

Rice University
Department of Psychology

PSYC 480/640: Medical Human Factors Spring 2009
T-Th 2:30-4 SH 462

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Office Hours Tuesday 1:30-2:30 or by appointment

Required Texts:

None – Assigned readings (shown on the attached sheets) will be posted on Owlspace.

Class	Week	Topic	Exercise
1	1/6	Introductions, Class logistics, and motivations for the course	
2	1/8	Errors in Medicine: Classification and taxonomy	
3	1/13	Diagnostic errors	
4	1/15	Errors in Medicine: Case studies	
5	1/20	Human Capabilities: Visual perception and medicine. Sleep deprivation	
6	1/22	Device Design: Usable device interfaces	Drip dosing interface design
7	1/27	Device Design: Infusion pumps	
8	1/29	Device Design: Surgical robotics	International dosage guide design
9	2/3	Device Design: International design for extreme environments <i>Guest Lecture: Allison Lipper</i>	
10	2/5	Device Design: Case Study <i>Guest Lecture Yared Akalou, Cardinal Health</i>	
11	2/10	Home Medicine: medical devices <i>Guest lecture on Blue Box – Dr. Cliff Dasco, M.D.</i>	
12	2/12	Home Medicine: Ethnography in medicine <i>Guest Lecture: Dr. Jerome Crowder, University of Houston</i>	
13	2/17	Home Medicine: consumer health information acquisition	Information accuracy
14	2/19	Home Medicine: Walk up and use devices Exam 1 issued	Defibrillator design
15	2/24	Electronic health records <i>Presentation topics due</i>	Lecture at Duncan 1070

16	2/26	Informatics <i>Guest lecture: Dr. Todd Johnson, UTHSC</i> Exam 1 Due	
17	3/3	No class - Spring Break	
18	3/5	No class - Spring Break	
19	3/10	Simulators	Surgical sim enhancements
20	3/12	Simulators: Field trip	
21	3/17	Medication: Drug delivery systems	
22	3/19	Medication: Prescriptions	Prescription bottle design
23	3/24	Tele-medicine	
24	3/26	Human Factors in Surgery	
25	3/31	Macro-ergonomics	
26	4/2	No class – Midterm Recess	
27	4/7	Emergency room medicine	
28	4/9	Special topics: transportation and military medicine Exam 2 issued	
29	4/14	Presentations	
30	4/16	Presentations Exam 2 due	

Examinations: There will be 2 examinations, but no Final Exam. The 2 take home exams will be closed book/closed note and may cover any of the material assigned up to that point. This includes material from any of the assigned readings, my lecture notes, Lab tours, Lab exercises and presentations that other students have given.

Presentations: Each student will be required to give one 15 minute presentation during the course of the semester on a specific medical interface that interests them. You will select a medical device or system and describe the device or system and detail its human factors deficiencies or its superior design features. Your device will be likely drawn from the medical literature or the popular press (backed up by academic papers of course). You will also be required to make design suggestions that could have prevented the documented adverse consequences, or detail the design considerations that went into the device to eliminate these kinds of deficiencies. No report is required for this presentation, but you must supply me with a copy of the presentation material after the talk. Presentation topics are due on 2/24.

Class Exercises: Over the course of the semester I will assign a number of exercises. Some of these will be design exercises, and others will be more analytic in nature. Most of these will be started in class, but will then require some out of class work. We will share and discuss these exercises in class and talk about the different solutions obtained.

Participation: A good deal of this class will entail open discussions of human factors issues of medical human factors, as well as discussions of student presentations and lab exercises. Active, thoughtful participation is expected from every student

Evaluation:

Exam 1	25%
Exam 2	25%
In class exercises:	30% (5% each)
Presentation	15%
Participation	5%

Disabilities:

If you have a documented disability that requires accommodation, please let me know so we can confidentially discuss your needs. You will also need to register with the Disability Support Services Office in the Ley Student Center.

Honor System Policy:

As with all endeavors at Rice, you are expected to adhere to the Honor Code and follow the guidelines given in the Blue Book. Exams are given under the honor system. Students are encouraged to seek input from other students on their presentation selection and homework, but each student is expected to perform the actual work themselves. Students are encouraged to bring any concerns involving academic integrity to the attention of the instructor.

Version 2: 1/26/09