

**Course Description: Human-Computer Interaction (SYST 469-003) – Spring 2018**  
**Location – Art and Design Building 2003**  
**Wednesday, 7:20 PM – 10:00 PM**

**Instructor:** Jack Laveson, Ph.D., CPE, CHFP

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Office Hours: Available for real-time chat by appointment through e-mail

Teaching Assistant: Kushal Challa; E-Mail: [kchalla@masonlive.gmu.edu](mailto:kchalla@masonlive.gmu.edu)

**Text:** J. Preece, Y. Rogers, & H. Sharp. *Interaction Design: Beyond Human-Computer Interaction* (4<sup>th</sup> edition). Wiley & Sons, 2015. Students can access a compatible online version of this book (3<sup>rd</sup> 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:** (Undergraduate level STAT 250 Minimum Grade of C or Undergraduate level STAT 344 Minimum Grade of C or Undergraduate level STAT 346 Minimum Grade of C or Undergraduate level MATH 351 Minimum Grade of C) and (Undergraduate level IT 106 Minimum Grade of C or Undergraduate level CS 112 Minimum Grade of C). *Students will be using hypothesis testing as well as the t-test and chi-square test.* (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	20%
Final Exam	30% (only on material after the mid-term)
Lecture Homework	5%
Statistics Homework	5%
Task Analysis Homework	10%

Attendance and class participation also influence your grade as discussed below.

Grading scale: A = 90-100; B = 80-89.999; C = 70-79.999; D = 60-69.99; F = below 60. (Your numeric final grade will not be rounded before conversion to a letter grade, e.g., 89.999 remains a B. I do not use +/- grade designations such as C+.)

*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 individual student efforts; no student collaboration is permitted. Exams are closed book and closed notes with multiple choice, true/false, and 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 a reliable Internet connection. It is your responsibility to become familiar with Respondus, and have operating software (including Respondus) and hardware (*PC with a camera & mike, or MAC with a camera & mike*) to take the exams. Respondus is downloaded from Blackboard, and technical support is available from ITS Support Center (Innovation Hall) and the CLUB (Johnson Center). I will not accept excuses for your inability to take the exams when scheduled due to technical difficulties related to your computer or Respondus not working. You must test out your hardware and Internet connections well in advance of the exams; a practice exam that can be repeated will be available.

The mid-term will only be given the evening of March 7, and the final exam will only be given the evening of May 9. Because you will be using Respondus, you have the flexibility to start the exam any time between 7 pm and 10pm on March 7 for the mid-term & between 7 pm and 10 pm on May 9 for the final. Once you start an exam, you have three hours to complete the exam.

A review of your mid-term must be requested within one week after you receive an e-mail notification of grade posting; after one week from e-mail notification the mid-term grade will not be changed. I will attempt to give you a 24 hour period for a review of your final exam, but due to final grade submission requirements there may be less time; you will receive an e-mail notification of grade posting so promptly review your final exam grade; after the review period ends your final exam grade will not be changed.

*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 before collecting data to make sure that it is acceptable.
- You will not make a group presentation, but rather will only be graded on your PowerPoint slides. *An electronic copy of your group presentation is due by 7:20 pm on May 2.*
- All students in a group are expected to equally contribute to the project; if identified through a peer review form or by my observations, student not contributing equally to the project 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 7:20 pm on March 21.* 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 the deadline of March 21. If you do not submit your certificate by the deadline you will be allowed to continue the project to avoid disrupting your student project partners, but your project grade will be a zero.

*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, or similar statistics course. The statistics and task analysis homework are 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:* Attendance is important because paying attention in class is the best predictor of your final grade. Attendance is taken at the end of class using Blackboard's Qwickly attendance module; Qwickly has quirks so you are either present or absent (no late, tardy, etc.) which is the reason for end of class attendance. Absences are either excused in which case there is no impact on your final grade, or unexcused in which case your final grade will be reduced as follows:

- Your first two absences are excused, and do not impact your final grade. This recognizes personal, family, and work issues/emergencies.
- Additional unexcused absences reduce your final grade one point per unexcused absence.
- Qwickly, through Blackboard e-mail, will automatically send you an absent notification to your GMU e-mail so you can track your absences. You have one week from an additional absence to request an excused absence by emailing your explanation to [jlaveson@gmu.edu](mailto:jlaveson@gmu.edu). Provide details about why you were absent. Based on your explanation I will decide if the absence is or is not excused. After one week your attendance status for a class is final and will not be changed.
- Qwickly reports attendance as a fraction – numerator is number of times present / denominator is number of classes held.

*Class participation:* In-class participation is important not only to you, but also to the class as a whole. Your final grade will be reduced up to ten points for failure to participate by consistently not knowing the answers to questions, or consistently failing to participate in discussions.

**Honor Code:** GMU is an Honor Code university; 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 the ACM Code of Ethics and Professional Conduct, the IEEE Code of Ethics, and the EC-Council Code of Ethic

**Disabilities:** The Office of Disability Services (ODS) (703-993-2474, <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 to allow sufficient time 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.

**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	(1/24)	What is Interaction Design? (Ch. 1)
Week 2	(1/31)	Understanding and Conceptualizing Interaction (Ch. 2), and conclusion of What is Interaction Design? (Ch. 1)
Week 3	(2/7)	Cognitive Aspects (Ch. 3)
Week 4	(2/14)	Establishing Requirements (Ch. 10) and Task Analysis
Week 5	(2/21)	Design, Prototyping and Construction (Ch. 11)
Week 6	(2/28)	Introducing Evaluation (Ch. 13) & Evaluation Studies: From Controlled to Natural Settings (Ch. 14)
Week 7	(3/7)	Mid-term Exam (covering chapters 1, 2, 3, 10, 11, 13, & 14 [based on 4th edition], and classroom discussions)
	(3/14)	Spring Break – no class
Week 8	(3/21)	Designing a Usability Study (instructor provided resources)
Week 9	(3/28)	Interaction Design in Practice (Ch. 12)
Week 10	(4/4)	Data Gathering (Ch. 7)
Week 11	(4/11)	<b><u>NOTE: Class is cancelled for 4/11 due to an instructor conflict</u></b>
Week 12	(4/18)	<b><u>NOTE: Class is cancelled for 4/18 due to an instructor conflict</u></b>
Week 13	(4/25)	Evaluation: Inspections, Analytics, and Models (Ch. 15)
Week 14	(5/2)	The Process of Interaction Design (Ch. 9)
Week 15	(5/9)	Final Exam (covering only material after the mid-term – usability study procedures, chapters 12, 7, 15, & 9 [based on 4 <sup>th</sup> edition], and classroom discussions)