Computer Science 705
Human Computer Interaction
2:00 – 3:20 T/Th    Stuart Hall 208

Instructor: Dr. Stephen Hughes
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COURSE DESCRIPTION

To be truly successful in Computer Science, practitioners must have a good understanding of not only
the core technology, but also its users and how they interact with the technology. Human computer
interaction (HCI) is a discipline concerned with the design, evaluation and implementation of
interactive computing systems. This course seeks to impress on students the importance of
understanding human constraints and how these human factors can drive the success or failure of
technological solutions.

The goal of this course is to lay the foundations for the design of interactive systems by exploring
several key aspects of HCI. Topics include:

- Human capabilities and limitations, both cognitive and ergonomic, with respect to the design
  process.
- Affordances that technology provides its users
- Design and evaluation methodologies
- Study of emerging interface technologies.

CLASS ENVIRONMENT

This class will be taught in a seminar style environment. A significant portion of your efforts in this
class will involve interpreting material through the lens of your experiences and offering your
perspective to contribute to the collective understanding of the class. There are several components of
this course that will support this approach:

General discussion on common readings: There will be a set of shared readings that everyone in the
class is expected to contemplate and be prepared to discuss. These readings will deal with empirical
facts; however, you are invited to challenge the applicability of some concepts to the discipline of HCI
or software design. You will need to be critical of what content will inform your design skills after
you leave the course, and what content you choose to dismiss.

Topic Expertise: While everyone will be developing a broad foundation of HCI, you will be
responsible for exploring a sub discipline in more depth. As the class’s resident expert on this topic,
you will be called on to share your wisdom with others.

Design Experiences: We all have experiences with software that is delightful, yet we have also likely
experienced some designs that are quite horrific. Tolerance for bad design will abate only when we are
able to clearly articulate what makes a design bad. You will be called upon to share your insights with
your peers.
**STUDENT ASSESSMENT**

20%  **Seminar Activity & Design Journal:** You will keep a journal in which you record your reactions to the readings as well as general observations about several distinct interfaces that have design flaws. You will be required to regularly share your perspectives with other members of the class. This journal will periodically be shared with the instructor for review and evaluation.

25%  **Research Paper** – You will prepare a significant research paper on an emerging topic in Human Computer Interaction. This will require that you read and synthesize current journal articles into a coherent written and oral presentation of your chosen topic.

20%  **Assignments** – There will be (~5) practice-based assignments that will be given over the course of the semester. These will involve a minor programming task and/or a brief written composition.

30%  **Final Project:** This is a culminating activity that allows you to experience first-hand the HCI concepts explored in the seminar. Your project will allow you to redesign a faulty interface, implement an emerging technology or conduct an empirical study of existing technologies. You will be responsible for presenting your final project during the final exam period (12/15: 2:00-4:00).

5%  **Math/CS Culture:**

Letter grades will be assigned based on the following scale.

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<th>Grade</th>
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<tr>
<td>A</td>
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<td>A-</td>
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<td>C</td>
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<td>C-</td>
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<td>D-</td>
<td>60 ≤ D- &lt; 63</td>
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Your grades are considered confidential in accordance with FERPA (See page 47 of the Coe College Catalog).

**COURSE MATERIALS**

Textbook:


There will be additional electronic resources posted via Moodle.

You will be responsible for conducting your own research for this course. Many papers in our field are copyrighted by either ACM or IEEE. If you are a member of either of these organizations, you can get access to all of their papers online. Student membership to ACM costs $42, Student IEEE memberships are $30. In general, it is a good idea to join one of these organizations – in addition to access to the digital libraries, you also get access to other professional resources (i.e. job announcements, etc).
COURSE POLICIES

Attendance Policy
Class attendance is vital to your success in this course; material covered during missed sessions is the responsibility of the student. Conversations held in class illuminate the published class materials and should not be missed. Graded in-class activities will not be available for make-up without prior approval or extreme circumstances.

Late Work
All assignments are expected to be submitted on time. I understand that events sometimes conspire against us. If your work is going to be late, you should contact me in advance to negotiate a new deadline. Work that is submitted late without prior approval will not receive full credit; work submitted beyond two weeks of the deadline will not be accepted.

Office Hours
Office hours are an opportunity for you to clarify details you may have missed in class, discuss general computer science issues, or to have a profound conversation about marmots. It is time that is reserved for you; I may appear busy, but you are not interrupting me – unless another student has arrived first. If you come to office hours with a problem on the assignment, you should come prepared to answer questions, as well as ask them. If you have questions regarding code, you also should come prepared with access to an electronic version of your work.

Academic Integrity
Honesty and integrity are qualities we value in ourselves and in others. You are expected to be fully aware of your responsibility to maintain the highest degree of integrity in all of your work. It is accepted that you have read and understood the standards for academic integrity outlined on page 41 of the Coe College Catalog, and will abide by these standards for this course.

I believe that you can learn a lot from your peers, both in the class and in the broader community. Therefore, I strongly encourage collaboration with both. However, do not mistake this as a license to cheat. It is one thing to learn from and with your peers, it is another to pass their work off as your own. With respect to writing code for this class:

- You are expected to document any collaboration that takes place.
- Absolutely no electronic transfer of code between students is permitted.
- Any code that you “find” on the Internet must be cited, with an active link to that code.
- While you are encouraged to engage in conversations in online forums, under no circumstances are you permitted to solicit other individuals to complete your work for you.

Ultimately, YOU are responsible for all aspects of your submissions. Failure to be able to explain and defend your submission will be treated as a violation of academic integrity.

Special Services
If you have special academic or physical needs requiring accommodations, please meet with me during my regular office hours or schedule an appointment as soon as possible. We need to discuss any accommodations before they can be implemented.

End of Course
This course officially ends with the scheduled Final Exam session. No work for this class will be accepted beyond that point.