

University of Florida  
College of Journalism and Communications

**Human-Machine Communication (Advance Eligible)**  
**MMC 6936 Section 6821 Fall 2024**  
**Tuesday 12:50-3:50**  
**Location: Weil 273**

Instructor: Kun Xu

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Office location: Weimer Hall 3065

Office Hours: Monday and Tuesday 10:30-11:30 or by appointment

### **COURSE DESCRIPTION**

Human-machine communication (HMC) involves communication with digital interlocutors including embodied machine communicators, virtual/artificially intelligent agents, and technologically augmented persons, either in real or augmented environments. HMC is an area of study that investigates the creation of meanings among humans and machines.

Throughout the semester, we will first look at how “machine” has been conceptualized, along with its relationship to emerging technologies. Then, we will probe the micro-level human-machine relationships, introducing theories and topics related to the Computers Are Social Actors paradigm, affordances, machine agency, user interface and user experience design. Next, we will situate our discussion at the macro-level, focusing on the social construction of technology, political implications, situated actions, and actor networks within the scope of human-computer interaction and human-robot interaction. Finally, we will cover perspectives of computing, which include but are not limited to social computing, affective computing, and ubiquitous computing. All topics will be closely connected to today’s public discourse about artificial intelligence (AI). This course is a seminar-based course.

### **COURSE GOALS**

- Equip students with comprehensive knowledge of the current research landscape of machines, including advancements in AI.
- Enable students to revisit, apply, and critically evaluate existing theories concerning human-machine relationships and to further develop their own theoretical perspectives on AI.
- Broaden students' understanding of AI by incorporating interdisciplinary perspectives from communication, sociology, information science, engineering, and psychology.

### **Required Readings:**

All readings including links to online sources will be available on Canvas (elearning.ufl.edu).

### **Recommended readings:**

1. Guzman, A., McEwen, R., & Jones, S. (2023). *The Sage handbook of human-machine communication*. Thousand Oaks, CA: Sage.
2. Guzman, A. L. (2018). *Human-machine communication: Rethinking communication, technology, and ourselves*. New York, NY: Peter Lang.
3. Rogers, Y. (2012). *HCI theory: Classical, modern, and contemporary*. Morgan & Claypool.
4. Booth, W. C., Colomb, G. G., Williams, J. M., Bizup, J., & Fitzgerald, W. T. (2016). *The craft of research*. The University of Chicago Press.

### **Outcomes Assessment:**

Class discussion and participation: 15%

Discussion leading (twice) and reading summary: 2X10% = 20%

HMC paper presentation (twice): 2X10% = 20%

Outline of final paper: 5%

Literature review: 10%

Final paper and presentation: 30%

### **Grading Criteria:**

A = an earned grade that represents outstanding and exceptional work; students should keep working and submit to conferences/journals

B = an earned grade indicating competent, above average work; students need some conceptual modification for conference submission and journal submission

C = an earned grade for work that is average and/or merely fulfills the basics of the assignment and lacks some important connection to the course material; students need a thorough revision to enhance the work.

E = an earned failing grade for late work, poorly executed work, plagiarism or other failure to adhere to the requirements of academic integrity.

	A = 93-100	A- = 90-92.99
B+ = 87-89.99	B = 83-86.99	B- = 80-82.99
C+ = 77-79.99	C = 73-76.99	C- = 70-72.99
	E = 0 – 59.99%	

## **ASSIGNMENTS**

### *Class discussion and participation (15%)*

- Students are expected to come to class with having thoroughly read the assigned articles and chapters. The goal of any advanced or advance-eligible Ph.D. course is first to understand the concepts outlined in the readings, but more importantly students should be able to use these works to think with and apply. This is a graduate seminar, so most of the course will be discussing and dissecting the readings. Please notice that class participation is different from class attendance. Share your questions/comments/ideas in (and out of) class; get involved; turn things in on time. If you don't engage in class discussion, your participation grade will be low.

- It is required that you leave your weekly questions/comments on a Google Doc. Share anything that's related to our class discussion.

Discussion leading and reading summary (twice) (20%)

- To facilitate understanding of the readings, we are going to have a rotating group of students lead discussion on each week's readings. Each student will engage in discussion leading twice throughout the semester. Students in charge of the weekly leading class discussion for that week should work on a **discussion sheet with discussion questions** (3-5 questions) on Google Doc and get it ready by Monday night.
- Discussion leaders should select two weeks for their discussion leading. "Talk us through it" during the class discussion.
- Discussion leaders should also write a **maximum 2-page single-spaced summary** about the readings for that week. The summary should first briefly include each article's main perspectives. Then, the summary should put emphasis on building and analyzing the relationships among (some of) these articles.

Summary and critique of HMC paper/presentation (twice) (20%)

- As I will mention in class, human-machine communication is an emerging field. This field subsumes part of human-computer interaction, human-agent interaction, and human-robot interaction. As our class will primarily focus on the "ideas" from various relevant areas (e.g., STS, CASA, user experience), we have fewer opportunities to be exposed to **empirical research**. This assignment requires you to look for, summarize, and present two classic HMC-related empirical papers.
- Present to us the goals of this paper, the theoretical frameworks used, **the method**, the major findings, and your own reflection on the paper.
- The papers you select should be from *Nature*, *Science*, *CHI Proceedings*, *Journal of Computer-Mediated Communication*, *New Media & Society*, *Communication Research*, *Journal of Communication*, *Human Communication Research*, or others that are approved by me in advance. I will provide a list of papers in class as well.
- You only need to deliver the presentation (about 10-12 mins). A list of candidate readings will be provided. You may also choose your own ones based on my approval.

Final research paper (45% including literature review)

- Write a full research paper/proposal related to any human-machine communication topics. Please note that a research paper does not exclusively mean an empirical study. You can choose to write a conceptual/topic paper if you want. The full paper should be about 20-30 pages including references, tables, and figures. If you are working on a research proposal, it should be about 10-15 pages long including introduction, literature review, hypotheses/research questions, methods, data analyses plans, and references. Use APA format. You can take any approach to your study (e.g., quantitative, qualitative, computational, critical, etc.).
- Make sure you take into consideration IRB application, data collection, etc.

- You may choose to coauthor with classmates. But in that case, you should submit a full research paper. You can only collaborate with only one classmate (i.e., two authors in total). If you have taken my other classes where you proposed a study, you can continue to work on that (e.g., start data collection) and finish a full paper.
- Here is a general guideline about an empirical study-based research paper.
  - Purpose and rationale of the study
  - Literature review: What needs to be investigated? What research gap existed in prior research? What are the theoretical frameworks? What are the debates? What is the logic of your proposed hypotheses and RQs?
  - Hypotheses and research questions
  - Research methods: Include sample, procedures, measures, data analysis, etc.
  - Discussion (for a full research paper): What do the results mean? What can you conclude based on results? What theoretical contribution is there?

## COURSE POLICIES

### Classroom Etiquette

- The class does not tolerate harassment. Harassment consists of abusive, implicit or explicit behavior directed toward an individual or group because of race, ethnicity, ancestry, national origin, religion, gender, sexual orientation, age, physical or mental disability, including learning disability, mental retardation and past/present history of a mental disorder.
- Act professional when contacting the instructor. For example, emails should include subjects. Put the course name in the subject line. Do not expect an immediate answer to email questions. I try best to reply within 48 hours.
- While I try to be as responsive as possible via email, please keep a few things in mind: 1) Professors can receive dozens of work-related emails a day, so always consider the reason you are emailing, and think about if there is another place you can find that information or if you can ask a classmate. 2) Be as clear as possible in your request, not something like ‘I didn’t understand the readings, can you explain.’ – ideally this is what the class discussion is for.
- Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

### Academic Honesty/Policy on Plagiarism

- Honesty is expected in all assignments, exams, and presentations. All writing submitted to this course must be your original work. Use the American Psychological Association (APA) citation format including quoting and paraphrasing in your writing. Plagiarism, including self-plagiarism, is the most extreme form of academic dishonesty and will result in failing this course and possible removal from the university. Plagiarism includes

cheating on assigned work, submitting the same paper for two courses, buying papers, turning in someone else's work for your own use.

- Plagiarism is something that is a zero-tolerance policy for me. As a student at an institution of higher learning, by misrepresenting your work and your capabilities, that is academic fraud, and your degree is invalid. Cheating is a learned behavior, and I believe if you are caught you need to be punished to prevent it from happening again. If you are not, that only teaches you that it is acceptable and will continue, which then becomes a reflection on us and a failure of our faculty. I also understand that there may be different academic standards internationally, but this is the university policy on academic integrity. A complete UF student honor code is available here:  
<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>

### Grade Appeals

- If a student believes he/she have legitimate grounds on which to dispute a grade on a particular assignment, the student may submit a written appeal (email is ok) to the instructor within 10 days of receiving the original grade. The appeal must provide rationale for why the current grade is inaccurate. Feelings are not criteria. Once the student has submitted a formal grade appeal and all the supporting evidence including the graded copy of the assignment in question, the instructor will carefully examine the assignment and provide a new grade. Once the instructor has entered the final grade to the university system, that grade will not be changed under any circumstances.

### Accommodations for Special Needs:

Any student who has a need for accommodation based on the impact of a documented Disability, including special accommodations for access to technology resources and electronic instructional materials required for the course, should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc](http://www.dso.ufl.edu/drc)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Please contact me to discuss the specific situation by the end of the second week of classes or as soon as practical.

### Course Evaluations

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/>."

## Tentative Course Schedule

<u>Week</u>	<u>Date</u>	<u>Topic</u>	<u>Notes</u>
1	8/27	Course introduction	
2	9/3	What is Human-Machine Communication?	
3	9/10	Conceptualizing emerging technology	
4	9/17	Computers Are Social Actors 1	
5	9/24	Computers Are Social Actors 2	
6	10/1	Conceptualizing technology affordances	
7	10/8	Machine agency & algorithms	
8	10/15	Overview of the micro-level HMC	
9	10/22	Science and Technology Studies (STS)	
10	10/29	Artifacts, Politics, and Actor-Network	
11	11/5	Human-computer interaction	
12	11/12	Ubiquitous and Affective Computing	
13	11/19	Intro to machine learning/STS 2 (TBD)	
14	12/3	Presentations and final paper due	

Note: Changes that occur to the syllabus will be announced in class or on Canvas.