Course Prerequisites

There are no prerequisites for this course. Experience creating and/or participating in the dissemination of information, production of interactive experiences, or software design will be helpful.

Course Description

In this course we will examine various usability aspects of interfaces between humans and computers/technology. Through lectures, discussions, demos, hands-on activities, and projects, we will explore various aspects of interfaces, interaction patterns, and interface design and evaluation in the context of complex development environments.

This course will consist of broad overview of topics critical to understanding and evaluating usability of interfaces; and topics critical to designing and developing interfaces that are truly usable by all of their intended audiences. As such, it will touch briefly on many topics and focus on some of the more important ones. There are many ways to approach the subject of human-computer interaction. We will explore several approaches.

Course Objectives

- To look at a wide range of possibilities for interaction between people and computers/technology.
- To gain you experience designing and developing interfaces and testing their effectiveness.
- To gain you experience in designing excellent interfaces of your own.
- To understand the importance of interface usability and the consequences of bad design.
- To have fun while accomplishing the above goals.
Course Structure

This course combines lecture and discussion with both in-class and out-of-class hands-on experience learning and trying out methods. Students will have readings between classes and short-form assignments as well as a longer final group project.

Required Readings

by Ben Shneiderman, Catherine Plaisant, Maxine Cohen, and Steven Jacobs (2009)
(Available at NYU bookstore/Library course reserves)
*** In the interest of supporting affordability, we will be using the 5th Edition of this book even though the 6th Edition recently came out so that you can obtain a previously owned or library copy.
It was also the text used by previous instructors of this course. Finding a great book on design (one that has a lot of information, but not an overwhelming amount of detail) can be tricky. However, HCI scholars consider Ben Shneiderman to be the “Father of HCI” and there is a lot to be found in this book.

“The Design of Everyday Things: Revised and Expanded Edition” by Donald A. Norman
Free online access through NYU library.
It provides interesting and useful perspectives and a lot of food for thought. Students often finish reading this book before the assigned date – they find it that interesting. Norman is a global expert on humans and good design.

Additional Readings

Additional readings on various topics throughout the semester are available from the instructor upon request, including recommendations for the Group Presentations and Research Summary mentioned below.

Course Requirements

Students are expected to complete readings before class, participate in class discussions and in-class exercises, and to do a thorough job of class projects and paper, including mid-term progress check. Students can earn a possible total of 100 points in this class. Here is an overview of the proportion of influence each component of the class will have on your final grade:

- **Class Participation – 10 points.** I do not take formal attendance, but we do a lot of in-class work and so this is a part of your grade.
- **Group Presentations – 15 points.** Students will sign up for one of the spots throughout the semester to do group presentations on topics from the list provided by the instructor.
- **Mid-term Presentations/Group Write-ups – 20 points.** You and your in-class project group will be expected to give a mid-term update presentation on your progress and prototype design.

- **Final Group Presentation and Report – 40 points.** You will be working on these projects most of the term and will be given ample in-class time (as well as working outside the class). The final Presentation and report both contribute to this grade.

- **(Optional) Research Summary – 15 points.** A two-page summary of the major points of a journal article, book, or research will be required (must be pre-approved by instructor). Please note, if you wish to receive an “A” grade, this is a requirement.

**There is no formal final exam scheduled for this course:** The Final Group Presentation will be made on the last scheduled class day and be due to the instructor electronically within the next three days.

**Course Schedule (Subject to Change – Order of Presentations Only):**

09/07  **Introduction**
The trouble with systems. Introduction to HCI. Administrivia. In-class exercise.
For next time: read Norman Chapters 1, 2, & 3.

09/14  **Design Psychology and Affordances**
Discussion of readings; set-up groups for final group projects; in-class exercise.
Sign-up for topic presentations.
For next time: read Norman Chapters 1, 2, & 3. Also read:
“Affordance, Conventions, and Design” by Norman &
“Conceptual Models: Begin by Designing What to Design” by Johnson and Henderson

09/21  **HCI and Affordances. Persuasive Technology.**
**Questions – Class 3. The Technologist’s Dilemma.**
Class exercise. Presentation groups organized.
For next time: read Shneiderman et al. Chapters 1, 2, & 3. Also read:

09/28  **Usability, Constraints and Errors. Design Thinking.**
Discussion of readings; in-class work time for project proposals.
For next time: read Norman Chapters 4, 5 & 6. (DO THIS IF YOU READ CHAPTERS 1, 2, & 3 in SHNEIDERMAN et al.)
**OTHERWISE**
For next time: in “Usability Testing Essentials” on the “Usability” Shelf:
Read Ch 1 Establishing the essentials
& Ch 3 Big U and little u usability (pay attention to Case Study starting on page 72)
& Ch 4 Understanding users and their goals
For next time: read/watch video “Paper Prototyping” on the “Tools” Shelf.
Read “Design Thinking” by Peter Denning on the “Design Thinking” Shelf.
Read “The Idea Idea” by Peter Denning on the “Articles and Papers (HCI)” Shelf.

**IMPORTANT:** Provide your group project selection on the Google Doc (same document where you provided your group presentation selection – different box) before Monday October 2.
10/05 Interaction Design & User Experience
Discussion of readings; in-class work.
For next time: see “Class 5 – Activities & Homework”

10/09 Monday – Fall Recess – No classes scheduled

**Spend a day at the HCI Library**
You might think that you have better things to do than sit in a comfortable place with free web access and browse library shelves, picking books or articles that catch your eye, opening and reading them; start thinking about your potential bright future and the opportunity cost of your discretionary time (see: [https://en.wikipedia.org/wiki/Opportunity_cost](https://en.wikipedia.org/wiki/Opportunity_cost))

10/12 Interaction Design & User Experience
Discussion of readings; in-class work.
Presentation Group #1 “From Smart Homes to Smart Cities”
Presentation Group #2 “Can Computers think? – The Turing Test”.
For next time: see “Class 6 – Activities & Homework”

10/19 Usability & Design Thinking
Discussion of readings; in-class work.
Presentation Group #3 “BCI and Assistive Technologies”
Presentation Group #4 “Can Computers think? – The Chinese Room Argument”.
For next time: see “Class 7 – Activities & Homework”

10/26 AI and HCI
Discussion of readings; in-class work.
Presentation Group #5 “Ironies of Automation and Human Work”.
For next time: see “Class 8 – Activities & Homework”

11/02 Mid-term Presentations
Group presentations for mid-term check in on final projects.
Presentation Group #6 “Captology”.
For next time: see “Class 9 – Activities & Homework”

11/09 Contextual Design
Discussion of readings; in-class work.
Presentation Group #7 “Nontraditional Interfaces”.
Presentation Group #8 “Ubiquitous Computing”.
For next time: see “Class 10 – Activities & Homework”

11/16 Dark Patterns in HCI Design
Discussion of readings; in-class work.
Presentation Group #9 “Ambient Intelligence”.
Presentation Group #10 “Chatbots and the New World of HCI + Ch 4 in Fogg’s book”.
For next time: see “Class 11 – Activities & Homework”
11/23  Thanksgiving Recess – No classes scheduled

Spend a day at the HCI Library
You might think that you have better things to do than sit in a comfortable place with free web access and browse library shelves, picking books or articles that catch your eye, opening and reading them; start thinking about your potential bright future and the opportunity cost of your discretionary time (see: [https://en.wikipedia.org/wiki/Opportunity_cost](https://en.wikipedia.org/wiki/Opportunity_cost))

11/30  Culturally-Situated Design
Discussion of readings; in-class work.
For next time: see “Class 12 – Activities & Homework”

12/07  Semiotic Engineering

12/14  Final Project Presentations
Presentation of semester group projects. Group Presentations due.
For 12/18: Group reports due electronically by Monday, December 18 at noon.

Course Policies

- **You are here to learn.** I operate under the assumption that you are willing to pay tuition and/or take a class because you want to learn here.
- **Working in groups means working in groups.** While not everyone will contribute the same amount to group work, it is expected that everyone contributes something based on their abilities, skills, and interests. Failure to participate will result in remedial action.
- **Assignments are due on the day listed in the syllabus.** Late assignments will be penalized one letter grade for each week late. I know you have lives outside the class and that emergencies/illnesses occur. If you will be late with an assignment, let me know ahead of time and things will be OK. Communication with the instructor is key.
- **In-class topic presentations are due on the day you signed up for.** If you will be missing a presentation, let me know ahead of time and we can reschedule. If you don’t show up or let me know in advance, it will count as a missed assignment.

Moses Center Statement of Disability

If you are student with a disability who is requesting accommodations, please contact New York University’s Moses Center for Students with Disabilities (CSD) at 212-998-4980 or [mosescsd@nyu.edu](mailto:mosescsd@nyu.edu). You must be registered with CSD to receive accommodations. Information about the Moses Center can be found at [www.nyu.edu/csd](http://www.nyu.edu/csd). The Moses Center is located at 726 Broadway on the 2nd floor.
B. Definition: Academic dishonesty may include misrepresentation, deception, dishonesty, or any act of falsification committed by a student to influence a grade or other academic evaluation. Academic dishonesty also includes intentionally damaging the academic work of others or assisting other students in acts of dishonesty. Common examples of academically dishonest behavior include, but are not limited to, the following:

1. Cheating: intentionally using or attempting to use unauthorized notes, books, electronic media, or electronic communications in an exam; talking with fellow students or looking at another person’s work during an exam; submitting work prepared in advance for an in-class examination; having someone take an exam for you or taking an exam for someone else; violating other rules governing the administration of examinations.

2. Fabrication: including but not limited to, falsifying experimental data and/or citations.

3. Plagiarism: intentionally or knowingly representing the words or ideas of another as one’s own in any academic exercise; failure to attribute direct quotations, paraphrases, or borrowed facts or information.

4. Unauthorized collaboration: working together on work that was meant to be done individually.

5. Duplicating work: presenting for grading the same work for more than one project or in more than one class, unless express and prior permission has been received from the course instructor(s) or research adviser involved.

6. Forgery: altering any academic document, including, but not limited to, academic records, admissions materials, or medical excuses.