

**CLASS LOCATION:** CSE 222.

**CLASS MEETING TIME(S):** Mondays, Wednesdays, and Fridays.  
Period 4 (10:40 AM – 11:30 PM).

**CLASS MODALITY:**

- We will have synchronous weekly meetings on Mondays, Wednesdays, and Fridays. The instructional material will be posted online in a weekly manner and addressed/worked/discussed in these meetings.
- Monday—Period 4 (10:40 AM – 11:30 PM) will serve for an in-person, synchronous working session. This session will be used for independent study and as an office hour.
- Wednesdays and Fridays will be used for synchronous in-person lectures.
- Students are invited to work (asynchronously) on the instructional material prior to our meetings.

**INSTRUCTOR:** Mr. Pedro Guillermo Feijóo-García, M.Sc.

- a. Office location: CSE Building E520
- b. Email address: [pfeijoogarcia@ufl.edu](mailto:pfeijoogarcia@ufl.edu) (please use eLearning to contact me).

**OFFICE HOURS:** We will use Monday's working sessions as a space to address questions, doubts, or concerns. Personalized office hours will be held via Zoom, unless otherwise stated: <https://ufl.zoom.us/my/pfeijoogarcia>

**COURSE TA'S:** No TAs.

**COURSE WEBSITE:** available on [eLearning HCI Spring 2022](#).

**COURSE COMMUNICATIONS:** We will have a Discord channel for the course. Questions and Answer will be provided through Discord (mainly) and eLearning (i.e., Canvas).

## **REQUIRED TEXTBOOK**

No textbook is required for this course. Readings in the form of textbook chapters, academic papers, and online resources will be posted to the course website. Students will be responsible for accessing the readings and downloading any relevant links provided.

## **COURSE DESCRIPTION**

Human-Computer Interaction is a course designed for graduate students who wish to learn concepts and trends in designing and evaluating human-centered computer interfaces. The course will help students gain technical skills, as well as competencies in the design, analysis, and evaluation of human-centered interfaces for different domains.

## **LEARNING OBJECTIVES**

By the end of this course, students will:

- be able to characterize and critique core concepts and methods of human-computer interaction
- be able to design and build human-computer interfaces.
- be able to evaluate human-computer interfaces.
- be able to reflect on human-computer interaction research.

## **INSTRUCTIONAL METHODS**

- Weekly lectures (some recorded), student-created artifacts (video-tutorials and mental models), homework assignments, projects, and exams. Also, we will use co-evaluations strategies throughout the course, which are proposed to enhance students' learning outcomes.
- We will have an online flipped-classroom design, with synchronous weekly meetings on Mondays, Wednesdays, and Fridays. The instructional material will be posted online in a weekly manner and addressed/worked/discussed in these meetings.
- Students are invited to work (asynchronously) on the instructional material prior to our meetings.

## PROGRAMMING

You can use any development environment and programming language appropriate for class assignments or project works. This course involves group assignments, and individual requirements will vary according to team interests and skills. Students are expected to be able to independently learn the appropriate technologies or development skills as needed for their projects.

Students should be confident and experienced with independently learning new tools or programming libraries. You will be required to implement an interactive system, hence programming at a Data Structures level is highly expected.

## PREREQUISITES

COP 3530, and any other programming course (COP 2800, COP 3275, or COP 3229).

## TENTATIVE CALENDAR (Subject to change\*)

Week	Monday Period 4	Wednesday Period 4	Friday Period 4
1	01/03/2022 End of winter break	01/05/2022 Welcome session	01/07/2022 Introduction to HCI
2	01/10/2022 General project overview	01/12/2022 A history of interfaces	01/14/2022 Working session Office hour
3	01/17/2022 Holiday	01/19/2022 Weeks 1-2 papers	01/21/2022 User-centered design (1)
4	01/24/2022 User-centered design (2)	01/26/2022 User-centered design (3)	01/28/2022 Weeks 3-4 papers
5	01/31/2022 General Project Pitch	02/02/2022 General Project Pitch	02/04/2022 General Project Pitch
6	02/07/2022 Working session Office hour	02/09/2022 User interfaces: help and feedback	02/11/2022 Weeks 5-6 papers

7	02/14/2022 Working session Office hour	02/16/2022 Evaluation of user interfaces (1)	02/18/2022 Evaluation of user interfaces (2)
8	02/21/2022 Working session Office hour	02/23/2022 Working session Office hour	02/25/2022 <b>Weeks 7-8 papers</b>
9	02/28/2022 General project first presentation	03/02/2022 General project first presentation	03/04/2022 General project first presentation
10	03/07/2022 Spring break	03/09/2022 Spring break	03/11/2022 Spring break
11	03/14/2022 <b>Weeks 9-10 papers</b>	03/16/2022 User interfaces: theory and mediation	03/18/2022 Programming interfaces
12	03/21/2022 Working session Office hour	03/23/2022 Interactive interfaces: architecture and accessibility	03/25/2022 Interactive interfaces: types of input
13	03/28/2022 Working session Office hour	03/30/2022 Interactive interfaces: types of output	04/01/2022 Qualitative methods (1)
14	04/04/2022 Working session Office hour	04/06/2022 Qualitative methods (2)	04/08/2022 <b>Weeks 13-14 papers</b>
15	04/11/2022 Working session Office hour	04/13/2022 Quantitative methods (1)	04/15/2022 Quantitative methods (2)
16	04/18/2022 General project final presentation	04/20/2022 General project final presentation	04/22/2022 <b>Weeks 15-16 papers</b>

## RECOMMENDED LITERATURE

1. Ko, A. J., Wobbrock, J. O., & Whitmire. E. (2022). User Interface Software and Technology. <https://faculty.washington.edu/ajko/books/user-interface-software-and-technology/>, retrieved 1/5/2022.
2. MacKenzie, I. S. (2013). Human-computer interaction: An empirical research perspective.
3. Norman, D. (2013). The design of everyday things: Revised and expanded edition. Basic books.
4. Ko, A. J. (2022). *Design Methods*. <https://faculty.washington.edu/ajko/books/design-methods/>, retrieved 1/5/2022.

## COURSE POLICIES

**MAKE-UP POLICY:** Consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

**ATTENDANCE:** Students are expected to come to class and **encouraged to do so in-person**. We will have group activities and synchronous lectures that are designed to foster discussion and learning outcomes. In the case that a student needs to miss a session, in-person or online, they should contact the instructor at least two days prior to the session that is going to be missed. **If a student is sick or will need to be absent for a significant period**, please contact the instructor to work out a way to catch up. Providing the instructor with advanced notice (at least 2 weeks) is expected. The class format will offer students to join lectures via Zoom: <https://ufl.zoom.us/my/pfeijoogarcia>. Nevertheless, activities are expected to be in-person during the semester, unless otherwise stated.

**LATE POLICY:** Students can submit an assignment one day late (24 hours after the deadline) to earn up to 50% of the assignment total; otherwise, a score of zero will be earned.

### **MAKE-UPS:**

Students who contact the professor before the due date with appropriate requests for extension and/or makeup assignments will be given an additional amount of time to make up late assignments equal to the time lost due to the unforeseen circumstance.

**FINAL EXAM:** There will not be a final exam.

**COURSE TECHNOLOGY:** This course will be conducted using the Canvas Learning Management System and Discord. Other technologies may be introduced and provided during the semester according to the topics covered in class.

**INCOMPLETES:**

To be considered for an incomplete, the student must 1) let the professor know at in advance that they are seeking an incomplete, and 2) provide documentation to support the request.

Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

## UF POLICIES

**UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES:**

Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive; therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**UNIVERSITY POLICY ON ACADEMIC MISCONDUCT:** Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

**\*\*ETIQUETTE: COMMUNICATION COURTESY\*\*:** All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. [Describe what is expected and what will occur as a result of improper behavior]  
<http://teach.ufl.edu/wpcontent/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

## GETTING HELP

For issues with technical difficulties for E-learning in Canvas, please contact the UF Computing Help Desk at:

- [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu)
- (352) 392-HELP - select option 2
- <https://request.it.ufl.edu>

\*\* Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available at <http://www.distance.ufl.edu/getting-help> for:

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

Should you have any complaints with your experience in this course please visit <http://www.distance.ufl.edu/student-complaints> to submit a complaint.

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## GRADING POLICIES

### EVALUATION WEIGHTS:

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|------------------------------------|-----|
| • General project (x1):            | 50% |
| • Papers' oral presentations (x2): | 20% |
| • Assignments (variable):          | 19% |
| • Participation (variable):        | 10% |
| • Research participation (x1):     | 1%  |

**GENERAL PROJECT:** Students will work in teams to complete a semester-long project involving the design, development, and evaluation of Human-computer system. Projects are expected to be designed and presented from the context of HCI topics,

methods, and theories covered in the course. More details on project concepts and expectations will be given in class. Early in the semester, teams will decide on project goals and develop an execution plan to be approved or revised by the instructor, and students will be expected to provide status updates and demonstrations throughout the class. Unless otherwise stated, each team is Expected to work together to produce a single deliverable.

**PAPERS' ORAL PRESENTATIONS:** During the semester, each team will present and discuss two assigned research papers in class. Presentation length and discussion requirements will be determined by the instructor prior to presentation topic assignments. Presentations will be reviewed (graded) among the audience: students and the instructor.

**ASSIGNMENTS:** Assignments will be described as the course progresses. Paper summaries fall under this category. Assignments may include in-class activities as well as out-of-class work. Quizzes fall under in-class activities. Unless otherwise stated, homework must be submitted before class on the given deadline to be eligible for full credit.

**PARTICIPATION:** During the semester, students will be asked to take part as reviewers of their peers' work: e.g., general projects' pitches, oral presentations, etc. Participation points will be granted or deducted based on the students' attendance and contribution to those activities.

**RESEARCH PARTICIPATION:** Students can participate in an approved research study related or relevant to HCI to receive credit for the research participation component of the grade. Students may participate in an additional study for an additional 1%. Participation must be completed during the semester. Students who do not want to participate in a research study may opt for an alternative paper review assignment if they notify the instructor before week nine.

**GRADING SCALE:** A (100-93), A-(92-90), B+(89-87), B (86-83), B- (82-80), C+ (79-77), C (76-73), C- (72-70), D+ (69-67), D (66-63), D -(62-60), F (59-0)

**\*Grades might be curved\***

"A 'C' will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.asp>"



**EXTRA CREDIT:** Opportunities to earn extra credit are not promised, but the instructor may opt to offer supplemental assignments for extra credit. Details will be determined per assignment and must be agreed upon by both the instructor and the student.

**\*Disclaimer:** This syllabus represents my 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.

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## READING LIST

- **Weeks 1 – 2:**

- Norman, D. A. (1992). Design principles for cognitive artifacts. *Research in Engineering Design*, 4(1), 43-50.
- Grudin, J. (1990, March). The computer reaches out: The historical continuity of interface design. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 261-268).
- Nielsen, J., & Molich, R. (1990). Heuristic evaluation of user interfaces. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 249-256). ACM.

- **Weeks 3 – 4:**

- Cockburn, A., Gutwin, C., & Greenberg, S. (2007, April). A predictive model of menu performance. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 627-636).
- MacKenzie, I. S., & Buxton, W. (1992, June). Extending Fitts' law to two-dimensional tasks. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 219-226).
- Cherubini, M., Venolia, G., DeLine, R., & Ko, A. J. (2007, April). Let's go to the whiteboard: how and why software developers use drawings. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 557-566).

- **Weeks 5 – 6:**

- Wobbrock, J. O., Morris, M. R., & Wilson, A. D. (2009, April). User-defined gestures for surface computing. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 1083-1092).
- Anthony, L., Brown, Q., Nias, J., Tate, B., & Mohan, S. (2012, November). Interaction and recognition challenges in interpreting children's touch and gesture input on mobile devices. In *Proceedings of the 2012 ACM international conference on Interactive tabletops and surfaces* (pp. 225-234).
- Matulic, F., Arakawa, R., Vogel, B., & Vogel, D. (2020, April). Pensight: Enhanced interaction with a pen-top camera. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-14).

- **Weeks 7 – 8:**

- Parviainen, E., & Søndergaard, M. L. J. (2020, April). Experiential qualities of whispering with voice assistants. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-13).

- Luger, E., & Sellen, A. (2016, May). " Like Having a Really Bad PA" The Gulf between User Expectation and Experience of Conversational Agents. In *Proceedings of the 2016 CHI conference on human factors in computing systems* (pp. 5286-5297).
- Porcheron, M., Fischer, J. E., Reeves, S., & Sharples, S. (2018, April). Voice interfaces in everyday life. In *proceedings of the 2018 CHI conference on human factors in computing systems* (pp. 1-12).
- **Weeks 9 – 10:**
  - Berkovsky, S., Taib, R., Koprinska, I., Wang, E., Zeng, Y., Li, J., & Kleitman, S. (2019, May). Detecting personality traits using eye-tracking data. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (pp. 1-12).
  - Zalake, M., de Siqueira, A. G., Vaddiparti, K., Antonenko, P., & Lok, B. (2021, September). Towards Understanding How Virtual Human's Verbal Persuasion Strategies Influence User Intentions To Perform Health Behavior. In *Proceedings of the 21st ACM International Conference on Intelligent Virtual Agents* (pp. 216-223).
  - Joosse, M., Lohse, M., Pérez, J. G., & Evers, V. (2013, May). What you do is who you are: The role of task context in perceived social robot personality. In *2013 IEEE International Conference on Robotics and Automation* (pp. 2134-2139). IEEE.
- **Weeks 11 – 12:**
  - Speicher, M., Hall, B. D., & Nebeling, M. (2019, May). What is mixed reality?. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (pp. 1-15).
- **Weeks 13 – 14:**
  - Gomes de Siqueira, A., Bhargava, A., Venkatakrisnan, R., & Venkatakrisnan, R. (2021, February). PPCards: Toward Enhancing Electronic Prototyping with Editions of a Card-based Platform. In *Proceedings of the Fifteenth International Conference on Tangible, Embedded, and Embodied Interaction* (pp. 1-11).
  - Reddy, G. R., & Lingaraju, G. M. (2020, November). A Brain-Computer Interface and Augmented Reality Neurofeedback to Treat ADHD: A Virtual Telekinesis Approach. In *2020 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 123-128). IEEE.
- **Weeks 15 – 16:**
  - Collins, J., Langlotz, T., & Regenbrecht, H. (2020, November). Virtual Reality in Education: A Case Study on Exploring Immersive Learning for Prisoners. In *2020 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 110-115). IEEE.
  - Bickmore, T., Parmar, D., Kimani, E., & Olafsson, S. (2021, September). Diversity Informatics: Reducing Racial and Gender Bias with Virtual Agents. In *Proceedings of the 21st ACM International Conference on Intelligent Virtual Agents* (pp. 25-32).