

CMSI 698/598

INTRODUCTION TO HUMAN - COMPUTER INTERACTION (HCI)

<http://myweb.lmu.edu/dondi/summer2005-1/cmsi698>

Special Studies, Summer 2005 Session I — Doolan 219

TR 7:10–10:10pm, 3 semester hours

Office Hours: TR 4–6pm

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Course Objectives

To learn the basic principles of the art and science of human-computer interaction, and to gain introductory knowledge of interaction design and programming. The course divides time evenly between (1) learning how to design and evaluate interaction architectures and (2) learning how to use existing frameworks to implement such architectures. Students will be exposed to the first principles and metrics behind human-computer interaction, while gaining working knowledge of user interface frameworks such as Java's Swing.

Course Requirements

Mastery of an object-oriented programming language such as Java, C++, or Objective-C; expert knowledge of data structure and algorithm design; some familiarity with computer system architecture, and operating systems; ability to document, demonstrate, and explain one's own software; willingness to participate actively in class discussions.

Materials and Texts

- Ben Shneiderman and Catherine Plaisant, *Designing the User Interface: Strategies for Effective Human-Computer Interaction*, Fourth Edition, Addison Wesley, 2004.
- Jakob Nielsen, *Usability Engineering*, Morgan Kaufmann, 1994.
- Donald A. Norman, *The Design of Everyday Things*, Basic Books, 2002.
- Assorted handouts and sample code to be distributed throughout the summer session.

Alternatively, much of the content in the above materials is available in various forms on the Worldwide Web; starter links are available on the class Web site. Do not hesitate to search for and find additional sources of information regarding the techniques, tools, and paradigms that we will discuss.

Course Work and Grading

Your graded coursework will consist of accumulated homework (25%), 1 midterm (25%), 1 term paper (25%), and 1 final exam (25%). Ungraded coursework includes discussion of current topics and your own work in front of the class.

Letter grades are determined as follows: $\geq 90\%$ gets an A– or better; $\geq 80\%$ gets a B– or better; $\geq 70\%$ gets a C– or better. Fractions of a percent are handled with the usual rule: ≥ 0.5 rounds up to the next integral value. The instructor may curve your grade upward based on qualitative considerations such as degree of difficulty, effort, time constraints, and overall attitude throughout the course. Grades are never curved downward.

Homework

Homework consists of questions, exercises, and programming assignments, to be given throughout the session. Homework is where you can “learn from your mistakes” without grading penalty. If you submit your homework on time, you will get full credit, regardless of correctness. What goes around comes around — the effort you put into your homework pays off in the exams and the paper.

Homework is due at the beginning of the next class. Late homework, whether 10 minutes late or 10 days late, will receive half credit. Occasionally, “extra credit” homework may be assigned. Fulfilling this extra credit work is counted *on top of* the allocation of homework to your final grade.

Term Paper

You are asked to write a term paper on an HCI topic that is not directly covered in class. Acceptable topics include but are not limited to: a summary or survey of a specific HCI-related project or body of work; an analysis and evaluation of a particular system’s user interface; or an interaction design specification for an application that you have conceived or envisioned.

There isn’t a whole lot of time to do this, so don’t get too ambitious. There are no hard limits on paper length, but 5–10 pages of 1.5-spaced, 12-point text with 1-inch margins, not including the list of references cited, is typical. Your paper will be evaluated along the following criteria:

1. *Content* (40%): What is the quality of the work? Specific assessment of content will depend on the type of paper or topic chosen.
2. *Organization* (30%): Is the paper well-structured? Are concepts and the flow of ideas easy to follow? Are distinct sections or topics clearly identified?
3. *Writing* (20%): Are statements clear and easy to follow? Is the language precise, unambiguous, and grammatically correct?
4. *Polish* (10%): Is the content properly proofread? Are there many misspellings, typos, or other formatting faux pas?

I typically require the use of LaTeX to compel you to focus on the actual work and content of the project (as opposed to busy work such as formatting and reference management), but due to the shorter time allotted, this requirement is reduced to a “strong recommendation” for this particular course. If there are enough LaTeX newbies in the class who wish to use LaTeX for the paper, we can spend some time outside of class to get you started.

Prior to launching full-bore into the paper, you will first need to submit a prospectus that we will refine together until we agree on the scope and subject matter of the work. The prospectus is due at the beginning of our May 31 class, and will be finalized by June 7 at the latest.

The paper is due at the beginning of our last class, June 23. And yes, that is also when the final exam will take place — so plan accordingly.

Exams

The midterm is initially scheduled for June 2. The final exam is scheduled for June 23. All tests are open-*paper*-everything; no sharing. Electronic lookups may also be allowed depending on the scope or subject matter. You may neither solicit nor give help while an exam is in progress. Late and/or missed tests will be handled on a case-to-case basis; in all instances, talk to me about them.

Attendance

I am not a stickler for attendance, but I do like having a full class. Your submitted work will determine your final grade. Remember that the university add/drop with refund deadline is May 20. The deadline for withdrawal or credit/no-credit status is June 10.

University Policy on Academic Honesty

Loyola Marymount University expects high standards of honesty and integrity from all members of its community. Applied to the arena of academic performance, these standards preclude all acts of cheating on assignments or examinations, plagiarism, forgery of signatures or falsification of data, unauthorized access to University computer accounts or files, and removal, mutilation, or deliberate concealment of materials belonging to the University Library.

Course Topics and Schedule

This schedule may change based on the actual ebb and flow of the class; deadlines, exams, and university dates (italicized) are less likely to change than lecture topics.

May	HCI definitions and principles User interface fundamentals: components, event handling, and abstractions (model-view-controller, specialized renderers and editors)
<i>May 20</i>	<i>University add/drop with refund deadline</i>
<i>May 31</i>	<i>Paper prospectus due</i>
<i>June 2</i>	<i>Midterm</i>
<i>June 7</i>	<i>Paper topics finalized</i>
June	HCI processes and techniques Advanced user interface topics: threading, memory management; custom components, frameworks, and behaviors
<i>June 10</i>	<i>University withdraw/credit/no-credit deadline</i>
<i>June 23</i>	<i>Final; papers/projects due</i>

You can view the class calendar on the Web at <http://ical.mac.com/dondi/LMU>. If you have an iCalendar-savvy client (i.e. Mozilla Calendar, Ximian Evolution, KOrganizer, Apple iCal, etc.), you can subscribe to the class calendar at <webcal://ical.mac.com/dondi/LMU.ics>. On-the-fly updates and adjustments to the class schedule will be reflected in this calendar.