HUMAN FACTORS IN SYSTEM DESIGN
PSYCHOLOGY 734
SPRING 2009

Instructor:	Chris Monk	**Office Hours:**	Thursday 3:15-4:15pm; by appointment
Phone:	(703) 993-3408	**Class Time:**	Thursday 4:30-7:10pm
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Office:	2059 David King	**Website:**	http://archlab.gmu.edu/people/cmonk/734S09.html

Course Objectives

The goal of this seminar is to introduce students to the role and contributions of human factors to the design process. More than simply user interface or interaction design, the design of multi-component systems of which the user is one component will also be covered. The assignments are intended to give students experience in "thinking" like a human factors professional. Accordingly, some of the challenges of being a human factors specialist will also be incorporated. Though not a methods course, students will gain plenty of hands-on experience that they will hopefully find valuable once in professional environments. Issues related to professional human factors career will also be covered.

Textbooks (required)

Casey, S. (2006). T*he Atomic Chef: and Other True Tales of Design, Technology, and Human Error*. Santa Barbara, CA: Aegean. [Required]

Lidwell, W., Holden, K., and Butler, J. (2003). *Universal Principles of Design: 100 Ways to Enhance Usability, Influence Perception, Increase Appeal, Make Better Design Decisions, and Teach Through Design*. Gloucester, MA: Rockport Publishers, Inc. [Optional]

Norman, D. (2002). *The Design of Everyday Things*. New York, NY: Basic Books. [Required]

Course Requirements and Grading

Weekly Assignments: There will be regular assignments to investigate system design and evaluation issues in the daily lives of students. Each student will make an informal presentation in class, and the entire class will discuss notable examples. Students will work individually and in groups, depending on the assignment. These assignments will contribute 40% towards the student's course grade.

Individual Project: Each student will complete an individual design project, which will contribute 40% towards the student's course grade. This project will include both a written report and oral presentation to the class. Details regarding the project will be provided in class.

Participation: Class participation is essential, as we will be discussing a variety of system design and evaluation processes, approaches, and components. Each student or teams of students will be expected to contribute to the discussions, as well as provide examples of successful and unsuccessful systems along with an explanation. Participation will contribute 20% towards the student's course grade.

Honor Code

George Mason University has an Honor Code that each student accepts as a condition of enrollment. This code is consistent with APA's ethical principles for working professionals, and it is important that each student adhere to the Honor Code. For this course, group collaboration (such as the group project) is

expected, but each student will produce his or her own papers and homework assignments. If you have any questions about what is permitted and what is not, please see your instructor.

Attendance

This seminar will largely be discussion-based, and therefore attendance is essential. Lack of attendance will affect a student's Class Participation grade (and likely the homework assignments as well).

Special Accommodations

If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 703-993-2474. All academic accommodations must be arranged through that office.

Course Outline

Any schedule changes or changes in assignments will be announced in class in advance. After an absence, students are responsible for contacting the instructor to obtain accurate information.

A range of topics related to Human Factors in system design and evaluation will be covered, including the systems approach, fundamental design principles, evaluation methods, usability, professional issues, design vs. research, errors, and safety. A more detailed schedule will be available in class.

Important Dates

First Day of Class	Jan. 22
Last Day to Add	Feb. 3
Last Day to Drop	Feb. 20
Spring Break	Mar. 9 – 15
Last class	April 30
Final Period*	May 7 – 4:30 – 7:15pm

* Class will be only be held on May 7 (final exam date) if needed

Schedule of Lectures for PSYC 734 *(subject to change as needed)*

Date	Class	Topic
22-Jan	1	Introduction to course and System Design and design process overview
29-Jan	2	Task Analysis review, some new methods for design
5-Feb	3	Early Design Stages: information gathering, design requirements, user characteristics
12-Feb	4	Design Principles: from Norman, Ecological Interface Design (EID), error prevention, environment, etc.
19-Feb	5	Design Methods: function allocation, conceptual design, personas
26-Feb	6	Design Tools: design software, rapid prototyping, design documents, design guidelines
5-Mar	7	Design Wrap-up and Project Briefings
12-Mar		**SPRING BREAK**
19-Mar	8	Evaluation Methods: inspections, heuristics, and walkthroughs
26-Mar	9	Usability Part 1
2-Apr	10	Usability Part 2 and evaluation at the system level
9-Apr	11	Communicating evaluation results to design recommendations; cost-benefit analysis; effecting change
16-Apr	12	Project Presentations 1
23-Apr	13	Project Presentations 2
30-Apr	14	Professional Issues and Wrap-Up: Communication, Research vs. Evaluation, Careers, Professional Identity
7-May*	15	Make-up Date/Presentations/Wrap-up

* Last class if needed.