# CMSC 434

Introduction to Human-Computer Interaction

## 1 Instructors

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## 2 Course Overview

This is the only course in the undergrad computer science catalog with the word human in its title. This is not insignificant. In this course we will reposition ourselves to think about computer science not just in terms of algorithmic performance and technical sophistication but in terms of how technology can be perceived, used, and adopted by people. By placing humans at the center of our design focus rather than technology, our concerns shift in interesting and, hopefully, illuminating ways. For example, there are many ways to design and build a user-facing application—how do we know which path is the right one? What methods and guidelines can we apply to maximize our chances that our design is the most useful, usable, and enjoyable? In this class, you will learn to ideate, critique, prototype, evaluate, design and refine interactions, interfaces and applications for people.

### Lectures:
Mondays and Wednesdays from 2:00PM to 3:15PM

### Class location:
Computer Science Instructional Center (CSIC) 1121

### Credit hours:
3

### Class website:
2.1 What You Can Expect from Me

You can expect that:

- I will try to challenge you in this class: your thinking, your approach to design, your view of CS.
- I will try my best to make my lectures engaging and to make the best use of class time through teacher-student interactions, discussions, and other activities.
- I care about my students and I will do my best to help them succeed.

2.2 What I am Expecting from You

I am expecting that:

- you come prepared to each class (e.g., materials read, homework done)
- you contribute to the classroom environment by offering your own insights and perspectives on topics
- you are willing to put in the work this semester, which is necessary to realize the full potential of this class

2.3 Aims

The general aims of this course are to:

1. Develop an appreciation for the theory and methods of design and human-computer interaction
2. Develop skills in the use and application of a variety of design methods, specifically those applicable to user-centered design
3. Improve individual and collaborative skills in design-based problem solving and critical thinking

2.4 Objectives

On the successful completion of this course, you should be able to:

1. Given a problem setting, critically discuss the appropriateness of potential design methodologies such as contextual design, scenario-based design, participatory design, etc.
2. Describe the issues and challenges to achieving a human-centered design process
3. Gather useful information about users and activities through observation or systematic inquiry
4. Use, adapt and extend classic design standards, guidelines, and patterns
5. Employ selected design methods at a basic level of competence: affinity diagrams, card sorting, scenarios of use, personas, storyboarding, sketching, and usability evaluation
6. Create an interactive prototype for a small system and plan and perform an evaluation of that prototype

2.5 Communication

This course will utilize three main forms of communication: the class webpage, the mailing list, and Piazza. Announcements will be sent to the course mailing list and to Piazza. Kotaro and I will make every effort to respond to your emails and Piazza posts as soon as we can. If we do not respond within 24 hours, feel free to send the email again. Note: it’s unlikely that you will receive an email response from me after 8PM so plan ahead!

Webpage
The webpage contains the schedule for the course along with links to course materials: [http://cmsc434-s12.wikispaces.com/](http://cmsc434-s12.wikispaces.com/)

Mailing List
The course mailing list is cmsc434-0201-spr12@coursemail.umd.edu. However, a large majority of class-wide communication will take place on Piazza, an online discussion board built specifically to increase the efficiency of course-based discussions.
Piazza

Piazza is an online discussion forum built specifically for classes. Although I've not used this system in the past, it comes highly recommended. Essentially, Piazza democratizes question and answer loops by exposing student questions to the classroom and allowing everyone to participate in an answer. This process, hopefully, increases learning for everyone involved and leads to faster response times for the student (as the professor and TA are not the only ones who can respond). If you send me or Kotaro a question or comment via email that I think has broader implications/value for the class, I will post it directly to Piazza. So, in most cases, it’s more efficient for you to simply post directly to Piazza. I will obviously not do this for email that is private (or where you specifically ask me not to). Here’s the direct Piazza link: http://piazza.com/class#spring2012/cmsc434.

2.6 CMSC434 Sections “0101” and “0201”: What’s the Difference?
This semester, there are two sections of CMSC434: one that is taught by Dr. Evan Golub and the other that is taught by me. These courses have the same general aims and objectives but will differ in the readings and course activities. These differences are largely due to the instructors’ differing backgrounds and interests. Both classes will challenge you to think differently about computers and design—focused on theories, methods, and approaches common to human-computer interaction—but with some differences in taste and texture.

2.7 Books and Resources
I’m not a huge fan of traditional textbooks. We won’t be using them. Instead, we are going to pull selected readings from a range of HCI and design books. We will also be reading materials that are available online. I will make all readings available via PDF or web links.

3 Assessment

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<tr>
<th>Component</th>
<th>Worth</th>
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<tbody>
<tr>
<td>Class Participation</td>
<td>10%</td>
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<tr>
<td>Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>15%</td>
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<tr>
<td>Group Project</td>
<td>45%</td>
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Table 1. Your grade is based on your performance in the above areas.

3.1 Class Participation (10%)
The class will be a more rewarding experience if everyone actively participates. I expect you to come to class prepared to contribute constructively to discussions, ask challenging questions, and participate in in-class activities. Outside of class, you can participate by posting useful or interesting information on the course discussion website or visiting the instructor during office hours to ask questions or give feedback. At the end of the term, you are welcome to submit a 1-2 paragraph personal statement on how you contributed to the class. This statement is entirely optional and is due by the beginning of class on the day of the final project presentations.

3.2 Individual Assignments (30%)
Unless specified by the instructor, assignments must be completed independently. Assignments are due by the beginning of class on their due date.

Late Assignments. If you need to miss a deadline, you should inform the instructor as soon as possible, indicating when you will submit your work. The instructor will try to accommodate your needs. You should use this clause only for extraordinary personal reasons (e.g., personal illness, death in the family, etc.).
The general policy is that late work will be deducted 20% of its total grade per calendar day, starting on the same day it is due. It is at the instructor’s discretion to accept late work and assign late penalties.

3.3 Midterm Exam (15%)
There will be a midterm exam but there will not be a final exam. The midterm exam will cover all content leading up to the midterm exam date. See the schedule on the course website for details. Note: we will be using the final exam slot for group project presentations.

3.4 Group Project (45%)
The group project will, hopefully, be the most educational and rewarding experience of the class. No matter what industry you enter after graduation, you will likely have to work on a team. In addition, you will find that being able to effectively communicate your ideas and visions will greatly impact how those ideas are received and acted upon. The group project will give you experience in working on a team and experience in communicating your ideas not only to fellow team members but also to the class through in-class studio style critiques, presentations, project documents, and videos. Late videos and presentations are not acceptable. The policy for all other late project deliverables is the same as for assignments.

<table>
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<tr>
<th>Component</th>
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<tr>
<td>Project proposal</td>
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<tr>
<td>Specification based on ideation, sketching and low-fi prototyping</td>
<td>5%</td>
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<tr>
<td>Low-fi video prototype and presentation</td>
<td>10%</td>
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<tr>
<td>User evaluation</td>
<td>5%</td>
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<tr>
<td>Final interactive prototype and write-up</td>
<td>10%</td>
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<tr>
<td>Final video and presentation</td>
<td>10%</td>
</tr>
<tr>
<td>Total</td>
<td>45%</td>
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Table 2: This is a high level grading breakdown for the group project. A more granular grading rubric will be provided for each component when that component is assigned.

4 Policies and Procedures

4.1 Class Participation and Classroom Decorum
Our classroom is a safe harbor for free expression, discussion and creativity. In order to gain full value from this positive, creative environment, our discussions and in-classroom brainstorms must be conducted respectfully. Antagonism between students will not be tolerated nor will unnecessary classroom disruption.

4.2 Laptops / iPads in the Classroom
My hope is that you can use your laptop/iPad in class to, on occasion, augment the materials in class (e.g., by actively searching for additional content that may supplement a discussion point made in the classroom). However, the downside of allowing laptops is that they are a tempting distraction that may pull you away from being present and active participants in the class. If you have your laptop out and I observe that you are involved in activities unrelated to the classroom, you will lose the privilege of classroom laptop usage at my discretion.

4.3 Academic Integrity
The short of it is: be inspired, be disciplined, be prepared, and don’t cheat. I really don’t expect that we will have problems with academic integrity. Perhaps the most prominent issue that you will face in this class is plagiarism and proper citation usage. That is, if you use someone else’s words or thoughts in your writing, they must be properly referenced. A foundation of science and scholarship is citation—as Sir Isaac Newton famously uttered: “stand on the
shoulder of giants.” I have no problem with you incorporating ideas and perspectives from other authors as long as you cite them. In fact, I encourage it.

Further details from the University of Maryland Teaching Resources Guide: The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council (see: http://www.president.umd.edu/policies/docs/III-100A.pdf). This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit www.shc.umd.edu. Any violation of the University’s policy on Academic Integrity will result in severe penalties, which may range from failing an assignment to failing a course (to other possibly even more severe measures).

4.4 Course Evaluation Form
Towards the end of the quarter, you will have an opportunity to fill out a course evaluation form (a CourseEvalUM). As a student, I did not treat these course evaluations as seriously as I should have but, in my defense, I did not fully understand why or how they were being used. So let me explain: using your thoughtful feedback on the CourseEvalUM, I can, first, better assess areas that I need to improve on as an instructor. This is important to me. Second, your feedback will allow me to refine and iterate upon the course material. As you will learn from this course, the process of iteration is intrinsic to the construction of almost any artifact (this course included). Third, the University and my department look to these course evaluations as part of the tenure and promotion process. Thus, if you didn’t like the class—say something. If you did, say something as well. This is one way to have a direct impact on improving a course and the CS department at UMD as a whole. I hope you’ll consider it.

Here’s the official CourseEvalUM text that the University suggests instructors use in their syllabi (it contains more details on the course evaluation process): “Your participation in the evaluation of courses through CourseEvalUM is a responsibility you hold as a student member of our academic community. Your feedback is confidential and important to the improvement of teaching and learning at the University as well as to the tenure and promotion process. CourseEvalUM will be open for you to complete your evaluations starting about two weeks prior to the last day of the term before exams begin. Please go directly to the website (http://www.courseevalum.umd.edu) to complete your evaluations. By completing all of your evaluations each semester, you will have the privilege of accessing online evaluation reports for the thousands of courses for which 70% or more students submitted their evaluations. You can access results at http://www.CourseEvalUM.umd.edu, the same link you use to submit your evaluations. Click View Past Results instead.”

4.5 Accommodations for Students with Disabilities
If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way we teach may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with Disability Support Service (DSS) to help us determine appropriate accommodations. Disability Support Service coordinates services that ensure individuals with disabilities equal access to University of Maryland College Park programs. DSS can be reached at 301-314-7682 and http://www.counseling.umd.edu/DSS/index.html.

4.6 Connecting via Twitter / Facebook / LinkedIn
Social networks and emerging forms of media offer new opportunities for interacting with teachers. You are welcome to follow me on Twitter (@jonfroehlich) as I use my Twitter account for largely professional reasons (e.g., to post links to research, to post links to inspirational stories/art, and to make announcements about my work). However, I will not
I accept a Facebook friend request (or LinkedIn request) from a student until the semester has ended and grades have been posted. I do find it valuable to maintain connections to my students, and these social networks are one great way to do that but only after the semester has ended.

5 Acknowledgements
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