

GBDA 410: Seminar in User Experience Research

SYLLABUS

Fall Term 2021

Stratford School of Interaction Design and Business,

University of Waterloo

Course Description

The objective of this course is to develop a deeper understanding of a focus area in the field of human-computer interaction (HCI) and user experience (UX) research. The focus area for the Fall term of 2021 is virtual reality (VR). Students will study key concepts and phenomena related to VR, including how they relate to user experience, and how research on these key concepts is conducted. Students will also design an academic user study on a provided VR topic.

Contact

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Course Goals and Learning Outcomes

Upon completion of this course, students should:

- Know the key concepts and phenomena in VR, and understand why they are important and what role they play in user experience
- Be able to design a user study centered around a given research problem, communicate the design clearly, and argue for study design choices
- Understand how evidence-based research is published, what the publication pipeline looks like, and how academic research is designed and conducted

Textbook

There is no required textbook.

Required Readings and Resources

Each week required readings will be posted in advance to LEARN.

Course Requirements and Assessment

GBDA410 is broken down into three major components: 1) weekly assignments, 2) research plan for a UX study, and 3) peer reviews for others' research plans. Students are expected to put in 8–10 hours per week for viewing the course content and supplementary materials, completing assignments, and participating in the live sessions and discussions. All assignments should be completed independently.

Weekly assignments: 40%

As weekly assignments, there will be a set of questions published in LEARN. The questions will be responded to directly in LEARN; no external files are submitted. Students should be able to respond to the questions comprehensively based on the provided reading materials and the topics discussed during class. Occasionally, students are expected to look into further material on their own.

The weekly assignments will be published around a week *before* the class, along with the study materials. Each assignment is due on the first Friday *after* the corresponding class. In other words, each weekly assignment will be available for completion for a total of roughly *two weeks*.

Each question in the assignments is graded using a simple three-point system (great – okay - poor). See [Table 1](#) below for a detailed breakdown of how the responses are graded. Students are encouraged to formulate thoughtful answers to questions and consult and refer to study materials as well as material they may have researched on their own. Remember to pay attention not only to the content of your answers, but also to clear communication and argumentation.

There will be a **total of 10 weekly assignments** (each containing multiple questions). This excludes the first and the last class of the course.

Table 1. Grading for weekly assignment questions.

Grade	Definition
Great (3 points)	The answer addresses the question and all possible sub-questions. The answer is comprehensive, clear, and well-argued and/or factually correct.
Okay (2 points)	The answer addresses the question and all possible sub-questions. The answer is mostly clear and well-argued but may lack some critical points or depth.
Poor (1 point)	The answer has some merit but lacks critical points or clear arguments.
0 points	Answer is missing or is unreasonable or off-topic.

Research plan for a UX study: 40%

Students will write a research plan for a user study. A set of research problems will be provided, and students can choose which problem to write a plan for. The plan should clearly describe the study approach and procedure, argue how and why it addresses the underlining research question, describe the study participants' tasks and requirements, and argue for the choices in the study design using references where appropriate. The plan should also detail what data will be collected and how and how said data will be analyzed and/or presented, discuss recruitment (where and how will study participants be recruited), and discuss potential ethical considerations and how they will be taken into account. The grading criteria are provided below in [Table 2](#).

The target length for the plan is 4–6 pages + references using the single-column ACM template: <https://www.acm.org/publications/taps/word-template-workflow>. Detailed instructions for using the ACM template will be provided during class.

The **deadline** for the research plan is **December 7, 2021**. The research plan will be submitted in PDF format in Learn.

Table 2. Grading for the UX research plan.

Criteria	Excellent	Good	Fair	Poor
Design and argumentation	The research plan is solid and design choices are well argued. References are used well.	The design choices are mostly well explained. May contain a few minor flaws or underexplained choices.	The planned study has some merit but also has a major flaw or several smaller flaws. Not all design choices are well explained.	The planned study has serious flaws, and design choices are not well explained.
Comprehensiveness	The research plan comprehensively – but concisely – addresses all key aspects of the study; running a study based on the plan is possible.	The research plan covers all key aspects but lacks minor details. Replication is mostly possible.	The research plan explains some of the key aspects, but some parts are still missing, and smaller details are lacking; replication would be difficult.	The research plan omits many key details and aspects that would make replication impossible.
Knowledge and application of concepts	The plan demonstrates a good theoretical command of key concepts, and their application and claims are factually correct.	The plan mostly demonstrates a theoretical command of key concepts, and claims are mostly correct. A few minor errors may be found.	Some key concepts are understood, but some are incorrect or misrepresented. Some incorrect claims.	The plan contains factual errors, incorrect claims, concepts, and other details are misrepresented.
Presentation and formatting	The research plan is presented clearly and in a pleasant manner. References, figures, headings, paragraphs, and other elements are formatted correctly. Figures, if any, are useful and well-constructed.	The research plan is presented clearly and in a pleasant manner. Minor formatting errors may be present. Figures, if any, are useful but could be improved.	The plan is a mix of good and bad presentation. Formatting errors are present. Figures, if any, may be helpful with some effort.	The research plan is poorly presented. References, figures, headings, paragraphs, and other elements have many formatting issues. Figures, if any, are not helpful.
Structure and language	The research plan is clearly and logically structured and easy to follow. Transitions between sections are logical. Language is concise, clear, and error-free.	The research plan is mostly clearly and logically structured and easy to follow. Language is mostly concise and clear, with some small errors.	The plan has some illogical structuring but can ultimately be followed. Language could be more concise. Errors are present.	The plan is hard to follow; information is illogically ordered. The plan goes back and forth between topics. The text is hard to read.

Peer review: 20%

Students will provide feedback to their peers. Students will be assigned to teams of four, where each student gives feedback on the other students' research plan draft. Each student therefore reviews three drafts.

In each review, students should address *five points* of their choosing. These points can be issues/criticism, suggestions, or praise. Generally, a paragraph of text for each point is sufficient, but students can write longer responses if they feel that it is necessary for a proper explanation. Each point in each review is graded on a three-point scale (great – okay - poor). **Table 3** below details the scoring. The research plan drafts submitted for peer review are *not* graded. Rather, students can utilize the reviews to improve their research plan before the final submission.

Table 3. Grading for each point in a review.

Grade	Definition
Great (2 points)	The point is excellent and well-constructed, and is clearly useful to the author
Okay (1 point)	The point is reasonable and should be useful to the author
Poor (0 points)	The point is missing, is largely unreasonable or off-topic, it is not clearly its own point

Project Extensions and Lateness Policy

Unless otherwise indicated, all weekly assignments are due at **11:59 pm EST (Eastern Standard Time) on Fridays** (the first Friday following the corresponding class). Extensions are not provided.

The research plan is due at **11:59 pm EST (Eastern Standard Time) on December 7, 2021**. Extensions may be provided on a case-by-case basis.

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.

Tentative Course Content and Schedule

Classes will consist of theoretical sections and group activities/discussions. Attending the classes will help with completing the weekly assignments as well as with the research plan.

A *tentative* timeline for the classes is presented in **Table 4**. The schedule and content may change, depending on class progress and interest.

Table 4. Tentative Course Schedule.

Week	Topic	Dates	Deadlines
1	Kick-off + Introduction to VR	SEC 3: 2021-09-10 SEC 1 & 2: 2021-09-13	
2	Basics of UX research	SEC 3: 2021-09-17 SEC 1 & 2: 2021-09-20	
3	How to publish UX research	SEC 3: 2021-09-24 SEC 1 & 2: 001: 2021-09-27	Friday, 2021-09-24: Week 2 assignment
4	Presence and immersion	SEC 3: 2021-10-01 SEC 1 & 2: 2021-10-04	Friday, 2021-10-01: Week 3 assignment <i>Research plan scenarios published</i>
5	Locomotion	SEC 3: 2021-10-08 SEC 1 & 2: 2021-10-18 Note: reading week; section 3 will have their session before the reading week, while sec 1 & 2 will have theirs after.	Friday, 2021-10-08: Week 4 assignment
6	Simulator sickness	SEC 3: 2021-10-22 SEC 1 & 2: 2021-10-25	Friday, 2021-10-22: Week 5 assignment
7	Data collection	SEC 3: 2021-10-29 SEC 1 & 2: 2021-11-01	Friday, 2021-10-29: Week 6 assignment
8	Remote VR studies	SEC 3: 2021-11-05 SEC 1 & 2: 2021-11-08	Friday, 2021-11-05: Week 7 assignment
9	Ethics	SEC 3: 2021-11-12 SEC 1 & 2: 2021-11-15	Friday, 2021-11-12: Week 8 assignment <i>Research plan draft deadline</i>
10	Accessibility	SEC 3: 2021-11-19 SEC 1 & 2: 2021-11-22	Friday, 2021-11-19: Week 9 assignment
11	Cinematic VR	SEC 3: 2021-11-26 SEC 1 & 2: 2021-11-29	Friday, 2021-11-26: Week 10 assignment <i>Peer reviews due</i>
12	Open Questions + Recap	SEC 3: 2021-12-03 SEC 1 & 2: 2021-12-06	Friday, 2021-12-03: Week 11 assignment
-	-	-	<i>December 7, 2021: research plan</i>

Contingency Plan

This course is planned as a hybrid course, with one remote online section (section 1), and two in-person sections (sections 2 & 3). In the event that purely remote delivery of courses resumes, the in-person sections will be moved to an online mode identical to section 1. In this case, the live sessions will be somewhat shorter in duration. The same theoretical content will still be presented. Remote delivery will not have any other effect on the course; the content, schedule, deadlines, and assignments will remain the same.

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 his/her 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