graded paper, exam, or presentation. Please note that a challenge may result in grades being raised or lowered.

Classroom Civility: We want to build a classroom climate that is comfortable for everyone. In a communication class, it is especially important that we (1) display respect for all members of the classroom, including the instructor and students; (2) pay attention to and participate in all class sessions and activities; (3) avoid unnecessary disruption during class time (e.g., having private conversations, reading the newspaper, doing work for other classes, etc.); and (4) avoid racist, sexist, homophobic, or other negative language that may unnecessarily exclude members of our campus and classroom. This is not an exhaustive list of behaviors; rather, they represent the minimal standards that help make the classroom a productive learning environment for all concerned.

Punctuality: Class begins on time every day so that all scheduled discussions and activities can be completed. Please aim to be signed into the Zoom session a few minutes prior to the start of class.

Academic integrity policy: Each student in this course is expected to demonstrate academic integrity and to abide by the *Code of Student Conduct* (http://studentaffairs.osu.edu/resource_csc.asp and see <http://oaa.osu.edu/coamtensuggestions.html>). *Academic misconduct* includes, but is not limited to, (1) plagiarism (using others' work without citing/crediting them), (2) fabricating information or citations, (3) facilitating acts of dishonesty by others, (4) having unauthorized possession of past exam questions, (5) submitting work previously submitted to another course or work of another person, (6) tampering with the academic work of other students, and (7) cheating on quizzes/exams. Academic misconduct on any assignment will result minimally in receiving a zero on that assignment and may also lead to further disciplinary action. **Penalty for violation of the Code of Student Conduct can also be extended to include failure of the course and University disciplinary action.** It is your responsibility to be aware of the rules of academic dishonesty—ignorance is not a defense. ***When in doubt, talk to me.***

Academic Misconduct: It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>

Course Technology

This being an online class about communication technology, I expect you to be able to use a variety of technologies when participating in this class. Email, CarmanCanvas, Zoom, and TopHat will be used most often, but other technologies may be introduced from time to time. I expect you to familiarize yourselves with these technologies and to be able to use them for our class. If you need help, please consult the various support services offered by OSU and the service providers (see below). If those resources are insufficient, please do not hesitate to ask me for help.

As noted above, active participation in the class is critical to your ability to learn this material. This means that it is incumbent on you to resist the temptation to do any of the many other things that your computer makes possible. Stop checking your email, texts, and social media feeds. I know this is hard, but it will make a profound difference your ability to learn this material. Plus, it is a critical life skill. Trust me when I tell you that your friends, your family, your employer—anyone you interact with regularly—will

appreciate your ability to ignore the siren song of social media for an hour and twenty minutes at a time.

Required technology.

To complete this class, you will need a computer that has a webcam and microphone, and that has reliable Internet access (minimum of about 5Mbps). Most, but not all, class work can be completed using a tablet. You will also find it helpful to have access to a word processor such as Google Docs, Microsoft Word or Apple Pages.

Technology support. For help with your password, university e-mail, Carmen, or any other technology issues, please contact the OSU IT Service Desk.

- Self-Service and Chat support: <http://ocio.osu.edu/selfservice>
- Phone: 614-688-HELP (4357)
- Email: 8help@osu.edu
- TDD: 614-688-8743

More information about technologies we will use most often in this class is provided below.

CarmenCanvas (aka Carmen): OSU's Learning Management System, Carmen, will be used to host materials and activities throughout this course. To access Carmen, visit <http://carmen.osu.edu>. Log in using your name.# and password. Carmen documentation can be found here: <https://resourcecenter.odee.osu.edu/carmen>.

CarmenZoom (aka Zoom): Class lectures, office hours, and other student meetings will be conducted using Zoom. Zoom can be accessed via the Google Chrome web browser or using the Zoom app.

To join the lecture, please do the following:

1. Sign into the class Carmen page
2. Select "Zoom" from the menu on the left side of the screen.
3. Click the "Join" button next to the day's class session
4. When Zoom asks you to sign in please click the "Sign in with SSO" button (below the Sign In button). If you are signed in already, you may need to sign out and repeat this process.
5. Enter "osu" for your company domain and click "Continue"
6. This should take you to the OSU login page. Because this is the regular OSU login page, you will use your name.# username and password. If you are on a screen asking you for an email address, back up to step (4) and try again.

Please make sure you are familiar with the full range of Zoom features, including muting audio and video, using non-verbals (raise hand, yes/no, thumb up/down), and using the text chat. Much more information about Zoom is available here: <https://resourcecenter.odee.osu.edu/carmenzoom>.

TopHat: Some in-class activities will use TopHat to provide real-time sharing of student comments, poll results, etc. The service can be accessed with a web browser (<https://tophat.com/>) or an app (available for both Android and iOS).

Proctorio: Class exams will be administered using Proctorio, an online proctoring tool. You are required to have a webcam (USB or internal) with a microphone and a reliable Internet connection. Proctorio will record the testing environment while you take your exam, so it is important that you find a space where disruptions are unlikely and where you can enable video recording. To use Proctorio you must be over 18 years of age. If you have concerns about using an online proctoring tool, please contact me as soon as possible so that we can find a workable alternative.

Course Requirements

Course readings are essential to full participation. Doing the readings and reflecting on what you've read is required for this class. My lectures, our discussions, and the in-class activities all take this for granted.

Assignments. There are three assignments for this class, each of which involves applying course concepts to existing technologies. The first two you will complete on your own; the third will be done in collaboration with a classmate. You will practice thinking through a design problem space, evaluate a piece of technology, and propose improvements to an existing technology. A more detailed summary of the requirements for each assignment can be downloaded from Carmen.

Exam. There are two exams in this course. Exams questions will be generated from the material covered in class lectures *and* textbook readings. You are responsible for all readings, even those we do not discuss in lecture. The exam may include multiple choice, matching, fill in the blank, problem solving, and/or short answer questions.

Grading

Graded work.

Class participation	10%
<i>Assignments</i>	
Problem-space assessment	10%
Heuristic evaluation	10%
Redesign	15%
Midterm exam	25%
Final exam	30%

Grading scale.

93–100: A	73–76.9: C
90–92.9: A-	70 –72.9: C-
87–89.9: B+	67 –69.9: D+
83–86.9: B	60 –66.9: D
80–82.9: B-	Below 60: E
77–79.9: C+	

Other resources

Columbus Web Group (<http://www.meetup.com/Columbus-Web-Group/>). If you are serious about a profession in ID/IXD/UXD/HCI/etc, talking to design professional is a must. Columbus is home to several groups, including this one. The Columbus Web Group hosts periodic Meet Ups, it sponsors a mentorship program geared toward students, *and* it is co-organized by an OSU SoC alum, Sean Doran. Check it out.

Interaction Design Associations of Central Ohio. IXDA is a global professional association (<https://ixda.org/>), and we are fortunate to have an active regional chapter right here in Columbus (<https://www.meetup.com/Columbus-IXDA-Group/>). The group sponsors numerous regular monthly events—I’ve heard great things about Chat n’ Pancakes; it serves as a clearinghouse for news about the field; and the national group’s website features a job board that lists jobs in Columbus, and across the country.

Student Academic Services (<http://advising.osu.edu/>). Arts and Sciences Advising and Academic Services’ website provides support for student academic success. Information on advising issues such as tutoring, transfer credits, academic standing, and contact information for Arts and Sciences advisors can be obtained through this website.

Walter E. Dennis Learning Center (<http://dennislearningcenter.osu.edu/>). This is a free service available to all OSU students, and it has a proven track record of helping students succeed in college. Need a new study strategy? Better time management skills? This is the place to go.

The Writing Center (<https://cstw.osu.edu/our-programs/writing-center>). This may be the last time in your life that you have easily accessible, free help available for your writing skills—use it. Being a good writer will give you an advantage in every walk of life, and if you are a Communication major, it is expected.

Strunk & White’s *The Elements of Style*. If you are uncertain of what constitutes good writing, this classic book is very straightforward and extremely helpful. Find it at a used bookstore or on Amazon for less than \$5. It’s well worth the investment.

COVID-19

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's [request process](#), managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. **SLDS contact information:** slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

PLEASE TAKE CARE OF YOURSELF (Mental Health Statement)

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you are or someone you know is suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting <http://ccs.osu.edu> or calling 614-292-5766. CCS is located on the 4th Floor of the Younkun Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766.

If you are thinking of harming yourself or need a safe, non-judgmental place to talk, or if you are worried about someone else and need advice about what to do, 24 hour emergency help is also available through the Suicide Prevention Hotline (Columbus: 614-221-5445 / National: 800-273-8255); or text (4hope to 741741); or at suicidepreventionlifeline.org

Accessibility accommodations for students with disabilities

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's [request process](#), managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

This online course requires use of CarmenCanvas (OSU's learning management system) and other online services. Information about the accessibility features supported by CarmenCanvas is available here: <https://community.canvaslms.com/docs/DOC-2061>. If you need additional services to use these technologies, please talk to me.

Tentative Course Schedule

Date	Topics	Readings	Assignment
T 1/12	Introduction Syllabus, overview of course material	Dunning-Kruger effect; IKEA effect; syllabus	
Th 1/14	What is HCI?	ID ch. 1	
T 1/19	Conceptualizing design	ID ch. 3	
Th 1/21	Conceptualizing design	Saffer, 2005	
T 1/26	<i>Problem-space assessment activity</i>		
Th 1/28	Design principles	Norman, ch. 1; Affordance; Visibility	
T 2/2	Design principles	Form Follows Function; Mapping; Consistency	
Th 2/4	Design principles	Accessibility; Constraints; Feedback; Forgiveness; Hick's Law; Signal-to-Noise	
T 2/9	Interfaces	ID ch. 7	Problem-space assessment
Th 2/11	Interfaces	Shneiderman et al. (pp. 224-232)	
T 2/16	<i>Theories & Heuristic evaluation activity</i>	Nass & Yen, ch. 2; Framing	
Th 2/18	Theories	EBD (pp. 69-74; 204-210); Classical Conditioning; Operant Conditioning; Performance Load	
T 2/23	No Class	First spring semester break	
Th 2/25	Users: Cognition	ID ch. 4	
T 3/2	Users: Cognition	Depth of Processing; Entry Point; Five Hat Racks; Garbage In, Garbage Out; Horror Vacui; Legibility; Mnemonic Device; Recognition over Recall	Heuristic evaluation
Th 3/4	Users: Cognition	EBD (pp. 41-50); Chunking; Interference Effects; Rosetta Stone; Serial Position Effects; Stickiness; Von Restorff Effect	
T 3/9	Users: Affect	ID ch. 5; Shneiderman et al. (pp. 406-411); Biophilia Effect; Black, Blue, Green, Red, White, Yellow Effect; Errors; Mere Exposure Effect; Performance vs. Preference; Wabi Sabi	

Date	Topics	Readings	Assignment
Th 3/11	Users: Affect	Shneiderman et al. (pp. 416-421); Khatchadourian, 2015; Aesthetic-Usability Effect; Contour Bias; Cognitive Dissonance; Threat Detection	
T 3/16	MIDTERM EXAM		
Th 3/18	Users: Individual motivations	EBD (pp. 145-161); Flow; Gamification; Supernormal Stimulus	
T 3/23	Users: Social	ID ch. 5	
Th 3/25	Users: Social <i>Group project time</i>	EBD (pp. 5-18); Shneiderman et al. (pp. 412-415); Anthropomorphism; Attractiveness Bias; Crowd Intelligence; Expectation Effects; Face-ism; Uncanny Valley	Redesign information sheet
T 3/30	Ethical considerations	TBD	
Th 4/1	No Class	Second spring semester break	
T 4/6	Persuasive design	EBD (pp. 22-31, 84-101, 182-194); Harris, 2016; Nudge; Priming; Reciprocity; Scarcity; Shaping; Veblen Effect; Zeigarnik effect	
Th 4/8	Design process	ID ch. 2; Confirmation Bias; Design by Committee; Development Cycle; Iteration; MAYA; Selection Bias; Sunk Cost Effect	
T 4/13	Needs & requirements	ID ch. 11	
Th 4/15	Prototyping	ID ch. 12; Back of the Dresser; Convergence; Prototyping; Satisficing; Scaling Fallacy	
T 4/20	Working in UX	TBD	
Th 4/22	Wrap up & Review		Redesign
Th 4/29	FINAL EXAM @ 10-11:45AM		

References for reading not included in textbooks (all available on Carmen)

- Harris, T. (2016). How technology hijacks people's minds: From a magician and Google's design ethicist. *Medium*. Available at: <https://journal.thriveglobal.com/how-technology-hijacks-peoples-minds-from-a-magician-and-google-s-design-ethicist-56d62ef5edf3>
- Khatchadourian, R. (2015, Jan 19). We Know How You Feel. *The New Yorker*, 90(44).
- Nass, C., & Yen, C. (2010). *The man who lied to his laptop: What we can learn about ourselves from our machines*. New York, NY: Penguin.
- Nodder, C. (2013). *Evil by design: Interaction design to lead us into temptation*. New York, NY: Wiley & Sons.
- Norman, D. A. (1988). *The psychology of everyday things*. New York, NY: Basic Books.
- Saffer, D. (2005). *The Role of Metaphor in Interaction Design*. (Master of Design in Interaction Design), Carnegie Mellon University, Retrieved from http://www.odannyboy.com/portfolio/thesis/saffer_thesis_paper.pdf
- Schell, J. (2014). *The art of game design: A book of lenses*. Boca Raton, FL: CRC Press.
- Shneiderman, B., Plaisant, C., Cohen, M. S., Jacobs, S. M., & Elmqvist, N. (2017). *Designing the user interface: Strategies for effective human-computer interaction* (6th ed.). New York, NY: Pearson.
- Teehan, G. (2016). Reactions: not everything in life is likable. *Medium*. Available at: <https://medium.com/facebook-design/reactions-not-everything-in-life-is-likable-5c403de72a3f#hx56prn14>