**PSYC 340-002:** Human Factors Psychology

**Meeting Time:** 12:00pm-1:15pm Tuesdays and Thursdays

**Meeting Location:** Krug Hall 7

**Instructor:** Shane Kelly

**Phone:** 724-516-9299

**E-mail:** skelly18@masonlive.gmu.edu (preferred)

**Office Hours:** 10:30am-11:45am Thursdays *(and by appointment)*

**Office Location:** 1014 David King Hall

**Course Description and Objectives:** Human Factors is a specialization of psychology that studies how humans interact with systems and technology, and how those interactions may be made better (e.g., safe, efficient, easy to learn, intuitive, enjoyable, etc.). Human Factors psychologists conduct research and work at companies that produce technology, but they also work for media companies, medical device manufacturers, the transportation sector (automotive and rail), government organizations, etc. This course is designed to introduce you to some of these areas of Human Factors Psychology by presenting information on three ‘core’ course topics: (1) the history and development of Human Factors as a discipline, (2) the cognitive ‘attributes’ of humans, and (3) an introduction to product design evaluation.

**Course Structure and Reading Assignments:** Before you decide to continue in this course, there are two aspects about the course you shouldconsider. First, Human Factors is highly interdisciplinary in nature, and because of this, we willbe reading from a variety of original sources (and not a textbook). This means that assignedreadings will include experimental articles on psychology, book chapters, industry guides, andother original source material. Reading original material (which is typically free) keep costsdown for students, and allows me to select reading assignments that are as interesting,relevant, and on the cutting-edge of science as possible but they can also be more challengingto read than a traditional textbook. If you don’t like reading, my advice is that you consider

dropping this course. Second, this course will require your active participation. I will expect the class to discuss issues, and I frequently call on students in class. There will be activities completed both inside and outside of class. These activities provide experience learning about, and in some cases applying, human factors principles and research methodology to evaluate contemporary products and systems. Because of the active nature of the course, some students find that it feels different than some of their past courses. While the course isn’t necessarily more difficult than other courses, it may require more of your time outside of class.

**Exams:** Examinations measure students’ mastery of the material covered in the readings

and class lectures using a format of my choosing. Exams may include multiple-choice

questions, calculations, drawing, matching, fill-in-the-blank, short or long essay questions,

hangman, crosswords puzzles, and so on. There will be three regular exams, and a fourth,

comprehensive ‘final exam’ (see final exam information below). All exams are worth 40 points, and the lowest exam will be dropped, for a total of 120 exam points

**NOTE:** The grade for an unexcused missed exam will be a 0. Makeup exams will be given only when a student gains prior approval to take a makeup exam, or when he or she provides university-approved documentation clearly indicating that circumstances beyond the student’s control (e.g., a serious illness, serious automotive accident with documentation, death in the family, or other GMU-approved absence).

**Final Examination:** The final examination will be given at a time scheduled by the university. It will be formatted likethe other exams, but is cumulative (i.e., will cover material from the entire semester). The finalexam is worth 40 points, but the final exam grade can also be dropped if it becomes a student’slowest exam grade.

**Human Factors Project:** In addition to reading and thinking about the concepts covered in the text, an important part of the learning process includes applying these concepts. Thus, you will propose and complete one group human-factors project outside the class and make a formal presentation at the end of the course. The proposal is worth 20 points, the project is worth 40 points and the presentation is worth 20 points, for a total of 80 project points during the semester.

**Bonus Points or Extra Credit:** No extra credit will be given in this course unless otherwise announced. Students who are performing poorly in the class are encouraged to see me during office hours to discuss how they may improve their performance on exams, quizzes, or projects, but no bonus points or extra credit points are available.

**Computing Your Final Grade:** Your letter grade can be calculated by dividing the number of points you earn by the totalnumber of points possible. When afraction of a point is the difference between letter grades, I round up.Please do not approach me about bending the class rules to make personal exceptions aboutyour grade: I take fair and equitable treatment of all students very seriously, and every studentwill be subject to the same grading standards. The chart below should be useful for determiningyour course standings near the end of the semester:

|  |  |  |
| --- | --- | --- |
| Point Source | Maximum Score | Letter Grade |
| Exam 1 | 40 points | A+ 100-97% |
| Exam 2 | 40 points | A 96-93% |
| Exam 3 | 40 points | A- 92-90% |
| Project/Presentation | 80 points | B+ 89-87% |
| \*Note: one exam (or final exam) will be dropped, leaving 3 total | Total: 200 points | B 86-83% |
| B- 82-80% |
| C+ 79-77% |
| C 76-73% |
| C- 72-70% |
| D+ 69-67% |
| D 66-60% |
|  |  | F <59% |

**Reading Material:** weekly readings from outside sources will be assigned and posted to Blackboard.

**Learning Accommodations:** It is my policy, as well as the university’s, to accommodate all students with disabilities that might affect their learning, course participation, or assignment completion. If you are a student with a disability and you need academic accommodations, please feel free to speak with me about making appropriate accommodations and please contact the Disability Resource Center (DRC) at 703- 993-2474, or online at http://ods.gmu.edu/ - accommodations will be arranged through that office.

**Stress and Academics:** Let’s face it, being a student can be stressful, and life events can create anxiety or depression that can hurt anybody’s academic performance. GMU is committed to helping students maintain their emotional well-being through the GMU Counseling and Psychological Services (CAPS) office, located online at: http://caps.gmu.edu/ and by telephone at: 703-993-2380. CAPS services are free to Mason students, and include one-on-one stress and anxiety counseling, and Academic Skills Workshops that can teach students how to ‘study smarter’ and make the most of your higher education.

**Improving Academic Writing:** Strong writing is a skill that is learned through guided instruction and practice. Strong writing skills are likely to be a benefit for students pursuing academic or industry careers in most domains. Students who seek to improve their academic writing are encouraged to do so by visiting the GMU Writing Center. Information can be found online at: http://writingcenter.gmu.edu/

**Attendance:** is required in this class without exception. I will routinely take attendance using formal roll calls, attendance quizzes, or simply by noticing that you are not in class. If you miss 3 classes, you will incur a reduction in your overall course grade of half a letter (A would be reduced to A-); if you miss 5 or more classes, you will incur a reduction of 1 letter grade (A would be reduced to B). If you know in advance that you will miss a class, you must make arrangements with me in advance or provide university-approved documentation of an unexcused absence to make up a quiz or exam. Please arrive on time for class. Being late disrupts other students who are on time, but more importantly, being late may cause you to miss quizzes or be counted absent. Students who miss quizzes or other materials because of lateness will not be given the opportunity to make up the work and will be treated as absent.

Please do not arrive late to class. Being late disrupts other students who are on time, but more importantly, being late may cause you to be counted absent (see attendance policy above).

**Technology expectations:** All students are expected to maintain and regularly access their Mason e-mail accounts. If you are having your Mason mail forwarded to another account, please ensure that your Mason account doesn’t exceed the assigned limit, causing mail to bounce back to the sender.

**GMU 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 required that each student adhere to the Honor Code. For this course, group studying is expected and encouraged, but all students are required to produce original work on all assignments unless otherwise noted. Plagiarism, academic dishonesty, and other failures to follow the GMU honor code will result in disciplinary actions that include receiving a failing grade for this course, along with referral to the GMU Honor Committee for further review and documentation of the offense. A lack of knowledge about what constitutes a violation of the honor code is not a defense against possible violations; it is your responsibility to review and adhere to this code. If you have ANY questions about plagiarism or the honor code, I encourage students to review the code for themselves at: <http://academicintegrity.gmu.edu/honorcode/>

**Important dates:** Last day to add a class – September 4

Last day to drop a class (33% Tuition Penalty) – September 13

Final Drop Deadline (67% Tuition Penalty) — September 24

Selective withdrawal period – October 1-28

**Enrollment:** Every student is responsible for verifying correct enrollment. Graded work will not be returned to students who are not officially enrolled.

**Class cancellations:** I will send out an email as soon as I know that class is cancelled/any schedule changes. Check e-mails and Blackboard for announcements about closures or class cancellations. To make-up cancelled classes, we may reschedule class for another date and time, or there may be an assignment on Blackboard to complete during the regular class hours.

**Schedule:** Tues/Thurs

Week 1 Overview of Course/HF Accidents and Investigation

Week 2 History of HF

Week 3 History of HF/Research Methods

Week 4 Research Methods/Group Project Ideas/Review for Exam 1

Week 5 Exam 1/Exam Return and Review

Week 6 Cognitive Attributes

Week 7Heuristic Evaluations/Keystroke Modeling and Prototyping

Week 8 Group Project Discussion/Usability Testing

Week 9 Review for Exam 2/Exam 2

Week 10 HF in Transportation/Aerospace Systems

Week 11 HF in Healthcare/HCI

Week 12 HF in Automated Systems/Review for Exam 3

Week 13 Exam 3/NO CLASS: THANKSGIVING BREAK

Week 14 HF Career Opportunities/Project Presentations

Week 15 Project Presentations

Week 16 **Final Exam** TBD

This syllabus is subject to change, if things do change I will post an updated syllabus to blackboard.