# PSYC 4803-E, 8807-E; CS4803-RMH, 8803-RMH: Syllabus

**Course Prefix and Number: PSYC 4803-E, 8807-E; CS4803-RMH, 8803-RMH**

**Course Name: Research Methods for Human Factors and HCI**

**Semester: 2026 Fall**

## A. Instructor Information

**Instructor: Bruce N. Walker**

**Email: bruce.walker@psych.gatech.edu**

## B. General Course Information

### 1. Description

An overview of many of the research methods, tools, metrics, and analyses used in the human factors, engineering psychology, human-computer interaction, and design fields. Covers qualitative and quantitative approaches to assessing performance, preference, and affective responses as part of the evidence-based design, development, and deployment of systems and services. Some examples include surveys, focus groups, interviews, usability studies, task analysis, modeling, physiological data collection, eye tracking, benchmark tasks, accessibility audits, web analytics, and more.

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.

### 2. Course Learning Outcomes

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

## C. Required Course Materials

1. William (Bill) **Albert** & Thomas (Tom) **Tullis** (2022). *Measuring the User Experience: Collecting, Analyzing, and Presenting UX Metrics* (Third Edition). Cambridge, MA: Morgan Kaufmann/Elsevier. *Note: Published in 2022 but Copyright in 2023.*

Download free copy from Science Direct (with Georgia Tech login):

https://www.sciencedirect.com/book/9780128180808/measuring-the-user-experience

Purchase printed copy or eBook:

https://shop.elsevier.com/books/measuring-the-user-experience/albert/9780128180808

(or via Amazon, etc.)

2. Jonathan **Lazar**, Jinjuan Heidi **Feng**, & Harry **Hochheiser** (2017). *Research Methods in Human Computer Interaction* (Second Edition). Cambridge, MA: Morgan Kaufmann/Elsevier.

Download free copy from Science Direct (with Georgia Tech login):

https://www.sciencedirect.com/book/9780128053904/research-methods-in-human-computer-interaction

Purchase printed copy or eBook:

https://shop.elsevier.com/books/research-methods-in-human-computer-interaction/lazar/9780128053904

(or via Amazon, etc.)

Optional extra text (largely duplicates Lazar et al.):

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

### 1. Additional Reading Materials

Additional readings, typically research articles and book chapters, may be added during the semester. Canvas announcements will be sent out when these are assigned, and a PDF file or a link to the resource will typically be provided through Canvas. 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 Canvas.

## D. Grading Policy:

| | |
|---|---|
| Team Assignments | 49% |
| Individual Assignments | 49% |
| Final Exam (optional) | 2% |

### 1. Participation/Engagement

In-person 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 was assigned, and ready to engage in class discussion and activities. You should be ready to discuss and apply material covered in the lectures and reading. Be a good team member -- you should have equitable membership in your team. This means taking on a workload that is clearly similar to your team members' workload, being knowledgeable about your team activities and plans, going to team meetings, etc. All students will provide feedback on the contributions of themselves and their teammates to the Team assignments. This may be factored into the final score a student gets for the Team assignments.

### 2. Team Assignments

There will be approximately 4 team assignments. Each assignment will require the team to perform some task, use some suitable research methods, and write up a report on the activities. For example, a team may be prompted to plan and conduct an interview, then analyze the results of that interview, and write up a report on what they did. The report will document what they did, why, how, with whom, what choices were made along the way, and what they learned in the interview, and from the activity as a whole. The assessment of the Team Assignments will be largely about the process and products.

### 3. Individual Assignments

There will be approximately 4 individual assignments, to be completed individually. Each assignment will call for an analysis or critique or evaluation, leveraging the student's knowledge

in the field and critical thinking skills. As one example, the assignment might provide a research question and a set of survey questions. The student would be asked to evaluate the survey questions on various dimensions (especially how well they address the purpose of the research), and propose any improvements. The assessment of the Individual Assignments will be largely about the critical thinking and analysis.

### 4. Final Exam (opt in)

The final exam will be optional. Students who opt in to take the final will be required to notify the instructor by the last day of classes. If a student takes the final exam, it will be held in person, during the scheduled exam period for this course, and will count for 2% of the overall grade. If the student does not opt to take the final exam, the Team and Individual Assignments will each count for 50% of the grade. For students who do not opt in to take the final exam, the final participation date will be the last day of classes.

## E. Core IMPACTS

Not applicable.

## F. Course Policies

### 1. Attendance and/or Participation

Attendance in all class meetings and exams is mandatory. Any class may have group activities, and failure to attend may jeopardize the learning opportunity of the students and their teammates.

### 2. Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review Georgia Tech's Honor Code and the student Code of Conduct.

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

### 3. Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

## 4. Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

## 5. 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 devices while in class. Consider that others sitting around you can see what is on your screen.

## 6. Recordings and Further Dissemination

The course content, recordings, exams, and materials provided by the instructor in this course are copyright and protected, and for the use of the students enrolled in the course and cannot be further disseminated. Electronic video/audio recordings initiated by students are not permitted unless an explicit permission is granted by faculty.

## 7. Policy on Use of Generative AI for class work

In this class we treat AI-based assistance, such as ChatGPT and Copilot, the same way we treat collaboration with other people: for both individual and team-based assignments, you are welcome to talk about your ideas and work with other people, both inside and outside the class, as well as with AI-based assistants.

However, all work you submit must be your own. You should never include in your assignment anything that was not written directly by you without proper citation (including quotation marks and in-line citation for direct quotes).

Including anything you did not write in your assignment without proper citation will be treated as an academic misconduct case. If you are unsure where the line is between collaborating with AI and copying AI, we recommend the following heuristics:

*Heuristic 1: Never hit "Copy" within your conversation with an AI assistant. You can copy your own work into your own conversation, but do not copy anything from the conversation back into your assignment.*

Instead, use your interaction with the AI assistant as a learning experience, then let your assignment reflect your improved understanding.

*Heuristic 2: Do not have your assignment and the AI agent open at the same time. Similar to the above, use your conversation with the AI as a learning experience, then close the interaction down, open your assignment, and let your assignment reflect your revised knowledge.*

This heuristic includes avoiding using AI directly integrated into your composition environment: just as you should not let a classmate write content or code directly into your submission, so also you should avoid using tools that directly add content to your submission.

Deviating from these heuristics does not automatically qualify as academic misconduct; however, following these heuristics essentially guarantees your collaboration will not cross the line into misconduct.

## G. Campus Resources for Students

### 1. Undergraduate Student Academic Success Resources:

*A list of resources for undergraduate students' academic success and information about advising can be found at Success at Tech.*

- Academic Support: Academic Success and Advising (a unit in the Office of Undergraduate Education & Student Success) provides free support for your courses. Students can attend scheduled supplemental review (PLUS) sessions, stop by Drop-In Tutoring, or schedule a one-on-one appointment through Knack. To explore what options work best for you, please visit us online at success.gatech.edu/tutoring, email us at tutoring@gatech.edu, or come see us at Clough Undergraduate Learning Commons, Suite 283.

### 2. Graduate Student Academic and Professional Success Resources:

A list of resources for graduate students is given on the Office of Graduate and Postdoctoral Education website. Specific information for current graduate students includes

- Academic Resources such as the Communications Center, Language Institute, Library, Catalog, Registrar, resources for conducting research, Advocacy and Conflict Resolution resources, and how to manage unexpected situations that may impact your academic performance;
- Student Resources such as Campus Services, Child Care/Family programs, Health & Wellness, Career Services, and the Student Resource Guide; and
- *Professional Development such as the programming from the Career Center and other professional development resources and events"*

**3. Student Well-Being:**

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A comprehensive list of wellness related resources has been compiled and maintained by the Office of the Vice President for Student Engagement and Well-being (student-resource-guide (gatech.edu)