PSY 6023
Research Methods for HCI
Dr. Carrie Bruce/ Dr. Bruce Walker
Fall 2016

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Office Hours: Tuesdays 3-5pm (Dr. Bruce)
Lecture: M, W, F 1:05-2:55pm; Instructional Center 111
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Course Description

How do you know what a user wants to see on a wearable display, whether an app feature is being used, whether a clickable button is better than a swipe, or whether a person who is blind can use your physical product? Research methods for HCI allow you to investigate such questions and develop evidence to inform design decisions. In this course, you will learn about common methods employed in user-centered and evidence-based design. You will also learn how to choose methods, plan studies, and perform research that is inclusive of users with a range of abilities. The objective of this course is to train you to use the appropriate methods, tools, metrics, and analyses for generating evidence to inform and reflect on design decisions. This course is different from traditional research methods because you will be expected to increase your awareness, understanding, and application of inclusive research practices.

Learning Objectives

Learning in this course will occur through lectures, structured discussions, readings, in class and out of class activities, and assignments. You are expected to complete the specified readings to contribute to discussions and effectively engage in course activities.

At the end of this course, you should be able to:

- Appraise a research context and develop a focused problem space
- Conduct common user research methods and articulate their advantages and disadvantages
- Select and apply appropriate data treatment techniques to examine data
- Interpret research findings to synthesize and inform design decisions
- Document and communicate research findings to demonstrate the evidence-based process

Required Textbooks

Baxter, K., Courage, C., & Caine, K. (2015). *Understanding Your Users: A Practical Guide to User Research Methods* (Second Edition). Waltham, MA: Morgan Kaufmann/Elsevier.

Tullis, T. & Albert, B. (2013). *Measuring the User Experience: Collecting, Analyzing, and Presenting Usability Metrics* (Second Edition). Waltham, MA: Morgan Kaufmann/Elsevier.

Accommodations Policy

If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Services (404-894-2563), http://disabilityservices.gatech.edu/. All academic accommodations must be arranged through that office. They will then contact me with instructions.

Assessment of Learning

Participation	10%
Quizzes	20%
Partner Project	25%
Team Project 1	15%
Team Project 2	15%
Final Exam	15%

Participation

Attendance is expected for this course. You should come to classes prepared -- that is, having read and made an attempt to understand the reading material that has been specified. You should be ready to discuss and apply material covered in the lectures and reading. If you come to class, are prepared, and contribute you can anticipate receiving all of this credit. A total of 10% of your grade will be based on a participation rating based on the following:

- You will be responsible for keeping track of the ways in which you have contributed in class discussions and activities, and towards partner and team projects. At announced times during the semester you will refer to your notes about your participation and provide a summary based on those notes
- Teammates' peer evaluation
- Instructors' and TAs' observations and interactions with you

Quizzes

There will be at least 6 quizzes assigned for individual completion (not a partner or group effort). Quizzes will serve to assess your knowledge about course topics and ability to justify the application of a method or approach to research. Quizzes will take the form of short answer and will contribute to 20% of your course grade.

Partner Project

You will be assigned a partner for the first half of the semester whom you will work with to build evidence to inform the ideation phase of design work. Partner work means working together to complete specified in-class and out-of-class activities, and graded assignments. You and your partner will be expected to share a digital workspace that documents your efforts. The partner project will contribute to 25% of your course grade.

Team Project
You will engage in team projects for the second half of the semester. Teams will work continue to generate evidence that informs further design work and helps determine whether you have met your research goals. Team work means working together to complete specified in-class and out-of-class activities, and graded assignments. You and your teammates will be expected to share a digital workspace that documents your efforts. The 2 team projects will contribute to a total of 30% of your course grade --- 15% for each project.

Final Exam
A final exam will be given in class and questions will reflect the material covered in lectures, in-class and out-of-class activities, and readings. You are not allowed to use mobile devices, books, notes, neighbors, or other knowledge support technologies during the exam. The exam will be worth 15% of your course grade.

Respect and Consideration
Please, above all, be respectful and considerate of others in the class. It should go without saying, but this includes showing up on time for classes, meetings, exams, etc. Please mute all mobile devices while in class. If you have an emergency phone call that you must take, please exit the class and take the phone call outside of the room. Please do not text while in class unless it is an emergency.

Academic Integrity
All students are assumed to have read the Honor Code and consented to be bound by it. Violations of the Honor Code are taken extremely seriously and will result in a failing grade for the course and referral to the Dean of Students for further action. Specific violations include (but are not limited to):

- Use or provision of prohibited assistance during exams.
- Sharing of outside assignments such as questionnaires, research reports.
- Plagiarism. This includes both the use of the words and ideas without attribution.

All exams administered in this course are to be taken without the use of notes, books, or ancillary materials, and without the assistance of any other person or group, in the class or outside of the class. Texting or other use of electronic devices such as PDAs, cell phones, audio devices, or other mobile devices during scheduled exams is prohibited for reasons of exam integrity. Use of these devices during exams is viewed as a violation. If you have any questions, please ask. I will assume that all students enrolled in the course know and understand what constitutes academic misconduct and agree to be bound by these rules.

Additional Reading Materials
Additional readings, typically research articles and book chapters, may be added during the semester. Email and TSquare announcements will be sent out when these are assigned. Students will be responsible for obtaining and reading all materials before the class in which they are to be discussed. Demos and examples may also be made available via the T-Square.

Schedule (Subject to Change)

Week#	Date	Topic(s)
1	8/22	Introduction and Class Overview, History of Research in HCI
	8/24	Human Abilities and Diversity
	8/26	Research Ethics and Existing Evidence
2	8/29	User Research Basics
	8/31	Observation and Decomposition
	9/2	Interviews: Overview and Construction
3	9/5	**No Class – Labor Day**
	9/7	Contextual Interviews
	9/9	Interviewing Skills
4	9/12	Focus Groups: Overview and Construction
	9/14	Focus Groups Skills
	9/16	Data Coding
5	9/19	Interviews and Focus Groups: Data Treatment
	9/21	Questionnaires/Surveys: Overview and Construction
	9/23	Survey Skills
6	9/26	Surveys: Data Treatment
	9/28	Data Analysis and Representing Data
	9/30	Data Storytelling: Presenting and Communicating Findings
7	10/3	Data Storytelling Cont.
	10/5	Summary Presentations/Discussions
	10/7	Implications for Design
8	10/10	**No Class – Fall Break**
	10/12	Prototype feedback
	10/14	Informing Information Architecture/Card Sorting
9	10/17	Participatory Design
	10/19	Automated Tools and Validation
	10/21	Representing Data and Implications for Design
10	10/24	Web Analytics
	10/26	Study Design Overview - include A/B testing
	10/28	Expert Evaluation: Cognitive Walkthroughs, Heuristics
11	10/31	Performance-Based and Physiological Metrics
	11/2	Usability Testing: Overview
	11/4	Usability Testing: Prep and Recruiting
12	11/7	Usability Testing: Data Collection
	11/9	Usability Testing: Data Collection
	11/11	Usability Testing: Data Treatment
13	11/14	Data Storytelling: Presenting and Communicating Findings
	11/16	Customer Feedback and Social Media Mining
	11/18	Lifecycle and Maintenance Data Collection
14	11/21	**No Class – Thanksgiving**
	11/23	**No Class – Thanksgiving**
	11/25	**No Class – Thanksgiving**
15	11/28	Unique Challenges: Wearables
	11/30	Unique Challenges: Diversity
	12/2	Unique Challenges: Longitudinal Data Collection
16	12/5	Unique Challenges: Massive Data, Data Fusion
	12/7	**No Class – Reading Period**
	12/9	**No Class – Reading Period**
17	12/12	FINAL EXAM PERIOD 2:50-5:40