

# INF 350E, FA 360, & CS 378 – Principles of Interaction Design

## Syllabus

<b>Unique Numbers:</b>	27685, 19627, 52053
<b>Semester:</b>	Spring, 2015
<b>Instructor:</b>	Ramona Broussard, MSIS <a href="mailto:ramonab@utexas.edu">ramonab@utexas.edu</a>
<b>Instructor's Office:</b>	UTA 5.544 <a href="http://www.utexas.edu/maps/main/areas/admin.html">http://www.utexas.edu/maps/main/areas/admin.html</a> )
<b>Office Hours:</b>	Thursdays, 11:30 – 1:30 p.m. And by appointment.
<b>Class Time:</b>	T/Th, 9:30 – 11:00 a.m.
<b>Classroom:</b>	SZB 526

### Synopsis:

Information interaction happens all around us: on websites, in libraries, on mobile phones, and in games. Interaction design focuses on *experiences* with the objects of design. An interaction designer asks about the experience of an interface. A game is one example of a particularly rich interactive object. A game incorporates more than just principles of play; many video games, for example, include elements of information interaction such as interface design (what are the controls, how does the interface appear?), instructional design (how does the player know what to do?), and information architecture (what are the rules, or the mechanics of play?). This class serves as an introduction to principles from interaction design that can inform game design.

This course will entail three major instructional techniques:

- 1 – *lecture and discussion* about the scientific underpinnings of interaction design and the methods of designing interactions
- 2 – *exercises*, to practice the use of such methods, and
- 3 – individual and group *projects* to demonstrate knowledge about such methods and establish good habits.

### Objectives:

The student successfully completing this class will:

- be able to explain the rudimentary aspects of how human beings process information,
- be able to describe what the methods of interaction design are and have experience with some of them,
- be able to explain why software developers should NOT depend on their own intuitions for what is a usable design, and
- be familiar with evaluation tools for interaction design and have experience with some of them.

**Course Prerequisites** - Students must be enrolled as upper division FA or CS students.

**Required Textbooks (you obtain these):**

Lidwell, W., Holden, K., & Butler, J. (2010). *Universal principles of design, revised and updated: 125 ways to enhance usability, influence perception, increase appeal, make better design decisions, and teach through design*. Rockport Pub.

\*\*\* Which edition you read does not matter so feel free to purchase a used copy.

Norman, Donald A. (1990). *The design of everyday things*. New York: Doubleday

\*\*\* Please note that the UT library has two electronic copies of this. Which edition you read does not matter and you can also purchase it for relatively low prices at online venues.

**Optional Resources (you don't need to obtain these, they are suggestions):**

Bogost, Ian. (2011). *How to Do Things with Videogames*. Minneapolis: University of Minnesota Press.

Carroll, J. M. (Ed.). (1991). *Designing interaction: Psychology at the human-computer interface* (Vol. 4). CUP Archive.

Hagen, R., & Golombisky, K. (2013) *White Space Is Not Your Enemy: A Beginner's Guide to Communicating Visually through Graphic, Web & Multimedia Design*. Burlington, Mass.: Focal Press.

Moggridge, Bill. (2007). *Designing Interactions*. Cambridge, Mass.: MIT Press.

Schell, J. (2008). *The Art of Game Design: A book of lenses*. CRC Press.

\*\*\* The UT library has an electronic copy of this.

Dethier, V. G. 1989. *To know a fly*. Boston: McGraw-Hill.

**Selected readings and videos available via Canvas (I provide these):**

Bogost, Ian. (2011). *How to Do Things with Videogames*. Minneapolis: University of Minnesota Press. Selected chapters.

Ensmenger, Nathan. "Making programming masculine." *Gender codes: Why women are leaving computing* (2010): 115-139.

Francisco-Revilla, L. & Crow, J. (2010). Interpretation of web page layouts by blind users. In Proceedings of the 10th annual joint conference on Digital libraries. ACM, New York, NY, USA, 173-176.

Hagen, R., & Golombisky, K. (2013) *White Space Is Not Your Enemy: A Beginner's Guide to Communicating Visually through Graphic, Web & Multimedia Design*. Burlington, Mass.: Focal Press. Selected chapters.

Nielsen, J. 1994. Usability inspection methods. In Conference Companion on Human Factors in Computing Systems (CHI '94), Catherine Plaisant (Ed.). ACM, New York, NY, USA, 413-414.

**UT-Austin Honor Code**

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

## **Plagiarism**

Plagiarism, as defined in the 1995 *Random House Compact Unabridged Dictionary*, is the "use or close imitation of the language and thoughts of another author and the representation of them as one's own original work." Within academia, plagiarism by students, professors, or researchers is considered academic dishonesty or academic fraud and offenders are subject to academic censure, up to and including expulsion. There, you see – I just did it myself! I copied those two sentences right off of Wikipedia and didn't give credit (yet!). Here's the citation: Plagiarism (2010). Wikipedia, <http://en.wikipedia.org/wiki/Plagiarism>. Web site accessed 1/13/2010. If you use words or ideas that are not your own you must cite your sources. Otherwise you will be guilty of plagiarism. Here's a resource designed to help you avoid plagiarism: [www.lib.utexas.edu/plagiarism](http://www.lib.utexas.edu/plagiarism).

## **Cheating**

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University.

## **Late Assignments**

It is important to complete your work on time, both so you can stay on track and so you can work with your fellow students. You will be docked 10% each day-- in other words two points from the total assignment points for every day late for any assignment. NB: Late exams are not possible outside of extreme circumstances and will receive a 0. Plan ahead.

## **Attendance**

Participation in class discussion and activities is an important part of your education. It is University policy, and my approach, to respect religious holy days. Please give me the requisite 14 days advance notice before the holy day occurs if you will be missing any class due to a religious holy day.

## **Disabilities**

Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Services for Students with Disabilities area of the Office of the Dean of Students at 471-6259 (voice) or 471-4641 (TTY for users who are deaf or hard of hearing) as soon as possible to request an official letter outlining authorized accommodations.

## **Technology in the classroom**

Personal technology is NOT allowed in the classroom except during the allowed times. We will be using computers provided in the room for several class activities and you may use your own technology ONLY to assist with these activities. If you need to take notes during lectures using a laptop or cell phone, you may see me about getting approval. You will need to install WriteRoom, Think, or a similar application that blocks out distractions as well as demonstrate to me that you know how to use said application. This class is heavily focused on your participation so please focus during activities, discussions and lectures.

## Grades:

### *Summary of Due Dates and Weights:*

Attendance and participation (individual)	Continuous	20	points
3 project updates (individual)	See schedule	15	points
Exam 1 (individual)	March 3	13	points
Topic presentations (individual)	Various	20	points
Exam 2 (individual)	April 28	12	points
Game interface redesign (group)	May 5	20	points
*Extra credit (individual)	April 15	5	points

I will endeavor to return to you, with feedback, anything you hand in (either a test or a homework assignment) the week after you complete it.

### *Evaluation*

Your work will be graded on college-level writing and presenting standards, demonstrated insight, completion of expectations of the assignment, and coherence of organization. In general, work receiving an “A” will demonstrate clarity of purpose, organization, and communication. It will also demonstrate original interpretation of course material. A “B” signifies work that meets expectations, meaning that all aspects of the assignment are completed, but it lacks either some aspects of preparation or it lacks significant insight into the material or frequent grammatical errors. A “C” for work denotes work that meets expectations but is poorly constructed, supported, or inconsistent argument, or work with multiple errors. A “D” indicates that work barely meets the requirements of the assignment and is the lowest passing grade.

### *Grading scale:*

A	100%	to 94%
A-	< 94%	to 90%
B+	< 90%	to 87%
B	< 87%	to 84%
B-	< 84%	to 80%
C+	< 80%	to 77%
C	< 77%	to 74%
C-	< 74%	to 70%
D+	< 70%	to 67%

## High-level Schedule:

Our course is divided up into four sections:

1. *Usability, scientific underpinnings, and evaluation*– What do we know about human sensation, perception, memory, cognition, and language that steers our designs of user interfaces? How do we go about evaluating design? How can we collect information about projects, users, and requirements to inform design?
2. *Design that works* – How can historical examples inform our designs? What does design “do”?
3. *Perception and Aesthetics* – How can we increase the appeal of a design?
4. *Iterating* – How can we apply everything we’ve learned to deliverable projects?

## Assignment details:

### *Project updates*

You will need to provide 3 written updates of your group project. The first will be to express your idea of the goals of the project. The second will be to explain your evaluation plan and the third will be to describe the prototype plan. Each group member must provide their own individual update and express what their role will be in context of the overall group project and what their personal goals are. Each post should be at least 300 words but NO MORE than 1000 words long. 5 points for each update.

### *Exams*

There will be two multiple-choice + short answer exams to check your knowledge about the course readings and lectures.

### *Topic presentation*

You choose a discussion/activity day (highlighted in gray on the schedule) to present and demonstrate your understanding of a specific topic related to one of our interaction design in games. You need to prepare a visual (such as a slide deck or handout) with both images and text that communicate your ideas to an audience. You also must prepare discussion questions for that day. You will submit your questions and a pdf of your visuals via canvas as well as presenting in class and leading discussion for that day.

### *Redesign a game (group project)*

In groups of 2-3 students, you will choose a game and evaluate it using techniques we learn in class, and then redesign the interface to it. No programming knowledge is necessary. You will create a paper proof of concept for your redesign by using physical materials that we will go over in class. The game you choose to redesign might be, for example, a classic board game, a popular console game, an educational PC game, or a table-top game. Your redesign needs to be playable. It will be possible for you to choose to create a digital game as long as you discuss it with me first, it is playable, all members of the group agree, and all members can contribute equally to the evaluation and redesign.

You will be graded on:

- 1) Scope of the redesign (moving one item over 3 inches will not have the potential score of more ambitious redesigns).
- 2) How well the interface, rules and mechanics, and instructional techniques of the redesign incorporate principles from the course.
- 3) The use of your evaluation to guide your redesign

Group work is an important skill. I will provide time in class for you to work together, but you will also need to find time to work together outside of class time.

### *Participation*

You are expected to attend class and participate in discussions and activities. Be sure your name gets on the activity sheets, and be active in participating. I understand that some students will speak more than others and I have provided a variety of ways that you can participate so be sure to complete assignments before class, and to be present and active. This class is an activity-focused class. You need to be present in class to do well in the course overall. Lateness and absences will earn you negative points (partial for lateness). I will allow 3 absences without penalty.

*Changes to the syllabus*

I may make minor changes to the syllabus to suit the needs of the class during the semester. I will be sure that students are apprised of changes at least 2 weeks in advance. It is your responsibility to come to class and keep track of Canvas to receive any such announcements.

**Detailed Schedule:**

Wk	Day	Date	Topic	Due by class time
<b>USABILITY</b>				
1	T	1/20	<ul style="list-style-type: none"> <li>- Introduction to the course and one another.</li> <li>- Review of the syllabus</li> <li>- Fill out survey for team formation</li> <li>- Overview of readings and assignments</li> </ul>	
	Th	1/22	<ul style="list-style-type: none"> <li>- Discussion of The Psychology of everyday things (and actions)</li> <li>- Assigned teams for in-class activities (4-5 members)</li> <li>- Sign up for presentation days</li> </ul>	Read chapter 1 in Norman
2	T	1/27	<ul style="list-style-type: none"> <li>- Discussion of</li> <li>- Assigned teams for in-class activities (4-5 members)</li> <li>- Team activity to compare “phones” Use what we know from Norman.</li> <li>- Student presentation(s)</li> </ul>	Read chapters 2 & 3 in Norman.
	Th	1/29	<ul style="list-style-type: none"> <li>- Sensation and perception</li> <li>- Team activity to compare descriptions of good and poor designs. Use what we know from Norman.</li> <li>- Student presentation(s)</li> </ul>	Read chapter 4 in Norman <i>Bring to class a picture or verbal description of good and poor designs. NOT web sites. Physical objects.</i>
3	T	2/3	<ul style="list-style-type: none"> <li>- Mental models, usability, and individual differences.</li> <li>- Team activity to compare phone <i>operating systems</i>.</li> <li>- Student presentation(s)</li> </ul>	Read chapters 5 & 6 in Norman.
	Th	2/5	<ul style="list-style-type: none"> <li>- More on affordances, accessibility, and other usability rules</li> <li>- Student presentation(s)</li> </ul>	Read pages 12, 14, 18, 20 in Lidwell et al. (as well as accompanying images)
4	T	2/10	<ul style="list-style-type: none"> <li>- Assigned groups for game redesign (2-3 members)</li> <li>- Activity looking at good and poor web designs</li> <li>- Time provided to work with project groups.</li> <li>- Student presentation(s)</li> </ul>	Read pages 82, 102, 104, in Lidwell et al. (as well as accompanying images) <i>Bring to class 2 URLs showing a good and poor WEB design (based on what we’ve read).</i>
	Th	2/12	<ul style="list-style-type: none"> <li>- Mapping, mental models,</li> </ul>	Read 128, 130, 132, 164, 202,

			<ul style="list-style-type: none"> <li>visibility</li> <li>- Team activity applying concepts.</li> <li>- Student presentation(s)</li> </ul>	208 in Lidwell et al. (as well as accompanying images)
5	T	2/17	<ul style="list-style-type: none"> <li>- More on usability principles</li> <li>- Team activity applying concepts.</li> <li>- Student presentation(s)</li> </ul>	Read 44, 46, 50, 52, 64, 66 in Lidwell et al. (as well as accompanying images)
	Th	2/19	<ul style="list-style-type: none"> <li>- Applying Principles as rules</li> <li>- Overview of evaluation methods: user testing, analysis, remote usability testing, crowd-sourced usability testing, surveys, and field study</li> <li>- Student presentation(s)</li> </ul>	Read chapter 7 in Norman Read Nielsen (Canvas) <b>1<sup>st</sup> project update: team goals</b>
<b>DESIGN THAT WORKS</b>				
6	T	2/24	<ul style="list-style-type: none"> <li>- Interaction Revolutions</li> <li>- Team activity looking at Internet Archive and the evolution of design over time.</li> <li>- Team activity applying concepts.</li> <li>- Student presentation(s)</li> </ul>	Read 16, 30, 32, 42, 60, 70 in Lidwell et al. (as well as accompanying images)
	Th	2/26	- Review	
7	T	3/3	- <b>Exam 1</b>	<b>Exam</b>
	Th	3/5	<ul style="list-style-type: none"> <li>- Designing broadly</li> <li>- In-class activities applying the readings</li> <li>- Student presentation(s)</li> </ul>	Read Ensmenger (Canvas). <i>Bring to class an example of a game that excludes some people – because of age, gender, or other.</i>
8	T	3/10	<ul style="list-style-type: none"> <li>- Ethics</li> <li>- In-class activities applying the readings</li> <li>- Student presentation(s)</li> </ul>	Read Francisco-Revilla et al. (Canvas)
	Th	3/12	<ul style="list-style-type: none"> <li>- Doing things with design</li> <li>- Art that works</li> <li>- In-class activities applying the readings</li> <li>- Student presentation(s)</li> </ul>	Read selected chapters from Bogost (provided on Canvas). <b>2<sup>nd</sup> project update: evaluation plan</b>
9	T	3/17	<b>SPRING BREAK</b>	<b>NO CLASS</b>
	Th	3/19	<b>SPRING BREAK</b>	<b>NO CLASS</b>
<b>PERCEPTION AND AESTHETICS</b>				
10	T	3/24	<ul style="list-style-type: none"> <li>- Information visualization</li> <li>- Design rules overview</li> <li>- Time provided to work with</li> </ul>	Read Golimbisky & Hagen (Canvas).

			<ul style="list-style-type: none"> <li>your group.</li> <li>- Student presentation(s)</li> </ul>	
	Th	3/26	[iCONFERENCE – guest instructor] <ul style="list-style-type: none"> <li>- Time provided to work with your group.</li> </ul>	
11	T	3/31	<ul style="list-style-type: none"> <li>- Appeal and aesthetics</li> <li>- Student presentation(s)</li> </ul>	Read 22, 24, 26, 28, 38, 58, 64 in Lidwell et al. (as well as accompanying images)
	Th	4/2	<ul style="list-style-type: none"> <li>- Perception</li> <li>- Student presentation(s)</li> </ul>	Read 34, 48, 110, 120, 122, 124, 132, 182 in Lidwell et al. (as well as accompanying images) <b>3<sup>rd</sup> project update: prototype plan</b>
12	T	4/7	<ul style="list-style-type: none"> <li>- Telling a “story” with design</li> <li>- Student presentation(s)</li> </ul>	Read 184, 186, 190, 196, 206 in Lidwell et al. (as well as accompanying images)
	Th	4/9	<ul style="list-style-type: none"> <li>- Golden rules based on nature.</li> <li>- Student presentation(s)</li> </ul>	Read 78, 132, 168 in Lidwell et al. (as well as accompanying images)
<b>ITERATING</b>				
13	T	4/14	<ul style="list-style-type: none"> <li>- Practical concerns</li> <li>- Team activity applying readings. Think back to our initial comparison of mobile devices and interfaces.</li> <li>- Student presentation(s)</li> </ul>	Read 56, 74, 142, 150 in Lidwell et al. (as well as accompanying images)
	Th	4/16	<ul style="list-style-type: none"> <li>- Using theory as explanation</li> <li>- In-class group work</li> <li>- Student presentation(s)</li> </ul>	Read 62, 170, 210 in Lidwell et al. (as well as accompanying images)
14	T	4/21	<ul style="list-style-type: none"> <li>- Justifying form and function</li> <li>- In-class activity</li> <li>- Student presentation(s)</li> </ul>	Read 90, 94 in Lidwell et al. (as well as accompanying images)
	Th	4/23	<ul style="list-style-type: none"> <li>- review</li> </ul>	
15	T	4/28	<ul style="list-style-type: none"> <li>- <b>Exam 2</b></li> </ul>	<b>Exam</b>
	Th	4/30	<ul style="list-style-type: none"> <li>- Career opportunities.</li> </ul>	<i>Bring to class two job descriptions.</i>
16	T	5/5	<ul style="list-style-type: none"> <li>- Play the redesigned games and evaluate them constructively.</li> </ul>	<b>Game design descriptions due</b>
	Th	5/7	<ul style="list-style-type: none"> <li>- Play the redesigned games and evaluate them constructively.</li> </ul>	