

Rice University
Department of Psychology

PSYC 409/640: Methods in HCI
MWF 10-10:50 SH305

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Office Hours Wednesday 9-10, or by appointment

Required Texts:

Nemeth, C.P. (2004). *Human Factors Methods for Design: Making Systems Human-Centered*.
NY: CRC Press

Date	Lecture	Topic	Readings
1/8	1	Introductions, Class logistics and the 8 Basic Principles of Design	Notes
1/10	2	The Development Process	HFMTD Chapter 1
1/12	3	Systems and development	HFMTD Chapter 1
1/15		No class – MLK Day	
1/17	4	What influences development?	HFMTD Chapter 4
1/19	5	A peek ahead: thinking about development	In class exercise
1/22	6	A refresher: Human capabilities: Perceptual	HFMTD Chapter 2
1/24	7	A Refresher: Human Capabilities: Physical	HFMTD Chapter 2
1/26	8	A Refresher: Human Capabilities: Cognitive	HFMTD Chapter 2
1/29	9	Human factors in research and development	HFMTD Chapter 5
1/31	10	Choosing a method	HFMTD Chapter 5
2/2	11	Analysis Methods	HFMTD Chapter 6
2/5	12	Analysis Methods	HFMTD Chapter 6
2/7		Exam 1	Lectures 1-10
2/9	13	Analysis Methods	HFMTD Chapter 6
2/12	14	Design Guidance Methods: General	HFMTD Chapter 7
2/14	15	Design Guidance Methods: General	HFMTD Chapter 7

2/16	16	Design Guidance Methods: Link analysis	HFMFD Chapter 7
2/19	17	Design Guidance Methods: Task Analysis	HFMFD Chapter 7
2/21	18	Design Guidance Methods: Cognitive task analysis	HFMFD Chapter 7
2/23	19	Design Guidance Methods: Cognitive Task analysis	HFMFD Chapter 7
2/26	20	Evaluation methods: General	HFMFD Chapter 8
2/28	21	Evaluation methods: prototypes	HFMFD Chapter 8
3/2	22	Evaluation methods: workload assessment	HFMFD Chapter 8
3/5		No class - Spring recess	
3/7		No class - Spring recess	
3/9		No class - Spring recess	
3/12	23	Surveys: Constructed questionnaires	HFMFD Chapter 9
3/14	23	Surveys: Pre-built questionnaires	HFMFD Chapter 9
3/16		Exam 2	Lectures 11-22
3/19	24	Surveys: self administered	HFMFD Chapter 9
3/21	25	Surveys: interviews	HFMFD Chapter 9
3/23	26	Remote data collection: logs and telemetry	HFMFD Chapter 9
3/26	27	Usability Assessment	HFMFD Chapter 10
3/28	28	Usability Assessment	HFMFD Chapter 10
3/30	29	Usability Assessment	HFMFD Chapter 10
4/2	30	Cost justifying Usability	HFMFD Chapter 12 Bias and Mayhew
4/4	31	Cost justifying Usability	HFMFD Chapter 12 Bias and Mayhew
4/6		No class - Mid-term recess	
4/9	32	Cost justifying Usability	HFMFD Chapter 12 Bias and Mayhew
4/11	33	Reporting your results: ANSI/NCITS 354	HFMFD Chapter 14

4/13	34	Getting your results implemented	HFMFD Chapter 13
4/16		Exam 3	Lectures 23-34
4/18		Project Presentations	
4/20		Project Presentations	
4/23		Project Presentations	
4/25		Project Presentations <u>Team Papers Due</u>	

Examinations: There will be 3 examinations. The 3 in class exams will be closed book/closed note and may cover any of the material assigned up to that point. This includes material from *Human Factors Methods for Design*, my lecture notes, supplemental reading material and presentations that other students have given.

Presentations: 640 ONLY Each student enrolled in 640 will be required to give 1 brief presentation during the course of a case study of the application of one of the methods we discuss. These will be short presentations, about 15 minutes long, in which the student is expected to describe the implementation of the method, the difficulties they were encountered, any modifications made to the method and the results of the analysis. See me in the first few weeks of the semester to select a topic. Presentation dates will follow shortly thereafter.

Project: Each student will be part of a project team (4 students/team) that will evaluate/develop a human-machine system. I will give you a list to choose from in a few weeks. If you have a system that you think would make a good project, come see me early and we can discuss its appropriateness. As part of the project each team will need to:

- 1) Perform a literature review on the system and problem.
- 2) Perform one or more empirical evaluations of the system.
- 3) Based on the application of the methods, Develop an optimal potential design. The proposed design should be detailed with mock-ups, sketches, prototypes, drawings etc and backed up by data from your methods section
- 4) Prepare a team report on the findings (~20 pages)
- 5) Present the project to the class in a 15-20 minute presentation at the end of the semester.

640 projects will have a slightly expanded scope from the undergraduate projects. We will discuss projects in detail in week 3.

Participation: A good deal of this class will entail open discussions of human factors methods, as well as in class exercises that demonstrate the application of the methods. Active, thoughtful participation is expected from every student. Since most of the activities will take place in class, it is strongly suggested that you attend!.

Evaluation:

Exams 1,2,3:	20% each
Project:	25%
Presentations/participation:	15%

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 work collaboratively on the projects, but each student is expected to contribute an equal share to the final project. In class exercises are collaborative, and students are expected to work with the rest of the class, unless otherwise noted. Students are encouraged to bring any concerns involving academic integrity to the attention of the instructor.