

Human Computer Interaction
CEN 4721 Section 1H09, CER2, CERT, OFLO
Academic Term: Spring 2021

Class Periods:

Lecture	T Period 8-9 (3:00 – 4:55 PM) R Period 9 (4:05 – 4:55 PM)	Synchronous via Zoom and FLI 0109 Synchronous via Zoom and FLI 0109
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Location: Hybrid (Live synchronous through Zoom and FLI 0109 for students on campus)

Instructor

Amanpreet Kapoor, kapooramanpreet@ufl.edu
Office Hours: Monday, Period 9 (4:05 - 4:55 PM) (via Zoom)
Tuesday, Period 10 (5:10 - 6:00 PM) (via Zoom)
By Appointment

Teaching Assistant

Fatemeh Tavassoli, ftavassoli@ufl.edu
Office Hours: TBD

Course Description

A study of the major topics in human-computer interaction, including interface design (principles, theories), software tools, virtual environments, interactive devices, collaboration, and visualization. 3 Credit Hours.

Course Pre-Requisites / Co-Requisites

COP 3530 Data Structures with minimum grade of C.

Course Objectives

This course is directed towards junior and senior undergraduate students who wish to learn the basic concepts and current research into the design, creation, and evaluation of computer interfaces. While the course requires substantial technical development, the emphasis is on the design, analysis, and evaluation of human-centered interfaces in accordance with common methodologies.

Upon completion of this course, students will be able to:

- Characterize and critique core concepts and methods of human-computer interaction
- Design and build human-computer interfaces
- Evaluate human-computer interfaces
- Analyze projects, systems, and designs based on human needs and task requirements

Required Programming Experience and Tools

- Students should be confident and experienced with independently learning new tools or programming libraries. Programming at a Data Structures level is required. You will be required to implement an interactive system.
- You can use any development environment and programming language appropriate for class assignments or project works. This class involves group assignments, and individual requirements will vary based on team interests and abilities. Students are expected to be able to independently learn the appropriate technology or development skills as needed for their projects.

Recommended Materials (Optional)

- Required Readings will be provided for each week.
- Optional Textbook 1: Designing the User Interface: Strategies for Effective Human-Computer Interaction
 - Ben Shneiderman, Catherine Plaisant, Maxine Cohen, Steven Jacobs, Niklas Elmqvist, Nicholas Diakopoulos. 5th Edition, Pearson

- Optional Textbook 2: The Human-Computer Interaction Handbook, Fundamentals, Evolving Technologies, and Emerging Applications.
 - Edited by Julie A. Jacko. 3rd edition. Available through the UF library website.
- The Design of Everyday Things
 - Don Norman

Course Components

This course involves the following activities:

- Lectures: Core HCI topics will be presented and discussed.
- Reading: Textbook and supplemental reading assignments on many HCI topics.
- Homework: Frequent homework assignments or quizzes to practice and reinforce core concepts.
- Projects: Create and evaluate human-computer interfaces using common research methods.
- Paper Presentations: Students are required to present a HCI research paper once per semester.
- Group Presentations: Student groups will present their project progress and design process in-class at different times throughout the semester.

Course Topics

- Introduction to Human-Computer Interaction and History of HCI
- User Centered Design
- Prototyping
- Foundations of HCI
- Designing Interfaces and Interactions
- Accessibility
- Ethics for Human Subject Studies
- Usability Testing
- Statistics for HCI
- Input Techniques and Technologies
- Sensor and Recognition-Based Input
- Designing for Children
- Augmented Cognition
- Research topics in HCI

Course Schedule (Tentative)

Week	Dates		Topic	Deadlines
0	11 Jan	13 Jan	Course Introduction and Introduction to HCI	
1	14 Jan	20 Jan	Introduction to HCI and History of HCI	
2	21-Jan	27-Jan	User Centered Design Process	A ₁
3	28-Jan	3-Feb	HCI Methods and Ethics of Working with People	A ₂
4	4-Feb	10-Feb	Knowing the User: Social Theories and Cognition / Presentation 1	P ₁
5	11-Feb	17-Feb	Knowing the User: Special Populations / Accessibility	A ₃
6	18-Feb	24-Feb	HCI Theories	P ₂
7	25-Feb	3-Mar	Prototyping / Virtual and Augmented Reality	A ₄
8	4-Mar	10-Mar	Planning Studies and Usability Testing	A ₅
9	11-Mar	17-Mar	Interaction Styles / Presentation 2	P ₃
10	18-Mar	24-Mar	Quantitative Statistics for HCI	
11	25-Mar	31-Mar	Qualitative Analysis for HCI	A ₆
12	1-Apr	7-Apr	Presentation 3	P ₄
13	8-Apr	14-Apr	Research Topics : Affective Computing / Collaboration / Visualization	
14	15-Apr	21-Apr	Beyond HCI and Presentation 4	P ₅
Legend: A _N = Individual Mini Assignment, P _N = Group Project Checkpoint N				

Evaluation of Grades

Type	Assignment	Weightage	% of Final Grade
Individual 40%	Mini Assignments (6, Drop Lowest) <ul style="list-style-type: none"> Two Quizzes Four Individual Assignments 	5% x 5	25%
	Research Paper Presentation	5%	5%
	Class Participation	10%	10%
Group Project 60%	Checkpoint 1: Proposal, User Requirements, Review	10%	10%
	Checkpoint 2: Prototype	10%	10%
	Checkpoint 3: Implementation	10%	10%
	Checkpoint 4: Evaluation	10%	10%
	Checkpoint 5: Iterate and Portfolio	10%	10%
Peer Feedback	10%	10%	
Extra-credit	Research Study Participation	Up to 1%	1%
			Total: 101%

Grading Policy

Percent	Grade	Grade Points
93.4 - 101	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33
83.4 - 86.6	B	3.00
80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33

Percent	Grade	Grade Points
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00
60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Attendance Policy

Attendance to synchronous lectures and discussions is **highly recommended**. Class participation points are based on your involvement in the live sessions. Also, students are liable for all announcements made during any synchronous lecture. The lectures will not be recorded.

Make-Up, Project Resubmission, and Late Submission Policy

- Projects/Assignments submitted late will be penalized by **15% each day up-to three days**. After the third day, you will get a 0. We also count weekends as regular days. So, if an assignment is due Friday, and you submit on Sunday, you will be graded out of 70 instead of 100 (2 days late penalty).
- In case, a group submission is turned in late, the entire group will be penalized.
- Scheduled research presentations cannot be made up.

Grade Review

- After one week of posting a grade, no revisions will be made. In the event of a grade review, the entire assignment will be reviewed.
- If there is an ambiguity on a quiz, you need to get back to the Instructor within two hours of taking the quiz to potentially get back points in case the ambiguity is genuine.

Class Expectations

- We will be using Slack for all communication purposes.
- For projects, students will complete a project involving the design, development, and evaluation of human-computer applications. The project typically expects multiple weeks of work and may require multiple submissions of work. Students will implement an application and conduct user studies to collect data about the application. Students are also required to participate in study sessions of other students. The themes for this semester's projects include: "Quantifying Self" and "Professional Development".

- This course encourages participation in research in human-computer interaction to promote awareness and education of different active research projects involving human and technology at the University of Florida. Students can participate in an approved UF research study (> 0 credits) related or relevant to human-computer interaction to receive extra credit for the research participation component of the grade. Participation must be completed during the semester, and only approved studies registered through the CISE Department's SONA system (<https://ufl-cise.sona-systems.com>) are eligible. Students will need to (1) create an account in the system, (2) select the correct course name and number for this class, and (3) schedule and participate in an approved study to receive credit.
- The course will not include programming or implementation in web-frameworks.

Academic Dishonesty

- For any group work, groups may collaborate with one another to discuss logistical aspects of the project, brainstorm implementation solutions, and otherwise solve challenges. Any collaborated code must have a citation (comment) that includes the source (group name) and the encompassing code. If a group member plagiarizes a portion of a written assignment, the entire group will be held responsible. Therefore, it is imperative to be cognizant of all the portions of the group project, not just your responsibility.
- Not allowed in this course include the following:
 - plagiarism (misrepresenting others' ideas as your own, can often be fixed with simple citation),
 - copying code,
 - social loafing (e.g., for group work), and
 - work that is offensive to others
- In case of any plagiarism on individual assignments, the student will get a 0 on the assignment and a one letter grade decrement for the first offense. In case of any plagiarism on group assignments, the entire group will get a 0 on the assignment and a one letter grade decrement for the first offense. For the second offense you will get an E grade. Also, for both offenses, you will be reported to the Honor Court.
- The instructor reserves the right to reduce your group component grade based on peer-feedback and occurrences of social loafing.

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://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-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.

F2F Course Policy in Response to COVID-19

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.

- 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.

Discussion and Slack Policy - Be Nice, Be Helpful

- Treat your classmates with civility and respect. Don't attack anyone and no discussion of controversial topics on channels.
- If you have a question regarding content, always post it on the **#questions** channels if you want the course staff to answer. Do not be hesitant however simple is the question. You will be surprised by how many students have the same question but are hesitant to ask. We want to make sure everyone gets the basics right and we hope that you leave the course with a mastery of first principles and basics.
- Use private messaging only if the message is related to personal requests.
- Questions will be answered **Monday – Friday in less than 48 business hours typically** by at least one member of the course staff.
- Try to answer questions posted by your course mates if possible and help them. This is helpful for a vibrant environment in a remote course.
- Harassment/Bullying/Making fun of another student will not be tolerated and will lead to disciplinary actions. If someone is behaving disrespectfully on the forum which you find inappropriate, send the Instructor a message and don't argue on it publicly.

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. 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.

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. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. 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 <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

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 and Course Recordings

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

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 "private chat" feature, which allows students to type questions and comments live. "Private chat" is not recorded. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Campus Resources:

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
<https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.
<https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
<https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: <https://care.dso.ufl.edu>.

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaint-process>.