DIG6840 Interdisciplinary Research Seminar

Instructor
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Office Location
Room 116
Norman Gym

Office Hours
Tues 11AM – 12 PM

Course Number
DIG6840

Semester/Year
Spring 2021

Course Credits
3 credits

Course Location
CSE E413

Course Meeting Times
Mon Period 4
Wed Periods 4/5

Course Description
This course is designed to introduce graduate students in digital arts and science to the research topics and methods in human-computer interaction (HCI). This course's particular focus is on virtual reality (VR) and augmented reality (AR) user interface. User research in VR looks at cognitive and social phenomena surrounding human use of computers to understand their impact and create guidelines for designing and evaluating software and physical products and services in the industry. The course consists of three modules:

1) Principles of HCI and VR research through a set of readings, class presentations, and discussions.
2) Empirical methods for exploratory and experimental human-subjects research through individual assignments.
3) A group project in which student teams will practice these principles and research methods in an application domain.

Pre-Requisites
While the course is designed primarily for graduate students in digital arts and science, advanced undergraduates in these programs and graduate students from other programs may take the course with the instructor's permission.

Objectives: By the end of this course, students will be able to:

- Students will become familiar with the process of doing research in HCI, designing rigorous empirical studies and collecting data.
- Students will appreciate ethical issues associated with human subjects' research in HCI.
- Students will learn to analyze published articles on a specific topic within HCI, and to read these articles to identify key results, limitations, and future research directions.
- Students will learn to critique theories and assumptions in research studies.
- Students will gain experience identifying research questions, refining these questions to form hypotheses, and identifying appropriate research methodologies to investigate these hypotheses.
- Students will explore topics within HCI, understand the current state of knowledge with regard to these topics, and identify open questions to be addressed.

Required Materials
- There is no required textbook for this class

Recommended Materials
- R Statistics

Course Schedule

This schedule is only a guide and is subject to change. Unless otherwise indicated, all assignments are due at midnight on the day they are listed on the syllabus.

Week		Subject	Assignment/Quiz	Due
W 1	Jan 11	Course Introduction		
	Jan 13	What is Virtual Reality	Reading 1	
W 2	Jan 18	No Class (Martin Luther King Day)		
	Jan 20	**Build Your Project Team** Human Subject Research and IRB	Project Idea IRB Training	Jan 19 Jan 22
W 3	Jan 25	Research Method Overview		
	Jan 27	Computer-Mediated Communication	Reading 2	Jan 26
W 4	Feb 1	Qualitative Research: Interview		
	Feb 3	Social and Embodied Interface	Reading 3	Feb 2
W 5	Feb 8	Writing a Research Proposal		
	Feb 10	**Project Proposal Presentation**	IRB Submission	Feb 14
W 6	Feb 15	Ethnography and Grounded Theory		
	Feb 17	Human and Roboto Interaction	Reading 4	Feb 16
W 7	Feb 22	Experiment Design		
	Feb 24	Avatar and Embodiment	Reading 5	Feb 23
W 8	March 1	Quantitative Data and Measures		
	March 3	System Usability	Reading 6	March 2
W 9	Mar 8	Usability Testing and Scale Construction		
	Mar 10	**Project Presentation: User Research**		
W 10	Mar 15	Statistics: Mean Comparison		
	Mar 17	3D User Interaction Part 1	Reading 7	March 16
W 11	Mar 22	Statistics: Correlation		
	Mar 24	3D User Interaction Part 2	Reading 8	March 23
W 12	Mar 29	Introduction to R Statistics		
	Mar 31	Novel Interface and Displays	Reading 9	March 30
W 13	Apr 5	ANOVA and T-test	R exercise	April 11
	Apr 7	Assistive and Accessible Interface	Reading 10	April 6
W 14	Arp 12	Research Ethics		
	Apr 14	Project Work Session		
W 15	Apr 19	Project Work Session		
	Apr 21	**Final Presentation**	Final Report	April 25

Evaluation of Grades

Assignment	Points	% of Grade
Reading: Each student should come to the seminar to discuss assigned article in reasonable depths and to present their ideas about the major ideas and contribution, or shortcoming of each reading if asked to do so. Students will be also responsible for writing up an approximately one-page summary each week focusing on research ideas from that week's reading.	300	30%
Article Presentation: Each student will present an assigned article during the course in greater depth. This presentation should follow the conference presentation format. Prepare 15 min presentation that includes information about research background, related works, methods, results, and implications of the assigned article.	100	10%
Project Idea Pitch (Individual): Each student will informally present their project idea in the 2nd week of the course. Please prepare a 5 min presentation.	50	5%
IRB Training and R exercise	50	5%
Project Presentations (Group): Project teams will present 1) their proposal and 2) user research plan during the semester.	100	10%
Final Presentation: Project teams will present their overall project process and discuss the implication of their findings from the exploratory and experimental studies. Teams will prepare their presentation following the conference presentation format.	100	10%
Final Research Paper: Project teams will also write up their research as a short empirical research paper. The paper should start by describing prior research, research questions, methodology (i.e., experimental design, procedure, sample, interventions if applicable, measures, and analyses), results, and conclusions.	300	30%
TOTAL	**1000**	**100%**

Grading Scale

Letter Grade	% Equivalency	GPA Equivalency
A	94 – 100%	4.0
A-	90 – 93%	3.67
B+	87 – 89%	3.33
B	84 – 86%	3.00
B-	80 – 83%	2.67
C+	77 – 79%	2.33
C	74 – 76%	2.00
C-	70 – 73%	1.67
D+	67 – 69%	1.33
D	64 – 66%	1.00
D-	60 – 63%	.67
E, I, NG, S-U, WF	0 – 59%	0.00

More information on grades and grading policies is here:
https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Materials and Supply Fees

Material and supply and equipment use fee information is available from the academic departments or from the schedule of courses (Florida Statutes 1009.24). The total course fee for this class is $0.00.

The total course fee for each course is listed on the UF Schedule of Courses. (https://registrar.ufl.edu/soc/).

Course Polices

Late Submission

All course work (including, but not limited to: assignments, quizzes, and group projects) must be submitted no later than the due date unless prior arrangements are made with the instructor.

- **Points deduction:** If a student submits an assignment after the due date without having made arrangements, 1 point will be deducted for each date.

- **3 days policy:** To request a deadline extension, please contact the instructor at least 3 days prior to the deadline.

Make-up Policy

Unless students have acceptable reasons for missing quizzes and group project presentation, the maximum grade the students can receive is half points of their original grade. For example, if you receive 10 for your final group presentation, the final grade will be 5.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Face-to-Face Instruction

We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.

- You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
- Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
- Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.
- If you are experiencing COVID-19 symptoms (Click here for guidance from the CDC on symptoms of coronavirus), please use the UF Health screening system and follow the instructions on whether you are

able to attend class. Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.

- o Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. Find more information in the university attendance policies.

Course Technology

The students will be required to have access to and use a personal computer with the access to the Internet. Word editing software will be required for written assignments.

The University of Florida and Digital Worlds requires that students have access to and on-going use of a laptop/mobile computer for DIG courses in order to be able to function in the current learning environment. Digital Worlds requires each student's laptop computer to meet certain minimum specs for heavy graphics use, the requirements documented below must be met.

DW Technology Requirements

Course Communications

Students can communicate directly with the instructor regarding the course material through the course management system (CANVAS) using "Canvas Mail".

Course Recordings

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Course Technology Support

The Technology Support Center provides computer support for Digital Worlds students who access Zoom, lecture recordings, student equipment, facilities and other technology-based resources. http://digitalworlds.ufl.edu/support

For computer assistance related to Zoon, lecture recordings, student equipment, and facilities request please Submit a Help Ticket or email support@digitalworlds.ufl.edu.

For support related to account services, technical consulting, mobile device services, software services, administrative support, application support center, and learning support services, please contact the UF Computing Help Desk available 24 hours a day, 7 days a week at 352-392-4357 or helpdesk@ufl.edu.

UF Policies

University Honesty Policy
UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Class Demeanor
Students are expected to arrive to class on time and behave in a manner that is respectful to the instructor and to fellow students. Please avoid the use of cell phones and restrict eating to outside of the classroom. Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all.

Students Requiring Accommodations
Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. Click here to get started with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Netiquette Communication Courtesy
All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats, more information can be found at: http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf

Software Use
All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy
There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html

Course Evaluation
Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Click here for guidance on how to give feedback

in a professional and respectful manner. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students here.

Campus and Academic Resources

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

Library Support: Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints On-Campus: Visit the Student Honor Code and Student Conduct Code webpage for more information.

On-Line Students Complaints: View the Distance Learning Student Complaint Process.

Disclaimer: This syllabus represents the instructor's current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.