

SYLLABUS for PSY 540 – Human Factors Psychology

517 Poe Hall

10:15 – 11:30 Tu/Tr

INSTRUCTOR Anne McLaughlin
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All grades, announcements, and handouts will be posted on Vista

OFFICE Poe 725
OFFICE HOURS Tues/Thurs 2:45-3:45pm or by appointment
Readings Available on Vista

OVERVIEW

This course is an overview of Human Factors psychology. We will cover a large number of tools, topics, and exercises. We will also have discussions with HF industry experts to understand how they use these tools in their work and to expose you to the types of careers available to HF professionals. We will then focus on specific domains within Human Factors such as information technology, healthcare, aging, and transportation, particularly the methods used in the study of these areas.

Readings are assigned for each lecture and should be read before coming to class. The purpose of the readings is to expose you to background literature and the most current information that is critical for human factors psychologists in-training. Remember that these readings and a lively discussion of them are the core of why you are in graduate school.

Late assignments will not be graded; no exceptions. Please turn them in at the designated time **IN CLASS**.

EVALUATION

- 1) Brief discussion paper with questions for each class (20%). For each class you will prepare a 1-page discussion of the readings for that class (not a summary). You should extract the important issues of the readings, critically analyze the readings, and, more importantly, pose discussion questions for class. The questions can be points of confusion, issues for further consideration, follow up research ideas, and so on. You will be expected to raise some of your discussion points during class (see Class participation). This will be due at the end of each class. An example is available on Vista.
- 2) The major class assignment is the **group project** (30%) that involves the evaluation, redesign, and testing of an existing system. More details and a handout will be given in an upcoming class. Additionally, throughout the class, there will be in-class activities that you are expected to complete during the class period with your group. If you are absent, you will not get credit for the activity, and no make-ups will be given.
- 3) Class participation (20%). You will be expected to participate in the class discussions by sharing your discussion questions and by participating in the general discussion topic of the week. This is an essential part of class. Please treat your classmates in a respectful manner by paying attention to the other students during discussion.
- 4) Leading class discussions (30%). At the first class, you will pick papers from the syllabus (or one of your own choosing with consultation with me) and lead class discussion on those papers. You should present a formal presentation summarizing the paper, posing discussion points, and leading the class in a criticism of the paper. If you are unsure how or what to present, please consult with me well ahead of time.

ANTICIPATED COURSE SCHEDULE AND READINGS
(subject to change; updates will be distributed in class or web)

| Date | | Book chapter/Topic | Reading/Assignment |
|-----------|----|---|--|
| August | 20 | Introductions/Intro to human factors | Norman chapters, SFoS chapter, Groups formed |
| | 25 | Dr. Julian Sanchez – Mitre Corporation | Readings on Vista |
| | 27 | Dr. Tim Nichols – Microsoft Game Studios | Readings, links on Vista |
| | | Tools | |
| | | Methods User characteristics Task Analysis Decision-Action Diagrams Questionnaires Structured Interviews IN CLASS EXERCISES | Stronge, et al., 2005 Links on these topics in the Group Project section on Vista |
| September | 1 | | |
| | 3 | Methods Contextual Inquiry Needs Analysis Functional Flow diagrams Heuristic Evaluation Cognitive Walkthroughs Think-Alouds Workload Analysis | Byrne, 2003; HCI Handbook chapters Links on these topics in the Group Project section on Vista Group project system chosen |
| | 8 | Travis Bowles, M.S. – Oracle Corporation | Readings on Vista |
| | | Fundamental Concepts | |
| | 10 | Attention | Norman & Bobrow, 1975; Wickens, 2002 |
| | 15 | Attention/Training | Kramer, Larish, Strayer, 1995 |
| | 17 | Individual Differences | Carroll, 1993 |
| | 22 | Individual Differences *Part 1 due* | Underwood, 1974; Rogers, 1997 |
| | 24 | Group Project Discussion - Tools | |
| | 28 | Decision Making/Decision Support Systems | Metzger & Parasuraman, 2005 ; Rankin, 2007 |
| October | 1 | Cognition & Memory Architectures | Pirolli, 1999 |
| | | Human Factors Contexts | |
| | 6 | Human Factors & Theory | Koltko-Rivera & Hancock, 2005 |
| | 8 | FALL BREAK – NO CLASS | |
| | 13 | HCI | Olson & Olson, 2003 |
| | 15 | HCI | Hancock, 2006 |
| | 20 | Warnings | Wogalter, 2006 |
| | 22 | HF Research at NCSU | TBD |
| | 27 | Dr. Aideen Stronge – Google | Readings, links on Vista |
| | 29 | Transportation *Part 2 due* | Strayer, Drews, & Crouch, 2006 |
| November | 3 | Transportation | Baldwin, 2002 |

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| | 5 | Group Project Discussion – Data Collection | |
| | 10 | Neuroergonomics | Parasuraman & Wilson, 2008; Fafrowicz & Marek, 2007 |
| | 12 | Aviation | Sarter & Woods, 1994 |
| | 17 | Aviation | Ackerman, 1988 |
| | 19 | | |
| | 24 | *Part 3 due* | |
| | 26 | THANKSGIVING – NO CLASS | |
| | 1 | Wrap-up | Proctor & Vu, 2009 |
| | 3 | Presentations Group 1 | Group 1 |
| December | 10 | Presentations Group 2, 3 | 8am – 11am |
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ACADEMIC INTEGRITY POLICY

A copy of the NCSU Code of Conduct is available both on the Vista site for this course and at http://www.ncsu.edu/policies/student_services/student_discipline/POL11.35.1.php

You are expected to abide by this code in all aspects of this course.