

## Communication 3545: Principles of Human-Computer Interaction Fall 2016

**Instructor:** Jesse Fox, Ph.D.

**Office hours:** T 1-3 & by appt.

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**Class Information:** T/R 11:10 AM - 12:30 PM, Journalism 216

**Course Description:** This course is an introduction to the study of human-computer interaction. 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.

### Course Objectives:

1. To explain the theoretical origins for the study of HCI and their application to design
2. To apply communication concepts and theories to media technologies
3. To develop strategies for evaluating and designing media technologies
4. To provide you with the critical skills to analyze and interpret media technologies

### Required Readings:

\*Preece, J., Sharp, H., & Rogers, Y. (2015). *Interaction design: Beyond human-computer interaction* (4<sup>th</sup> ed.) Wiley & Sons.

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

\*Other readings will be posted to Canvas.

**Additional Resources:** During the course of this class and throughout your university career, you may find the following helpful:

\*The Writing Center. This may be the last time in your life that you have easily accessible 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.

Visit <http://cstw.osu.edu/writingcenter> to learn more or to schedule an appointment.

\*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.

*\*The American Psychological Association (APA) Style Manual.* For those of you pursuing a degree in social science, this book is what will dictate many of the expectations for your research writing. It includes guidelines on citations, formatting, tone, etc. APA style is required for assignments submitted in this class. You may also find some information about formatting at <https://owl.english.purdue.edu/owl/resource/560/01/>.

**Course Requirements & Grading:** The course will consist of 410 total points:

*Exam 1:* 100 points

*Exam 2:* 100 points

*Assignments & in-class participation:* 210 points

*Evaluations:* 80 points

*Design diary:* 90 points

*Quizzes, participation, & other in-class activities:* 40 points

There will be two exams consisting of multiple choice and short answer questions. Written assignments will be elaborated on the dates outlined in the syllabus. In-class work includes meaningful participation in discussions, exercises, handouts, and/or quizzes. Your final grade will depend on the total number of points earned and will be reported in accordance with the plus/minus system that is standard for the College of Arts & Sciences.

If you wish to earn extra credit in the course, you may a) participate in studies via C-REP or b) complete alternative written assignments provided via C-REP. You may earn up to five credits worth up to 3% of the course grade. Information on how to sign up for the C-REP pool will be provided in class and will also be available on Canvas. Please direct any questions regarding C-REP or requests for alternative assignments to Jessica Frampton at [frampton.22@osu.edu](mailto:frampton.22@osu.edu).

\*Please note that your final grade is final. Do not ask me to reconsider your grade when the semester is over; applying subjective standards after the fact invalidates the standards applied to the class and is unfair to every student. It is your responsibility to keep up with readings and lecture, track your performance, and make timely adjustments well before the end of the semester.

**Attendance & Make-up Policy:** Only students enrolled in this section are permitted to attend class. Attendance (both physical and mental) is key to your success in this class. Your grade is largely contingent on your continued presence in class. Listen, take notes, and ask questions. Much of the material presented in lecture is not found in your readings. If you miss class for whatever reason, it is your responsibility to obtain notes and get any news or updates from a classmate; notes will not be provided and slides are not posted on Canvas. If you miss class, you will not be able to make up any in-class work or extra credit opportunities.

\*The exams **MUST** be taken at the scheduled time. The dates are clearly identified on the schedule below; if you foresee a conflict with the exam time, you will need to reschedule your conflict or reconsider your enrollment in this class. Make-up exams will not be given except in cases of extreme, unforeseen, and convincingly documented emergencies (notification within 24 hours of the exam time is required) or official University related absences (instructor must be notified at least two weeks in advance). Your instructor reserves the right to determine what

qualifies as extreme and what documentation is required. Unacceptable excuses include, but are not limited to: being out of town, having a note from the health center (flu excepted), oversleeping, having to work, not being able to find a parking space, car trouble, and flight delays or cancellations.

\* Homework assignments must be turned **both** via hard copy and via Canvas. All written assignments should be submitted as a Microsoft Word document (i.e., .doc or .docx); all other formats are unacceptable and will be considered late. I do not accept late assignments. **If you do not submit a copy to Canvas AND a hard copy in class, you will earn a zero.**

**Academic Integrity:** I take academic dishonesty very seriously. All students are subject to the student code of conduct (see [http://studentaffairs.osu.edu/resource\\_csc.asp](http://studentaffairs.osu.edu/resource_csc.asp)), including the student code of academic integrity. Violations of the code will result in severe penalties in this course (including a zero on the assignment) and all violations will be reported to the Committee on Academic Misconduct. For this course, *academic dishonesty* includes (but is not limited to):

- Use of someone else's ideas or expression (e.g., writing) without proper acknowledgment of the source. Proper acknowledgment (e.g., citation, quotation, footnote) should make clear both the **extent** and **nature** of the use. If you have used someone's exact words, you should use "quotation marks" as well as a (citation). If a large portion of your writing uses another person's ideas, argument structure, or narrative form then you should make clear where the "borrowing" begins and ends. Note that *paraphrasing* someone, summarizing their *arguments*, or using their *ideas* are all plagiarism if the source is not acknowledged. Plagiarism is more than just using someone else's exact words. Also, be aware that "someone else's ideas" here includes textbooks, articles, web pages, your professor's notes, your roommate's assignment from another class, and *anything else other than your own ideas and your own writing*. There is no outside source that it is acceptable to use without citing.
- Collaborating with other students on any assignment, homework, class project, etc., without the clear consent of the instructor is also academic dishonesty. If work is not assigned as a group project, you must do it entirely on your own. **Check with your instructor if in doubt.**
- In most instances, taking your own work from one course and submitting it in a different course is also considered academic dishonesty. It is simply not appropriate to claim that work was done for one class when in fact it was written for a different class. **Check with your instructor if in doubt.**
- Exchanging information with another individual during a test, quiz, or examination is clearly academic dishonesty, as is the use of any materials not permitted for the exam.

It is your responsibility to be aware of the rules of academic dishonesty—ignorance is not a defense. ***When in doubt, consult your instructor before doing anything about which you are uncertain.*** You should also read through the "Ten Suggestions for Preserving Academic Integrity" available at <http://oaa.osu.edu/coam/ten-suggestions.html>.

**Disruptions:** Disruptions and distractions (including talking during lecture; text messaging or other phone use; or nonclass computer activity), threatening behavior, and negative participation (e.g., use of inappropriate language or derogatory speech) will not be tolerated. Any student who engages in such behavior may be asked to leave class, suffer grade penalties, and be reported to the Dean of Students and/or University Police. Cell phones are considered a disruption. **Turn your cell phone and other devices off completely and put them away before the start of class.** Any student who is observed consulting or using their device or whose device rings, beeps, or audibly vibrates during class will suffer grade penalties (1% of the overall class grade for the first offense, 5% for the second offense, etc.) and may be asked to leave class.

**Device Policy:** Computers will be used for in-class activities only. Laptops, tablets, phones, wearables, and other mobile device use is otherwise prohibited. If you require a computer for notetaking due to a disability, please see the disability portion below and make an appointment with me to discuss arrangements.

**If you object to these policies or do not feel that you can adhere to them, please do not enroll in this class.**

**Email Policy:** Email should be used for quick administrative questions and emergency contact **only**. Additionally, emails should be written using standards of courtesy (address, proper tone, and signature) or they will be denied. If you have questions or concerns (e.g., about an assignment, material discussed in class or the text, your grade) make an appointment or drop by office hours. Updates to the course schedule or readings will be announced in class; it is your responsibility to stay apprised of these changes.

**Inclement Weather:** Unless the University is closed, you should assume class will be held. If I do not show up 30 minutes after the start of class, consider the class canceled. If conditions prevent me from making it to campus on time I will do my best to inform everyone via Canvas.

**Disability Accommodations:** If you anticipate the need for accommodations to meet the requirements of this course, please contact the Office for Disability Services, Baker Hall, Room 098, or phone (614) 292-3307. Students with documented disabilities making requests must meet with me privately within the first three weeks of class to discuss reasonable accommodations.

**Diversity Statement:** The School of Communication at The Ohio State University embraces and maintains an environment that respects diverse traditions, heritages, experiences, and people. Our commitment to diversity moves beyond mere tolerance to recognizing, understanding, and welcoming the contributions of diverse groups and the value group members possess as individuals. In our School, the faculty, students, and staff are dedicated to building a tradition of diversity with principles of equal opportunity, personal respect, and the intellectual interests of those who comprise diverse cultures.

**Title IX Statement:** Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories. If you or someone you know has been sexually harassed or assaulted, subject to domestic or dating violence, or stalked or

otherwise threatened, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at [titleix@osu.edu](mailto:titleix@osu.edu) . Information about confidential counseling through the Counseling and Consultation Service can be found at <http://www.ccs.osu.edu/> or (614) 292-5766.

**My Expectations:** This is a Communication class, so I expect that as a student in this field, you have mastery of communication-related skills including but not limited to: the ability to express and argue an idea using proper language and logic; the willingness to speak publicly and civilly in class; the aptitude to write a formal and appropriate email; the capability to conduct yourself in a civil and professional manner when interacting interpersonally with classmates, teaching assistants, administrators, guests, and your professor; and the proficiency for clear and grammatical written work. I expect that you will attend every class and arrive prepared to discuss the material. In addition, I expect you to have developed the time management and study skills to ensure your success in this class.

## Grading Criteria

**A:** All work is outstanding. Work is rich, creatively presented, well-structured, and error-free (or close to it). Content of presentations is accurate, on topic, presented in a professional and highly engaging fashion, and provides genuine enlightenment to the audience. Work reveals a deep understanding of the content of the course as well as the ability to work with concepts beyond the level of simply regurgitating facts and definitions. Overall, work demonstrates a solid grasp of all content and a high level of ability for creative, integrative, or intellectually rigorous application of the material.

**B:** All work is of high quality. Work is clear, well-structured, and largely error-free. (Grades of A and B are not possible for work that does not demonstrate mastery of basic writing skills including spelling, grammar, organization, and logic.) Work conforms to all required elements, as well as maintaining the audience's attention and interest. Content demonstrates a thorough understanding of all elements of the course. Overall, work demonstrates a solid grasp of all content, and some ability for creative, integrative, or intellectually rigorous application of the material.

**C:** All work is of acceptable, average quality. Work is on topic, responds to the requirements of the assignment, and is not rife with errors. A grade of C is not possible for work that demonstrates significant departure from basic writing skills (spelling, grammar, etc.) Work addresses the requirements of the assignment and includes some elements of good style and structure. Content demonstrates a basic understanding of most elements of the course. Overall, work demonstrates a reasonable grasp of all content, but limited ability for creative, integrative, or intellectually rigorous application of the material.

**D:** Some work is of unacceptable quality. Work addresses the topic in a broad sense, but misses some key points or contains an unacceptable level of errors. Work addresses the assignment at a basic level, but lacks fundamental elements of professional presentation, structure, or organization. Content reveals some key areas of the course material in which knowledge is lacking. Overall, work demonstrates a weak grasp of content and little ability for creative, integrative, or intellectually rigorous application of the material.

**E:** A majority of the work is of unacceptable quality. Work fails to meet the basic requirements of the assignment, lacks basic elements of professional presentation, or is otherwise unresponsive to instructions. Errors are probably frequent. Content reveals a widespread lack of knowledge. Overall, work demonstrates little grasp of the material.

*These guidelines were adapted from materials provided by the University of Arizona Department of Communication.*

*This syllabus is an agreement between the instructor and the student. The instructor reserves the right to make changes to the syllabus as deemed necessary. By staying enrolled in this class, the student agrees to abide by the policies described herein.*

## Tentative Course Schedule

*Note: ID is your textbook. EBD is Evil By Design. Terms are readings in the Lidwell et al. text. All other readings can be found on Canvas. With the exception of the first day, all listed readings should be completed before class on the listed date. Any updates to the schedule will be announced in class.*

<u>Date</u>	<u>Assignments</u>	<u>Topic</u>	<u>Readings due</u>
T 8/23		Class intro, intro to HCI	Dunning-Kruger effect; IKEA effect; syllabus
R 8/25		Introduction HCI	ID ch. 1; Accessibility; Legibility
T 8/30		Affordances & key concepts	Norman, ch. 1; Affordance; Constraint; Form Follows Function; Mapping; Mental Model; Visibility
R 9/1	Intro eval.	Basic design principles	ID ch. 2
T 9/6		Basic design principles	80/20 Rule; Confirmation; Consistency; Control; Factor of Safety; Flexibility Tradeoffs; Forgiveness; Hierarchy; Iconic Representation; Modularity; Redundancy; Signal-to-Noise Ratio
R 9/8	Evaluation #1	Basic design principles	Norman, ch. 2
T 9/13		Theories	Nass & Yen, ch. 2
R 9/15		Theories	EBD (pp. 69-74; 204-210); Classical Conditioning; Operant Conditioning; Priming; Reciprocity; Scarcity; Shaping
T 9/20	<b>Eval #1 due;</b> Get DD asst.	Interfaces	ID ch. 6
R 9/22	Evaluation #2	Interfaces; Cognition	Lai, Interfaces; Shneiderman, ch. 5.6; Entry Point; Five Hat Racks; Garbage In, Garbage Out; Ockham's Razor
T 9/27		Users: Cognition	ID ch. 3; Depth of Processing; Mnemonic Device; Performance Load; Recognition over Recall
R 9/29		Users: Cognition & Affect	EBD (pp. 41-50); Chunking; Hick's Law; Interference Effects; Rosetta Stone; Serial Position Effects; Stickiness; Von Restorff Effect;
T 10/4	<b>Eval #2 due</b>	Users: Affect	ID ch. 5; Biophilia Effect; Black, Blue, Green, Red, White, Yellow Effect; Supernormal Stimulus; Threat Detection
R 10/6	Midterm review	Users: Affect	Shneiderman ch. 11 (pp. 434-445); Aesthetic-Usability Effect; Cognitive Dissonance; Contour Bias; Errors; Flow; Mere Exposure Effect; Performance vs. Preference, Wabi Sabi
T 10/11	<b>MIDTERM</b>		
R 10/13	<b>FALL BREAK – NO CLASS</b>		
T 10/18		Users: Social	ID ch. 4; Immersion

R 10/20	Evaluation #3	Users: Social	EBD (pp. 5-18); Anthropomorphism; Attractiveness Bias; Crowd Intelligence; Expectation Effects; Face-ism; Uncanny Valley
T 10/25		Persuasive design	EBD (pp. 22-31; 145-161); Framing; Nudge; Zeigarnik effect
R 10/27		Persuasive design	EBD (pp. 84-101; 182-194); Veblen Effect
T 11/1	<b>Eval #3 due</b>	Design process	ID ch. 9; Design by Committee; Development cycle; Iteration; MAYA; Selection Bias; Sunk Cost Effect
R 11/3	Eval #4	Design process	Schell, ch. 7 (pp. 76-82); Dadlich, 2014; Feature Creep; KISS; Life Cycle
T 11/8		Requirements	ID ch. 10
R 11/10	<b>DD excerpt due</b>	Design diary check-in	
T 11/15	Eval #4 due	Requirements	Back of the Dresser; Control; Progressive Disclosure; Satisficing
R 11/17		Prototyping	ID ch. 11; Convergence; Prototyping; Scaling Fallacy
T 11/22		Prototyping	Schell, ch. 7 (pp. 83-95)
R 11/24	<b>THANKSGIVING – NO CLASS</b>		
T 11/29	<b>Design Diary due</b>	HCI Applications	TBD
R 12/1		Presentations	
T 12/6	Final review	Presentations	

## **FINAL EXAM: Monday, December 12, 12-1:45 pm**

### **Non-textbook Readings**

Dadlich, S. (2014). Wrong design. *Wired*.

Nass, C., & Yen, C. (2010). *The man who lied to his laptop: What we can learn about ourselves from our machines*. New York: Penguin.

Nodder, C. (2013). *Evil by design: Interaction design to lead us into temptation*. New York: Wiley & Sons.

Norman, D. A. (1988). *The psychology of everyday things*. New York: Basic Books.

Schell, J. (2014). *The art of game design: A book of lenses*. Boca Raton, FL: CRC Press.

Shneiderman, B. (2003). *Designing the user interface*. New York: Pearson.