Fall 2019

IS 448-001: Usability and Measuring the User Experience

Jie Cai

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Recommended Citation

IS 448 Usability and Measuring the User Experience

Class meets: Mondays, Thursdays, 8:30-10:00am
Where: KUPF104

Instructor: Jie Cai, Ph.D.
Office: GITC 3420
Office Hours: Thursdays, 2-3 pm, or by appointment
Email: jc926@njit.edu

Course Description

User experience research is the process of understanding why and how people use products and services. Usability refers to the ease of use and learnability of such a product or service. The primary function of usability is to be able to measure and assess the optimal use of a product from the perspective of the user. This course will teach students a set of quantitative tools to understand user needs, derive design recommendations, and evaluate the user experience.

Students will receive an overview of the different quantitative methods being used in industry and academia, such as eye-tracking, big social media data analysis, and physiological tests. They will then get an in-depth knowledge of how to design, execute, and analyze data from experiments and surveys using both descriptive and inferential statistics.

Learning Goals / Outcomes

- Understand why research is important and how it fits into Information Systems design and development
- Understand ethics of human subjects research
- Discover and formulate UX problems
- Apply quantitative UX research methods
- Analyze quantitative data
- Communicate results through reports and presentations

Requirements

- Basic understanding of statistics
- Install or have access to SPSS
- Install or have access to Excel

Textbook

- Measuring the user experience, Second edition: Collecting, analyzing, and presenting usability metrics- William Albert, Thomas Tullis.
- How to use SPSS by Cronk

Evaluation

Class participation (10 points):	10%
Assignments (20 points):	20%
Exams (2 x 20= 40 points):	40%
Final project (30 points):	30%
Extra credit (2 points max):	2%

Grading

90 – 102 points	: A
85 – 89 points	: B+
80 – 84 points	: B
75 – 79 points	: C+
70 – 74 points	: C
65 – 69 points	: D

Under 65 points   : F

Classroom Participation (10 points)

- Attendance
- Do readings BEFORE class
- Engage in discussions with the rest of the class
- Interact with others on Moodle forum

Assignments (20 points)

- Assignments are to be done outside of class hours.
- You will have two individual assignments
- Details of assignments and requirements will be further explained in class
- IRB training is mandatory.

Exam (40 points)

There will be a take-home exam involving data analysis and measurement

Final Project (30 points)

Group projects are difficult to coordinate and execute, but are extremely important because knowing how to communicate and collaborate in small groups is a key skill required in any professional setting. In the group project, your group will be able to choose your own topic, then investigate the topic using at least one of the methodologies.

- Presentation (10)+ Paper (20) + Peer evaluation (adjustment)
- The group work presentations should be 20 min. They should give a high-level overview of the project, data collection, and results.
- The written report should have all the details. It should be clear how the team worked together.
- Peer evaluation is a report (template will be provided) about each individual's contributions. If your teammates identify you as having a low contribution, you will have points deducted (up to 10 points). If your teammates identify you as a stellar contributor, you will gain extra points.

Schedule (subject to change)

Week 1: Course overview & Understanding people. What is usability, why you should care, the difference between quantitative and qualitative research. Why usability is important and how it fits into the product development cycle. What is the difference between descriptive and inferential statistics. The ethics of human subject research.

Assignment: IRB training (submit certificate). This is not a graded assignment. Failure to submit IRB training documents will result in immediate failure.

Week 2: How to start research. Research questions versus hypotheses. The literature review. Starting group projects

Submit research questions/hypotheses (based on literature review) to Moodle. Be prepared to discuss in class.

Week 3: Survey: Designing questions

Week 4: Survey: Data cleaning

Week 5: Survey Data analysis.

Week 6: Survey Data analysis

Week 7: Exam 1 (Take home)

Week 8 : Content Analysis: How to analyze data. How to visualize and present data.

Week 9: Content Analysis: What is it? When is it used? How to collect data

       Assignment: Content Analysis coding

Week 10: Experimental Design

Week 11: Experiment Analysis

Week 12: Exam 2 / Thanksgiving

Week 13: Other methods of usability. Group projects

Week 14: Group presentations

Student outcomes address listed in ABET Criterion 3:

The course will enable students to attain
- An ability to function effectively on teams to accomplish a common goal
- An ability to communicate effectively with a range of audiences both oral and written modes.
- An ability to use current techniques, skills, and tools necessary for computing practice.
- An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- An ability to evaluate a computer-based system, process, component, or program to meet desired needs

Course Communication
Before you decide to send an email inquiry, check the syllabus. You are most likely to find answers there. Please begin the subject line of any course e-mail with "IS448." Appropriate e-mail will be replied to within 24 hours to 48 hours Monday through Friday. Emails should have proper salutations and signatures. Do not use Moodle to send course-related messages.

Course announcements will be made in class, via Moodle, and email. It is your responsibility to check your email and Moodle on a regular basis; *at least* twice a week and the day before class.

Past Due Assignments
All assignments must be turned in complete and on-time. Specific deadlines for each assignment will be announced in class and via Moodle. No excuses for late assignments, including technical issues, will be accepted. Every day late will be deducted 2 points.

Extra Credit Opportunities
There will be a few extra credit opportunities for research participation in addition to those for excellent class participation. The extra credit points will be added to the basic student score in final grading. There are no guarantees for extra credit and it is each student's responsibility to be aware of and take advantage of such opportunities. While specific point values will be announced for each extra credit opportunity, in general each 30 minutes of participation in an extra credit event that you can accomplish at home will earn you 5 points. After the final paper there will be no further opportunities for extra credit or to otherwise improve your grade.

Academic Honesty
Students take full responsibility for maintaining the integrity of scholarship, grades, and professional standards. Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including forum posts and in-class presentations, without assistance from any source. When referencing material written by someone else, you must properly cite the source.

The approved "University Code on Academic Integrity" is currently in effect for all courses. Should a student fail a course due to a violation of academic integrity, they will be assigned the grade of "XF" rather than the "F" and this designation will remain permanently on their transcript. All students are encouraged to look over the University Code on Academic Integrity and understand this document. Students are expected to uphold the integrity of this institution by reporting any violation of academic integrity to the Office of the Dean of Students. The identity of the student filing the report will be kept anonymous.

NJIT will continue to educate top tier students that are academically sound and are self-disciplined to uphold expected standards of professional integrity. Academic dishonesty will not be tolerated at this institution.

Student Disability Services
If you have, or believe that you may have, a physical, medical, psychological, or learning disability that may require accommodations, please contact Student Disability Services and inform the instructor. Information on the self-identification, documentation and accommodation process can be found on the webpage at: http://www.njit.edu/counseling/services/disabilities.php.

Technical Help
The IST Helpdesk is the central hub for all computing technologies at NJIT.
        1. Call 973-596-2900. Monday - Friday 8 am - 7 pm.
        2. Go to Student Mall Room 48. Monday - Friday 8 am - 7 pm
        3. Log a Help Desk Service Request online - https://ist.njit.edu/support/contactus.php.

In addition to the Helpdesk, NJIT has a number of resources available to help you learn/use Moodle. Please be aware of the following:

1. Getting Started Using Moodle (Student Course): http://njit.mrooms.net/course/view.php?id=6204
2. Student Moodle Tutorials: http://moodle.njit.edu/tutorials/students/index.php
3. Student Moodle FAQs: http://moodle.njit.edu/tutorials/students/faq.php