Course Overview
INFO 310 Human-Computer Interaction II
Spring 2006, Dr. Gerry Stahl

Course Description

INFO 310 focuses on *the design and evaluation* of *interactive systems* from a user-centered perspective. You will explore and learn about how people and groups of people perceive, use, share and communicate about information, and how interaction technologies can take these human issues into account. You will become familiar with basic design principles and evaluation techniques in the field of human-computer interaction (HCI).

When you have completed this course, you should be able to:

- Describe the scope of study of HCI and Interaction Design
- Recognize the importance of User-Centered Design — and the consequences of not paying attention to it
- Understand basic principles of human memory, perception and learning and how these relate to graphical user interface design
- Describe the interaction between people, the work they do, the information systems they use, and the environments in which they work
- Adopt a user-oriented approach to the design of interactive computer systems
- Adopt a user-oriented approach to the evaluation of interactive computer systems

But beyond these standard HCI goals, this course is intended to give you hands-on experience in actually designing and evaluating human-computer interaction and computer-mediated human-human interaction. It should also give you a taste of leading-edge research in HCI, since HCI is a rapidly changing field.

Focus this Term

This quarter, the course will address issues that are important for HCI today and in the future:

- *Collaborative Learning*. How can you design software to support interaction and collaboration in groups?
- *Knowledge Construction*. How can you design software to help groups of people access relevant information resources and build shared knowledge?
- *Community Building*. How can you design software to increase the building of community among users?

The hands-on class project this quarter is to explore interaction design for a particular problem that illustrates these course issues. The problem underlying the weekly group assignments is:

How should a particular system that is being designed, developed and researched at Drexel – the Virtual Math Teams (VMT) online environment – be designed to enhance collaborative learning, knowledge construction and community building?

Students in the course will be divided into small groups working on the following design projects for extending the VMT environment:

- *Assistance Provider*: Design of a tutorial training and help system for the VMT environment, including practical help in math problem solving and in online collaboration in order to develop the skills of users so they can help each other. (Resource person: Murat Cakir)
- *Resource Locator*: Design support for VMT users to access and use math resources at the Math Forum site, including the work of other teams, guidance from mentors and from the Math Forum community generally. (Resource person: Nan Zhou)
- *Curriculum Assistant*: Design a system for teachers to develop, share and negotiate the definition of math problems and topic statements for use in VMT. (Resource person: Ramon Toledo)
- *Knowledge Archive*: Design a system and procedures for archiving student work, including summarizing group discussions, posting solutions, providing feedback, archiving good examples and searching for helpful examples. (Resource person: Johann Sarmiento)

These design problems are typical of leading-edge research. Your ideas in this course may be adopted within the Virtual Math Teams project at the Math Forum @ Drexel.

We will approach this real-world problem systematically using HCI methods of task analysis, system design and user-centered evaluation. During the quarter, teams of students in the course will develop web-based portfolios and present and document their solutions to these design problems.

Course Approach to Learning

This course will engage in *problem-based collaborative learning*. You will learn primarily by applying HCI methods in projects conducted by small groups of students. There will be weekly activities for hands-on engagement with the topics of interaction design. After you form into small project groups, you will have assignments to try out the ideas you are studying by sharing, discussing and negotiating your creative ideas with the other members of your group. Your group will decide on a presentation of the work you do to share with the rest of the class. By the end of the course, your group will have an online group portfolio, including documentation of the ideas, sources and interactions that went into your group work process.

This course will be a *blended in-class and on-line experience*. Research shows that online interaction can significantly enhance learning, but that it is important that students and instructors also have some face-to-face interaction to build trust, understanding and sociality. Most weeks, one of the class sessions will take place online. Participation in the online sessions is required – you must be present through a high-speed internet connection. Experiments and group-work sessions during the online meetings will be essential to the course content.

Please note: This course requires extensive online group work – beyond the scheduled sessions. The course is about interaction via networked computers and you will have to experience quite a bit of this yourself. You will be required to use Blackboard, VMT-Chat and your own group website. You will have to meet online with your group throughout the week and to develop a website with weekly presentations. (If you have not done this before, you will learn how to do it in the course). You may have to use the computers in the CRC if you do not have a high-speed Internet connection for your own computer. You will work hard and learn a lot. This course is taught differently from what you might be used to. Taking this course means you have agreed to try the approach of this course as described in this Course Overview. *If you are not prepared to do this, you should not take this section of INFO 310.*

The course will be taught collaboratively. In addition to the instructor responsible for the course, four advanced IST PhD students will co-teach the course: Murat Cakir, Johann Sarmiento, Ramon Toledo and Nan Zhou. These five people will provide guidance through the course. However, most of your learning will be from the students in the class. Most class presentations will be given by the students. The group work will be organized and conducted by the students. The readings will be discussed by the students. By participating actively in the teaching of the course, you will learn much more than by passively listening to lectures.

Course Textbooks

The course content is presented by the textbook. There will be no lectures on HCI topics. You are expected to read the book carefully, take notes and be critical. There will be a threaded discussion area in Blackboard to raise questions, make comments and discuss the reading with other students and the instructors.

There is one required textbook, and some supplementary readings that will be made available on-line. You will be reading the textbook carefully from cover to cover. The textbook that you must purchase is:

> **Preece, Rogers & Sharp (2002) "*Interaction Design: Beyond Human-Computer Interaction*." Wiley**.
>
> Note: This is a new book; do *not* get the 1994 book by the same authors entitled "Human-Computer Interaction" by mistake.

This is an excellent, up-to-date and thorough book. It is lively, entertaining and readable. It is very carefully designed to give you a systematic introduction to the broad field of interaction design, which has replaced the more traditional narrow definition of HCI as user-interface design.

Course Assignments

The main reading assignments are from the textbook and are listed below. They will be supplemented by short additional readings. There will be weekly project assignments – mostly group projects. All projects are due online by midnight Monday night.

Week	Start date	Topic	Reading	Project	Deadline
1	April 4	Intro to HCI	Ch. 1 & 2, VMT overview	First-hand experience with the software	April 10
2	April 11	Foundations	3 & 4, chat analysis	Analyze chat data	April 17
3	April 18	Foundations	5, TCA & Groupware	Understand collaboration	April 24
4	April 25	Design	6 & 7, knowledge building	Establish requirements,	May 1
5	May 2	Design	8 & 9, VMT research	Midterm report; Conceptual design	May 8
6	May 9	Evaluation	10 & 11, search for readings	Scenario	May 15
7	May 16	Evaluation	12 & 13, HE readings	Interactive prototype	May 22
8	May 23	Examples	14 & 15, CW readings	Heuristic evaluation	May 29
9	May 30	Review	Optional readings	Cognitive walkthrough	June 7
10	June 6	Reflection	—	Portfolios & Final reflection report	June 12

Course Requirements

TEXTBOOK READINGS: Read the textbook and supplementary readings carefully. Take notes.

BLACKBOARD DISCUSSION: Discuss the readings and other course issues in the class discussion board. Each week, as soon as you have finished a reading, enter a comment or question in the Blackboard discussion board; return a couple days later to respond to the discussion. Try to build some knowledge about an idea in the reading. *Each student should enter at least three comments in Blackboard each week*. This is not optional; failure to do this is the major reason for students not getting an A in this course.

GROUP PROJECTS: Collaborate actively in your project group. Participate fully in all group projects. You are responsible for making your group a successful collaborative experience in which everyone participates, contributes and learns.

GROUP PRESENTATIONS: Most class time will be devoted to sharing of the accomplishments of the groups. Each group should make a coherent presentation of their work during the week on the group project. Each group member should take a lead in some of the presentations.

MIDTERM REFLECTION PAPER: Submit a paper of about 5 single-spaced pages containing your reflections on the course. Follow the detailed instructions in the Midterm template. This should be a reflection from your personal, individual perspective on how the course is going for you. It is an opportunity to provide feedback to the instructors and to get feedback from them. You should demonstrate what you have actually done in the course so far and what you have learned. For instance, use the concepts and principles from the reading to analyze your work on the group design projects and to reflect on the issues that your project is confronting.

FINAL REFLECTION PAPER: At the end of the term, submit a paper of about 10 single-spaced pages containing your reflections on the course. Follow the detailed instructions in the Final template. You should prepare notes for this throughout the term and begin to write well before the end of the term. However, do not simply repeat what you already said in your midterm reflection paper – show what you have learned since then. This should be a reflection from your personal, individual perspective on what you accomplished in this course and what you learned. Show what you have learned in the things you write about and how you analyze them. Document your work – e.g., cite extra papers you have read or ideas you have developed in the discussion forum.

Course Grading

The course work will involve online discussions and weekly group or individual projects. Grading will be based half on your individual participation in the course and in your group, and half on the grade of your project group for its portfolio of work on its project. Grading is *not* curved: it is possible for all groups and even all individuals to earn an A in this course. Most students who take an honest interest in the course and exert reasonable effort in *all* aspects of the course can receive an A. Failure to do your share in your group work or presentations, to do the reading, to contribute to online discussion or to write an adequate midterm or final paper will lower your grade. Because groups all report their work frequently, you can evaluate for yourself how your group is doing. The midterm and final will clearly reflect how well you have worked and learned individually. Assume that your grade will be an accurate measure of what your group and you have accomplished in this course.

50%	individual	
	10%	Careful study of course readings
	10%	Participation in online discussions
	10%	Participation in project group
	10%	Midterm exam
	10%	Final exam
50%	group	
	10%	Quality of group products
	10%	Quality of group collaboration
	10%	Use of techniques from the readings
	10%	Quality of presentations to class
	10%	Quality of group web portfolio

grades	
A	90-100%
B	80-89%
C	70-79%
D	50-69%
F	0-49%

Course Web Space

A special web space has been set up for this course:

http://iisweb.cis.drexel.edu/stahl/spring06/

This includes group spaces. You will work with your group to develop an online group portfolio during the quarter. To set up your group web space, go to

ftp://iisweb.cis.drexel.edu/stahl/spring06

and login with username = info310 and password = 310info.

You should set up a directory on your local hard-disk to mirror and backup what goes in the web space. Go to the subdirectory for your group. Then create your homepage as a file named index.html and save it in this new subdirectory. You can use Word to design your homepage, including formatting, diagrams and digital pictures, or you can use a tool like FrontPage or DreamWeaver. If you use Word, do a (single file) SaveAsWeb. This will save your page as an HTML (mhtml) page for the Web. Be sure that any pictures and linked files are included in your subdirectory. Then publish your homepage, etc. to your Web Space. To do this you can open your IE browser to the ftp address above and drag the files into the ftp site. Then re-open your browser with the http address above to see if it looks like you intended.

Blackboard: http://drexel.blackboard.com

VMT registration site: http://home.old.mathforum.org/concertChat/newUser.jsp

VMT-Chat Lobby: http://home.old.mathforum.org/concertChat/vmtClient.jsp

Obvious Stuff

Problems & Questions. There is a section of the Blackboard discussion area for raising questions about the course. This is the best place to raise questions because other students may have the same question and they can benefit from seeing the answer; also other students can respond with their views on the issue. If it is an urgent or personal problem, email the instructor or speak with the instructor during class break or after class. If you believe that your group assignment is not going to work out, discuss it with the instructor.

No Excuses. No one is interested in excuses. If you need to miss a class, send the instructor a brief email in advance. If you need to miss any group activity, such as a working meeting or a class presentation, notify the other members of your group as soon as possible and explain how you will contribute to the group. You are responsible for doing your share of the group work during the term; when you ask others to cover for you, let them know how you will make up for it. Everyone knows that things come up, sometimes unexpectedly, but that does not relieve you of your responsibilities.

Plagiarism. Obviously, plagiarism is not tolerated at Drexel and can result in failure. Plagiarism is passing off someone else's ideas, work or words as your own. Collaboration is encouraged, but always give credit to individuals or groups whose ideas, work or words you are reporting, quoting or summarizing.

Academic Honesty. Cheating, academic misconduct, plagiarism, and fabrication are serious breaches of academic integrity and will be dealt with according to University Policy (Section 10 of the Student Handbook.) Students are responsible for their own finished work. Penalties for first offenses range from 0 on an assignment to an F in the course. All offenses are reported to the University Office of Judicial Affairs.

Late Policy. All assignments are due online by midnight Monday night. Group presentations cannot be rescheduled. Grades for late written exams will be lowered substantially.

Classroom Etiquette. Please observe the following classroom etiquette to demonstrate respect for your classmates and the instructor:

- Arrive in class on time and plan to attend the entire class. Please let the instructor know before class begins if you have to arrive late or leave early.
- Sit in a place where you can see well. Let the instructor know if you are having trouble seeing or hearing.
- Turn off portable telephones and pagers before class begins.
- Do not hold private conversations during class time.
- Do not sleep in class, read newspapers, magazines or other unrelated materials.
- Do not do email or IM during class.
- Do not eat, drink or chew gum in class. Smoking is prohibited by university policy.
- Keep the classrooms clean. Take away everything that you brought into the room.

Special Needs Students. If you have any special need that must be accommodated, please let the instructor know the first week of class. You must be registered as a special needs student with the university and receive an Accommodation Verification Form prior to receiving the accommodation. Contact with the Office of Disability Services (215-895-2506/7) is strictly confidential. Please make contact as early as possible in order to receive timely accommodations.

Privacy Notice

In general, all work and communication in this course should be treated as *public*:

- Your work in this course may be studied by other students in the course.

- Any communication on the Internet may end up being seen by people for whom it was not originally intended.
- The web spaces for this course can be viewed by anyone in the world through the Web.
- The instructor and other Drexel faculty, students and staff may have access to anything in Blackboard or the web spaces.
- Future researchers may have access to these materials as data. Although they do not have permission to publish any data about you and although they should ensure anonymity and confidentiality of all personal data, you should assume that activities taking place in this course may be subject to viewing.
- Students in future courses may have access to your work, particularly the group portfolios.

Please let the instructor know if you have an objection to your work being made available to others.

Instructor's Background

Hi. My name is Gerry (pronounced like "Jerry").

I am always available by email at Gerry.Stahl@drexel.edu. Send me an email if you want to meet with me in person or to inquire about urgent or personal questions.

It is often better to ask questions about the texts, weekly assignments or other aspects of the course through the class discussion board or in class, so that everyone in the class can see and respond to your questions and their answers.

My professional research area is the field of CSCL (Computer-Supported Collaborative Learning). I think that collaborative learning is an exciting and especially effective way to learn. I believe that there is great potential to design good computer support for it. I have been experimenting with a number of CSCL prototypes and have written many papers on the theory, design and evaluation of interactive systems to support collaborative learning. We will be taking advantage of what I have learned from my research in this course, and I hope you will benefit from this.

I have just published a book on CSCL entitled *Group Cognition: Computer Support for Building Collaborative Knowledge* and have launched the *International Journal of Computer-Supported Collaborative Learning*.

My background is in computer science and philosophy. At Drexel I teach mainly HCI courses; before coming to Drexel I worked at a large research organization in Germany; before that I was a Research Professor at the University of Colorado in Boulder. The 2002 international CSCL conference was at Boulder and I was the Program Chair for it; I am in charge of workshops at CSCL 2003 in Norway, CSCL 2005 in Taiwan, ICCE 2006 in Beijing and CSCL 2007 in Newark.

Let me know if you have any questions about my background or check out my home page, where you can see more details and read my papers: http://www.ischool.drexel.edu/faculty/gerry.