

GBDA 310 Course Syllabus: Fall 2021

Advanced User Experience Design & Research: Section 1 (Wednesdays)

Stratford School of Interaction Design and Business
University of Waterloo

Course Description (from the Academic Calendar)

The objectives of this course are to learn data collection, design, and analysis methodologies that are particularly useful for scientific user experience (UX) research. The course will review basic UX and usability methods, and cover topics ranging from contextual inquiry, cognitive task analysis, qualitative methods, and an introduction to quantitative statistical methods.

Contacts

Section 1 & 2 course instructor: Cayley MacArthur (she/her/they/them)

Email: cayley.macarthur@uwaterloo.ca

Coffee chats (virtual): Thursdays 10-11:30am on [Zoom](#)

Office: DMS 2012 (Stratford Campus – Second floor)

Teaching Assistants (for all sections):

Arielle Grinberg (she/her): a2grinbe@uwaterloo.ca

Sonia Laposi (she/her): slaposi@uwaterloo.ca

Joseph Tu (he/him): joseph.tu@uwaterloo.ca

TA Office hours (virtual):

Mondays 3:30 – 5:00pm on [Zoom](#)

Thursdays 3:00 – 5:00pm on [Zoom](#)

Course Goals & Learning Outcomes

The objective of this course is to develop a comprehensive understanding of user experience design and research methods. Students will develop a critical understanding of UX methods for collecting user-centered data, synthesize and analyze information, and communicate results and design implications. Course topics range from qualitative and quantitative research methods covering each phase of the design process, so that students can extend their researcher's toolbox for collecting and interpreting data.

On completion of the course, students should be able to:

- Apply a variety of research methods to answer a research question.
- Distinguish the strengths and limitations of a wide range of data collection methods.
- Choose the appropriate method and procedure for analyzing quantitative and qualitative data.
- Communicate their research methodology to others.

Required Readings and Resources

There is no required textbook for this course. Each week, any required readings will be posted in advance to LEARN. Students are expected to have read these before class, in order to engage with the format and get the most out of our time together.

Course Requirements and Assessment

GBDA310 is broken down into three major conceptual components: 1) engagement (*practicing the role of a UXer*), 2) developing expertise (*building your UX knowledge*), and 3) research practice (*applying your skills*). Students are expected to put in 8 – 10 hours per week for engaging with the course content and supplementary materials, participating in the course research community, and completing assignments. All

assignments should be completed independently. Students are responsible for choosing a research topic for their proposal.

Assessment Details

Detailed descriptions and rubrics for all assessments will be shared by Week 2 of the course.

Developing Expertise: UX module – 30%

Throughout the course, we will cover up to 40 methods used in the research & design process. Each student will become an expert on one of those topics (pending adjustments based on enrolment – *Friday section, stay tuned: you will receive an updated syllabus*) and develop a short lesson to teach the class. This presentation should be seven (7) minutes long. By week 2 of the course, you will each be randomly assigned one of the methods, and will develop a module (lesson) for others to learn about this method. You may use the course material as a starting point and add new content or take your own approach for presenting the content. For example, the learning artifact generated can be an interactive PDF, a website, or another app (e.g. Wakelet, Padlet, or Milanote) as long as others can have easy access to the material. The presentation can be live or recorded, but you must be present to take part in the discussion following. Each format has its own affordances relating to interactivity and engagement, so take a human-centered design approach to designing your module in terms of presentation, engagement, usability, and utility. Consider using a combination of multimedia, images, diagrams, videos, infographics, concise text, case studies, and hands-on activities when developing the module content. Make some references to further readings and learning. Your module will be added to the class compilation of a UX design and research methods toolkit available to the whole class by the end of the term. You will need to upload your content to the associated discussion forum thread by the time class starts on the date of your presentation.

Engagement: Subject Matter Experts (SMEs) & Research Community – 30%

Subject Matter Experts – 20%

While you'll *major* in your UX module topic, you'll get your *minor* in 5 more subjects to be a well-rounded UXer. Students will be randomly assigned to five out of the forty UX design and research methods (as evenly as they can be distributed), and will set out to extend our learning about them by flexing some essential skills of a UX researcher: seeking out information, thinking critically, evaluating research, reviewing case studies, considering implications (e.g., ethics, limitations), and more. You'll be important contributors to the class discussions following each module presentation. You will be expected to post your paragraph-length contribution as a reply to the related discussion forum topic that houses the topic module by the time class starts. As an SME, you should be well equipped to answer some of your peers' questions a) in class, and b) in the discussion forums: you should do this at least once per each of your topics.

Building a Research Community (aka Participation, but make it useful) – 10%

One of the most important parts of UX design and research is iterating, questioning, thinking critically, and iterating some more. It is *not* a solitary endeavour. You should prepare 1-2 questions for each class, geared towards rounding out and levelling up our understanding of that week's topics. Whether or not they get answered in class, post them to LEARN afterwards (by 11:59pm) so that either an SME, a TA, or the instructor can have the opportunity to answer. You're also expected to engage with one another as you iterate on your research proposals, contributing your expertise to help your peers develop strong research plans.

Applying: UX research proposal – 40%

Part 1: Video research proposal – 10%

Make a 3-minute selfie video about a research question on a topic of interest and your plan to answer your research question. Start with a brief self-introduction; tell me about yourself and why you are interested in this research topic then leading to a 2-minute explanation of what you propose to research, including some

preliminary ideas about what UX methods you are planning on using to investigate this topic. This assignment is a research proposal only and you do not need to conduct the research in this course, but your idea must be researchable and feasible (e.g., can be answered by a study or a series of studies). The scope of the proposed research should be completable within a school semester. The idea proposed in the video will form the basis of your research proposal. The purpose of the video proposal is to receive early feedback from the instructor and TAs about the feasibility, scope, and merit of your research idea. You may propose more than one idea (and make a longer video) if you would like to receive feedback about which idea has more research potential.

Part 2: Research proposal report – 30%

You will write a research proposal report about how you are planning to use UX design and research methods at each stage of the research and design process. The report should describe your research methodology for answering your research question. The instructor will provide guidance for the report format. (Again, this assignment is a research proposal only and you do not need to conduct the research.) As a part of the submission, you can also reflect on how getting feedback from others helped to shape your decisions and what you learned.

Extensions & Late Policy

Unless otherwise stated, all course deliverables are due at **11:59 pm EST (Eastern Standard Time) on Wednesdays**.

For increased flexibility, a soft-and-hard deadline policy will replace the old 72-hour extension policy for the Video Research Proposal, and Research Proposal Report. The *soft deadline* is the stated deadline and the *hard deadline* is one week after. For example, the Research Proposal Report is due on December 1st, at 11:59 pm. This becomes a soft deadline. The hard deadline is one week later, due December 8th, at 11:59 pm. This is a no-excuses-needed policy; as long as you submit the assignment before the hard deadline, it is deemed on time: no explanation or permission is required. After the hard deadline, assignments handed in late will be penalized by a deduction of 10% per 24-hour period, or part thereof, out of the final mark received. For the Video Research Proposal, all submissions handed in within a week after the original deadline are counted as on-time under the new policy. Please have mercy for your instructor and TAs by striving to submit by the intended deadline.

Modules and Engagement contributions: No extensions. Weekly responses must be posted on LEARN before the weekly deadline indicated by the instructor. Late discussion posts will not be graded.

Submitting Your Work

Follow the directives provided in the assignment descriptions. If your submission contains multiple files, please upload them to LEARN as a single ZIP file. Label the submission in the format: **firstname_lastname_assignment-title**. Please note that assignments submitted anywhere but LEARN (i.e., email) will not be accepted.

Course Communication




This class will use LEARN as the primary communication tool—reminders, updates, discussions, readings and notes will be posted often. Students are expected to check LEARN frequently.

Please Note: This is a friendly reminder that you won't gain access to the online learning systems (LEARN) until your Registered Status on Quest for the term is "Fees Arranged." Visit the Finance - Student Accounts website to find out how to become "Fees Arranged" for the term. If you submitted a payment or Promissory Note more than three days ago and you're not yet "Fees Arranged," please contact

Student Accounts immediately to investigate: 519-888-4567 extension 38466, sfacnts@uwaterloo.ca
 Room 1110, Needles Hall, between 8:30 & 4:30 weekdays.

Tentative Course Schedule

This is a tentative timeline. The content of the topics and order may change based on class progress and interest. Detailed week-by-week readings, assignments, and full content will be posted to LEARN.

Week	Topic	 Due Dates (Wednesdays)
1	Class intro & getting to know you	Unless otherwise stated, all course deliverables are due at 11:59 pm EST (Eastern Standard Time) on Wednesdays.
2	Introduction to UX design and research methods; Pre-discussions	15 September
PHASE 1: UX Methods for Planning, Scoping, and Problem Definition		
3	1. Design thinking 2. Research through design 3. Participatory design 4. Stakeholder analysis 5. Lean UX	22 September
4	6. Secondary research 7. Literature reviews 8. Focus groups 9. Empathy map 10. User journey map	29 September
PHASE 2: UX Methods for Exploration, Synthesis, and Design Implications		
5	11. Ethnography 12. Diary studies 13. Contextual inquiry 14. Interviews 15. Surveys	6 October DUE: Video research proposal
 Reading week (October 9-17) 		
6	16. Grounded theory 17. Mental model diagrams 18. Observation 19. Affinity diagrams 20. Experience mapping	20 October
PHASE 3: UX Methods for Concept Generation and Prototype Iteration		
7	21. Design sprint 22. Cognitive walkthrough 23. Service blueprint	27 October

	24. Business model canvas 25. Heuristic evaluation	
8	26. Crazy 8s 27. How might we... 28. Minimum viable product (MVP) 29. Scenarios 30. Remote moderated research	3 November
PHASE 4: UX Methods for Evaluation, Refinement, and Production		
9	31. Usability testing 32. Controlled experiments 33. Think-aloud protocol 34. Wizard of OZ 35. A/B testing	10 November
10	36. Descriptive statistics 37. T-tests 38. Nonparametric tests 39. Content analysis 40. Thematic analysis	17 November
11	<i>Bonus topics: Accessibility, Bias, Content Strategy, Data science, Ethics</i>	24 November
12	Last week of class 🍂	1 December DUE: Research proposal final report

Notes on Avoidance of Academic Offenses

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect, and responsibility. Check www.uwaterloo.ca/academicintegrity for more information.

Grievance: A student who believes that a decision affecting some aspect of their university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm. When in doubt, please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline: A student is expected to know what constitutes academic integrity (check www.uwaterloo.ca/academicintegrity) to avoid committing an academic offence, and to take responsibility for their actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate Associate Dean. For information on categories of offences and types of penalties, students should refer to Policy 71, Student Discipline, www.adm.uwaterloo.ca/infosec/Policies/policy71.htm. For typical penalties check Guidelines for the Assessment of Penalties, www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm.

Appeals: A decision made or penalty imposed under Policy 70 (Student Petitions and Grievances) (other than a petition) or Policy 71 (Student Discipline) may be appealed if there is a ground. A

student who believes they have a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

A Note for Students with Disabilities

The Office for persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations, please register with the OPD at the beginning of each academic term.

COVID Contingency Plans

The University asks that all instructors prepare for one-week or longer interruptions in planned course delivery. Luckily for us, GBDA 310 was originally developed for an online audience. In the case of an interruption to planned course delivery, we will meet on Zoom at the regularly scheduled class time. If a student needs to self-isolate, accommodation arrangements will be made on a per-case basis. If self-isolation were to conflict with a scheduled Module presentation, for example, then the student would be encouraged to a) present via Zoom, or b) pre-record their module. For the discussion portion following the presentation, they can also participate via Zoom. If bandwidth is a limitation, then the student may need to trade presentation dates with another student in the class, *or* commit to answering questions posed by the class in writing via the LEARN discussion boards rather than synchronously.