

Department: Psychology

Course number: 3601 W

Course title: Human Factors Design

Credits: 3

Contact Person: Robert Henning

Q/W: W

Catalog Copy: PSYC 278W. Human Factors Design Either semester. Three credits. Prerequisite: PSYC 132. Application of information about human abilities and limitations to the design of systems, products, tools, computer interfaces, tasks, jobs, and environments for safe, comfortable and effective human use.

Course Information:

a. The overall goal of this course is to help students learn how to apply human factors/ergonomics (HF/E) principles to the design, analysis, and development of systems for safe, comfortable and efficient use.

b. Writing assignments. The writing assignments are designed to involve students in the course, generate class discussion, and to help them prepare for exams. These assignments cover reading and lecture topics but also require additional thought and creative problem solving. Typed (12-pt font, single-spaced) assignments are submitted in class on the assigned due date. Assignments submitted more than one class period late will, in general, not be accepted. Late assignments will be downgraded.

Exams. There are two mid-term exams and a final exam. Exams include both a multiple-choice (typically 50% of the exam) and short-answer (typically 50% of the exam) questions. Exams are

cumulative since basic principles and material covered early in the course are expanded on and applied later in the course.

Group Project. A group project will provide an opportunity to apply HF/E analysis and design principles to a real system. This joint effort with your fellow classmates will permit application of HF/E to a real-world human factors design challenge/problem. You will work on specified tasks both independently and also collaboratively in small design teams. A typed project report will be written independently by each student.

c. HF/E principles, including a complementary behavioral model called behavioral cybernetics, are introduced early in the course to promote an understanding of how human performance depends on the design of the system humans are part of. A number of established human factors methods are presented for the design and development of new systems, or for the evaluation and redesign of existing systems.

W Criteria:

1. Opportunities for revision to improve a grade will be structured into the two main writing assignments in the course. The first 7-page writing assignment will focus on the application of cybernetic theory to sociotechnical systems in order to promote self regulation. This will be a thought-provoking exercise, and will allow the instructor to guide the student in theory application. The second 8-page writing assignment will elaborate on those aspects of the group project the student was personally involved in. This will serve as a capstone experience in the course and help clarify how human factors design can be a team effort. A final course grade is calculated in the following way: 20% first writing assignment + 20% mid-term exam + 15% group project presentation + 20% group project writing assignment + 25% final exam. A student must pass the writing component in order to pass the course.

2. The primary modes of writing instruction in the course will be written commentary as feedback on writing assignments, and formal instruction to the class.

3 Opportunities for revision will be structured into the two main writing assignments.

4. The syllabus will inform students that they must pass the "W" component of the course in order to pass the course.

Role of Grad Students: Graduate students may assist with laboratory demonstrations.