

# SI 422: Needs Assessment and Usability Evaluation – Winter 2019

## Syllabus

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**Instructional Team Email:** [si422-team@umich.edu](mailto:si422-team@umich.edu)

**Class:** Mondays and Wednesdays from 1-2:20pm in G378 DENT

**Office hours:** Mondays 3:00-5:00pm in NQ 1270 (Ko)

Tuesdays 10:00am-12:00pm in NQ 1243 (Kota) - updated 1/17

Fridays 12:30-2:30pm in NQ 3438 (Marcu)

### Course Overview

Have you ever been frustrated navigating the menu of a device or an application? Have you given up trying to reprogram the clock on your microwave? Does Siri ever give you the answer you are looking for?

Many products fail because they are designed with little knowledge of user desires, needs, and capabilities. It doesn't have to be this way. Any product can be more successful when developed through a process that identifies how it will be used, elicits input from potential users, and watches how it functions in real time with real users.

This course is designed to equip you with the hands-on knowledge and skills necessary for evaluating and testing the usability of products – website, mobile device, or some form of electronically mediated service. Throughout the term, we will be working on individual, pair, and group projects that apply usability techniques to real products of your choice. As such, it is the class is focused on enabling you to develop critical thinking skills that drive your ability to:

- Formulate research objectives, goals, and questions
- Create solid research plans
- Conduct nuanced observational analysis
- Create well-supported findings and recommendations

Class attendance is critical, as the course will be “flipped” as much as possible; that is, the expectation will be that you will be reading and watching content outside of class, and getting hands-on experience and guidance in class.

### Course Objectives

In this course you will learn to evaluate interactive products using a range of methods, including:

- Comparison of features and usability with the competition (competitive/comparative analysis)
- Group task analysis (group walkthrough)
- In-depth analysis of user needs (observation and ethnographic methods)
- Asking users about their opinions and experiences (interviews and surveys)
- Identifying a set of target users and uses (personas and scenarios)
- Using checklists to evaluate the system from several points of view (heuristic evaluation)
- Doing user testing of typical tasks on the system (usability testing)
- Improving details of the user interface (design best practices)
- Monitoring and testing the design of a system (experiments, log analysis)
- Working with a larger team (real-world issues)

The course will be divided into four parts:

1. Principles, methods, and best practices. We will spend the first few weeks of the course talking about and practicing writing solid research questions, doing analysis, and learning methods. You will also be expected to participate in studies to build empathy with participants.
2. Discovery and Strategy. We will cover the research questions and methods that UX researchers leverage as they learn what user needs are, assist in the formation of strategy, and define what they should build.
3. Design and Development. We will cover and practice the methods are used to understand design documentation.
4. Post-Launch. We will discuss and use methods that UX researchers leverage to help improve features and functions within an existing experience.

## Grading

Each week, we will give you background on the methods (through readings and videos), review the methods (in class), have you try them out (in class exercises), and you will apply these techniques to your own assignments. For many of the assignments, you will submit reports like those you would be expected to submit to partners, clients, or managers in a user experience job. See Canvas for full details.

Assignment Name	Percentage of Grade
Quizzes	15%
In-class activities (attendance, participation, mini assignments)	25%
Assignments (individual and group)	60%

## Attendance, Due Dates, and Late Policy

There are no excused/unexcused absences in this course. If you miss class, you do not need to notify the instructional team, but you should communicate with any group you are working with at the time. The lowest scores will be dropped, *no questions asked*, as outlined below. There are also no late submissions or extensions - instead there is a grace period for turning in assignments, as outlined below.

- Quizzes on assigned readings will be released Tuesdays at noon (11:59 AM), and are due Wednesdays at noon (11:59 AM). No late quizzes. The single lowest quiz score will be dropped.
- In-class activities will be graded for attendance and participation. No make-ups or late submissions. The two lowest scores will be dropped.
- Assignments will be released during class and due on the following Friday at midnight (11:59 PM). A grace period of 48 hours, during which no points are deducted. After the grace period, no assignments will be accepted.

### **Grading**

The instructional team carefully constructs rubrics and makes those available as each assignment is released. Please make sure you understand the rubric and ask any questions about what is expected for each assignment. Once you have received a grade, we encourage you to attend office hours should you want to improve your understanding of the course content.

### **Communication**

Canvas is the dissemination method for course materials including lecture notes, assignment descriptions, and the course schedule. You are responsible for keeping up-to-date with the materials on Canvas.

Almost all communication for this course should go through the instructional team email: [si422-team@umich.edu](mailto:si422-team@umich.edu). If you have a personal matter to discuss, we encourage you to attend office hours, or you may email Professor Marcu at [gmarcu@umich.edu](mailto:gmarcu@umich.edu). Please keep all communication professional.

### **Academic Integrity**

**Collaboration.** UMSI strongly encourages collaboration while working on some assignments, such as group projects and interpreting reading assignments as a general practice. All assignments in this course are clearly designated as "group", "pair", or "individual" assignments. Collaboration with other students in the course will be especially valuable in summarizing the reading materials and picking out the key concepts. You must write your individual homework submissions on your own, in your own words, before turning them in. If you worked with someone on the homework before writing it, you must list any and all collaborators on your written submission, following the assignment format listed detailed above. Read the instructions carefully and request clarification about collaboration when in doubt.

**Plagiarism.** All written submissions must be your own, original work. Original work for narrative questions is not mere paraphrasing of someone else's completed answer: you must not share

written answers with each other at all. At most, you should be working from notes you took while participating in a study session.

You may incorporate selected excerpts, statements or phrases from publications by other authors, but they must be clearly marked as quotations and must be attributed. If you build on the ideas of prior authors, you must cite their work. You may obtain copy editing assistance, and you may discuss your ideas with others, but all substantive writing and ideas must be your own, or be explicitly attributed to another. See the BSI student handbook available on the UMSI intranet for the definition of plagiarism, resources to help you avoid it, and the consequences for intentional or unintentional plagiarism.

For more information, please see:

<http://www.lsa.umich.edu/academicintegrity/index.html>

### **Accommodations for Students with Disabilities**

If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way we teach may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Office of Services for Students with Disabilities (SSD) to help us determine appropriate accommodations. SSD (734-763-3000; [ssd.umich.edu/](http://ssd.umich.edu/)) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. I will treat any information that you provide in as confidential a manner as possible.

### **Student Mental Health and Wellbeing**

The University of Michigan is committed to advancing the mental health and wellbeing of its students, while acknowledging that a variety of issues, such as strained relationships, increased anxiety, alcohol/drug problems, and depression, directly impacts students' academic performance.

If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and <https://caps.umich.edu/> during and after hours, on weekends and holidays or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (732) 764-8320 and <https://www.uhs.umich.edu/mentalhealthsvcs>, or for alcohol or drug concerns, see [www.uhs.umich.edu/aodresources](http://www.uhs.umich.edu/aodresources).

For a more comprehensive listing of the broad range of mental health services available on campus, please visit: <http://umich.edu/~mhealth>

# Course Schedule

Week	Date	In-Class Activity	Readings (Reading quiz due Wednesday by noon, Released 24 hours before)	Quizzes	Assignment due Friday by midnight * Released on Wednesday during class one week before
1	Wed, Jan 9	Attendance	<p><b>Due Friday by noon:</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Goodman et al., Ch. 1: Introduction</a></li> <li>- <a href="#">NYT Arieff, "Solving all the Wrong Problems"</a></li> <li>- <a href="#">Gibbons, "UX Mapping Methods Compared: A Cheat Sheet" (Links to an external site.)</a><a href="#">Links to an external site.</a></li> </ul>	<a href="#">Quiz 1</a>	
2	Mon, Jan 14	Micro-usability Testing	<ul style="list-style-type: none"> <li>- <a href="#">Goodman et al., Ch. 2: Do a Usability Test Now!</a></li> <li>- <a href="#">Goodman et al., Ch. 3: Balancing Needs Through Iterative Development</a></li> <li>- <a href="#">Goodman et al., Ch. 4: Research Planning</a></li> </ul>	<a href="#">Quiz 2</a>	<a href="#">1. Visual Representations of Interaction (individual)</a>
	Wed, Jan 16	Writing Research Questions			
3	Mon, Jan 21	Martin Luther King, Jr. Day - No class	<a href="#">Quiz 3</a>	<a href="#">2. Research questions (individual)</a>	

	Wed, Jan 23	Competitive Analysis	- Goodman et al., Ch. <a href="#">5: Competitive Research</a> - Sauro, " <a href="#">Checklist for Planning a UX Benchmark Study</a> " (Links to an external site.) <a href="#">Links to an external site.</a>		
4	Mon, Jan 28	Survey Introduction	- Goodman et al., Ch. <a href="#">12: Surveys</a>	<a href="#">Quiz 4</a>	<a href="#">3. Competitive/ comparative analysis (group)</a>
	Wed, Jan 30	Class cancelled			
5	Mon, Feb 4	Recruiting and prepping the survey	- Goodman et al., Ch. <a href="#">6: Universal Tools– Recruiting and Interviewing</a>	<a href="#">Quiz 5</a>	<a href="#">4a. Survey (Group)</a>
	Wed, Feb 6	Analyzing the survey			
6	Mon, Feb 11	Interview and focus group introduction	- Spradley, " <a href="#">Asking Descriptive Questions</a> " - Goodman et al., Ch. <a href="#">15: Analyzing Qualitative Data</a>	<a href="#">Quiz 6</a>	<a href="#">4b. Survey Analysis</a>
	Wed, Feb 13	Interview Protocol			
7	Mon, Feb 18	Affinity Diagraming	- Cooper, Ch. 6: <a href="#">The Foundations of Design: Scenarios</a>	<a href="#">Quiz 7</a>	<a href="#">5a. Interview Protocol (Group)</a>

	Wed, Feb 20	Deriving Design Insights	<a href="#">and Requirements</a> <a href="#">- Miles et al., Ch. 11:</a> <a href="#">Drawing and</a> <a href="#">Verifying</a> <a href="#">Conclusions</a>		
8	Mon, Feb 25	Personas	<a href="#">- Cooper, Ch. 5:</a> <a href="#">Modeling Users:</a> <a href="#">Personas and Goals</a>	<a href="#">Quiz 8</a>	<a href="#">5b. Interview</a> <a href="#">Data Analysis</a> <a href="#">(Group)</a>
	Wed, Feb 27	Scenarios	<a href="#">- Pruitt, "Personas:</a> <a href="#">Practice and Theory"</a>		
9	Mon, Mar 4	<b>SPRING BREAK</b>			
	Wed, Mar 6				
10	Mon, Mar 11	Card Sorting	<a href="#">- Spencer, "Card</a> <a href="#">Sorting: A Definitive</a> <a href="#">Guide" (Links to an</a> <a href="#">external site.)Links</a> <a href="#">to an external site.</a>	<a href="#">Quiz 10</a>	<a href="#">5c. Interview</a> <a href="#">Report (Group)</a>
	Wed, Mar 13	Paper Prototyping	<a href="#">- Snyder, Paper</a> <a href="#">Prototyping</a>		
11	Mon, Mar 18	Remote Usability Testing	<a href="#">- Schade, "Remote</a> <a href="#">Usability Tests:</a> <a href="#">Moderated and</a> <a href="#">Unmoderated" (Links</a> <a href="#">to an external</a> <a href="#">site.)Links to an</a> <a href="#">external site.</a>	<a href="#">Quiz 11</a>	<a href="#">6. Card</a> <a href="#">Sorting</a> <a href="#">(Group)</a>
	Wed, Mar 20	A/B Testing	<a href="#">- Green, "An</a> <a href="#">Introduction to A/B</a> <a href="#">Testing" (Links to an</a> <a href="#">external site.)Links</a> <a href="#">to an external site.</a>		

			<a href="#">- Nielsen, "Putting A/B Testing in Its Place" (Links to an external site.)Links to an external site.</a>		
12	<p>Mon, Mar 25</p> <p>Preference Testing</p>		<p>- <a href="#">UsabilityHub, "An introduction to preference testing" (Links to an external site.)Links to an external site.</a></p>	<p><a href="#">Quiz 12</a></p>	<p><a href="#">7. Remote Unmoderated Usability Testing (Group)</a></p>
	<p>Wed, Mar 27</p> <p>User vs. Expert Evaluation</p>		<p>- <a href="#">Nielsen, "Usability Inspection Methods, Chapter 2 Heuristic Evaluation"</a></p>		
13	<p>Mon, Apr 1</p>			<p><a href="#">Quiz 13</a></p>	<p><a href="#">8. Preference Test Plan (Individual)</a></p>
	<p>Wed, Apr 3</p>				
14	<p>Mon, Apr 8</p>			<p><a href="#">Quiz 14</a></p>	<p><a href="#">9. Choose a method Project Plan (Individual)</a></p>

Wed,  
Apr 10

Mon,  
Apr 15

15

[Quiz 15](#)

[10a. In-person Usability Testing \(Group\)](#)

Wed,  
Apr 17

16

Mon,  
Apr 22

[10b. In-person Usability Testing \(Group\)](#)