Course Description: Human-Computer Interaction (SYST 469-003)
Robinson Hall B208
Wednesday, 7:20 PM – 10:00 PM

Instructor: Jack Laveson, Ph.D., CPE, CHFP
Phone: 703-577-7398 (cell); E-Mail Address: jlaveson@gmu.edu
Virtual Office Hours: Available for real-time chat by appointment through e-mail

Teaching Assistant: t.b.a.

Text: J. Preece, Y. Rogers, & H. Sharp. *Interaction Design: Beyond Human-Computer Interaction* (4th edition). Wiley & Sons, 2015. Students can access a compatible online version of this book (3rd edition) through the GMU Library at no cost – http://magik.gmu.edu/cgi-bin/Pwebrecon.cgi?BBID=2941995. The online version cannot be downloaded to e-readers. I will identify the minor differences between the versions.

Prerequisites: STAT 250, and IT 106 (replaced IT 206 in January 2016) are prerequisites requiring a minimum grade of C; the prerequisites are enforced by the registration system. *Students will be using hypothesis testing as well as the t-test and chi-square test learned in STAT 250*. (Note: Students who receive credit for SYST 470 may not receive credit for this course.)

Course Goal: The goal of the course is to provide you with capability to evaluate usability testing groups once you are in industry so that you can select a competent firm, thereby earning the respect of your superiors and peers. As an enabling objective, you will evaluate interface design in terms of usability (effectiveness, efficiency, and satisfaction) for your student project to become familiar with the process of usability testing. Other enabling objectives are learning the concepts and principles of human-computer interaction (HCI), the user interface design process (requirements, alternative designs, prototyping, prototype evaluation), cognitive models, design metaphors, and the how to recognize good and bad interaction designs.

Student Evaluation Criteria for Course Grade (Grading Rubric): All grades are posted on Blackboard using the following weighting and grading scale:

Mid-term Exam	30%
Class Project	30%
Final Exam	30% (only on material after the mid-term)
Lecture Homeworks	5%
Statistics Homework	5%

Grading scale: A+ = 98-100; A = 93-97; A- = 90-92; B+ = 87-89; B = 83-86; B- = 80-82; C+ = 77-79; C = 73-76; C- = 70-72; D = 60-69; F = below 60. (Your numeric final grade will be rounded to the nearest whole number before conversion to a letter grade, e.g., 83.50 becomes 84, while 83.49 becomes 83.)

Exams: The exams will cover material from the study guide (at the end of each PowerPoint lecture), the student project process, and class discussions. Exams are closed book

and closed notes with short answer questions covering both recall and applications of the material taught. You will take exams using the Respondus Lockdown Browser, giving you the flexibility to take the exams wherever you have a suitable location and an Internet connection. It is your responsibility to become familiar with the Respondus system, and have operating software and hardware (PC or MAC *with a camera*) to take the exams. I will not accept excuses for your inability to take the exam when scheduled such as my laptop battery is low, or my computer just broke.

Class Project:

- Students will work in groups (of their choosing) to complete a class project. The project is an evaluation of two existing interactive products based on data obtained from participants (also known as subjects, or users) during a field study that your group will conduct. (A field study is performed where the product is used.) The project will be guided by usability goals, and knowledge learned from class to determine if there are differences in the usability of the products. You must discuss your project topic and methodology with me to make sure that it is acceptable.
- Each group will make a 5-10 minute PowerPoint presentation of your project during the last two weeks of class. The date and time of your presentation will be randomly determined. *An electronic copy of your group presentation is due by 7:20 pm on the first presentation date (November 30) regardless of when you make your oral presentation. You will use this electronic copy for your presentation.*
- All students in a group are expected to equally contribute to the project; if identified, non-participants will receive a lower grade.
- Students must individually complete the National Institutes of Health (NIH) course "Protecting Human Research Participants" ***before*** you collect data or you will receive a zero for the project. *The deadline for submission of an electronic copy of your certificate (showing that you completed the course) to Blackboard is October 12.* The course is free and on-line at https://phrp.nihtraining.com/users/login.php. If you have already taken this course, you do not need to take it again; just submit your certificate to Blackboard by October 12.

Homework: Lecture homework is based on reading assignments and class discussions, and is graded by being submitted on time. The statistics homework is based on statistical tests covered in STAT 250, and is graded by *both* the number of correct answers, and being submitted on time. Homework must be received by Blackboard on the due date by 7:20 pm (class start time). Late homework is not accepted as homework answers are discussed in class.

Attendance: I will take attendance at the start and end of every class. Conscientious attendance, either by being present at all classes, *or by having an excused absence for classes missed*, will add three points to your final grade. These additional points may raise your final grade (e.g., a C+ may become a B-; a B- may become a B). Excused absences are granted when you need to miss a class, arrive late, or leave early due to the complexities of student life, your job, or personal/family contingencies. (Note that I am the final arbiter of what is a reasonable explanation as well as the number of excused absences.) You must submit excused absence, late arrival, and early departure requests within a week of the absence/late arrival/early departure to receive credit by sending an e-mail to jlaveson@gmu.edu. Lastly, leaving early without

submitting an excused absence will be marked as not attending for you are expected to stay for the entire class (per university requirements).

Honor Code: GMU is an Honor Code university; please see the University Catalog for a full description of the code. Graduating students are bound by the ethical requirements of the professional communities they join. The ethics requirements for some of the communities relevant to Applied IT and engineering graduates are:

- ACM Code of Ethics and Professional Conduct
- IEEE Code of Ethics
- EC-Council Code of Ethic

Disabilities: The Office of Disability Services (ODS) (703-993-2474, or http://ods.gmu.edu) works with disabled students to arrange for appropriate accommodations to ensure equal access to university services. Any student with a disability of any kind is strongly encouraged to register with ODS as soon as possible and take advantage of the services offered. Accommodations for disabled students **must** be made in advance as ODS cannot assist students retroactively. Any student with an accommodation should contact me during the first week of the semester so the sufficient time is allowed to make arrangements. At least one week's notice is required for special accommodations related to exams.

Communicating with students: I use your GMU e-mail account to communicate with you. Thus you must frequently check your e-mail.

Course Materials: Lectures, readings, homework assignments, and related materials will be posted on Blackboard. Blackboard also will be used for homework submissions.

Religious Observances: The policy of George Mason University is to make every reasonable effort to allow members of the university community to observe their religious holidays without academic penalty. I will give you the opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to your participation in religious observances. It is your responsibility to inform me of any intended absences for religious observance at least two weeks in advance of the conflict date in order to make alternative arrangements.

Other Useful Campus Resources:

- Writing Center: A114 Robinson Hall; 703-993-1200; http://writingcenter.gmu.edu/
- University Libraries: "Ask a Librarian", http://library.gmu.edu/mudge/IM/IMRef.html
- Counseling And Psychological Services (CAPS): 703-993-2380; http://caps.gmu.edu/
- University Policies: The University Catalog, http://catalog.gmu.edu/, is the central resource for university policies affecting student, faculty, and staff in university affairs.

Schedule: (This schedule is subject to revision before and during the course.)

Week 1	(***8/31***)	What is Interaction Design? (Ch. 1)
Week 2	(***9/7***)	Understanding and Conceptualizing Interaction (Ch. 2), and conclusion of What is Interaction Design? (Ch. 1)
Week 3	(***9/14***)	Cognitive Aspects (Ch. 3)
Week 4	(***9/21***)	Establishing Requirements (Ch. 10)
Week 5	(***9/28***)	Design, Prototyping and Construction (Ch. 11)
Week 6	(***10/5***)	Introducing Evaluation (Ch. 13) & Evaluation Studies: From Controlled to Natural Settings (Ch. 14)
Week 7	(***10/12***)	Mid-term Exam (covering chapters 1, 2, 3, 10, 11, 13, & 14 [based on 4th edition], and classroom discussions)
Week 8	(***10/19***)	Designing a Usability Study (instructor provided resources)
Week 9	(***10/26***)	Interaction Design in Practice (Ch. 12)
Week 10	(***11/2***)	Data Gathering (Ch. 7)
Week 11	(***11/9***)	Evaluation: Inspections, Analytics, and Models (Ch. 15)
Week 12	(***11/16***)	The Process of Interaction Design (Ch. 9)
	(11/23)	Thanksgiving (no class)
Week 13	(***11/30***)	Student presentations
Week 14	(***12/7***)	Student presentations
Week 15	***(12/14)***	Final Exam (covering only material after the mid-term – usability study procedures, chapters 12, 7, 15, & 9 [based on 4th edition], and classroom discussions)