The Computer Expressive - LMC-6310-HCI

LMC 6310 Computer as Expressive Media

The Computer Expressive - 92852 - LMC 6310 - B

Fall 2025

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Where? Skiles 346

When? Monday + Wednesday 3:30 – 4:45 +   Fr 9:30-12:15 (Corner Lab TSRB 317B)

Biggs office hours Monday 12:00 – 1:00 pm or by **appointment** ⬀ **(https://calendly.com/hbiggs7/30min)**

Pait office hours Lab or by request

SCHEDULE⬀ (https://gtvault-my.sharepoint.com/:x:/g/personal/hbiggs7_gatech_edu/EV3BENfSy_VKlhIxg1AKKAYByyx4hj2xxeHm6wIW5f-6Zw?e=XF5F1z)

Course Overview:

This course asks: How can we express ourselves through computers? In this class, students will gain a general familiarity with different modalities that computers are used to make meaning and be expressive and how we can approach critical making.

The goal of this course is to give an overview of the history of computing as expressive/artistic, as well as build skills and proclivities for constructing one's own computationally driven expressions.

Students will read and present on selected foundational texts for specific themes we will discuss, collect and present examples to enrich discussion, engage in critical reflections, and experiment with their own responses to them through the assignments.

No coding or hardware experience is required to take the course, but you will be introduced to digital fabrication, P5.js, and Arduino. We will have basic Arduino sets for you, but in the end, you mya need to purchase some sensors that we don't have available.

There is no single textbook and all readings will be online. We will use online tools to support collaboration as effectively as possible as this is a course that builds on active discussion and critical reflection.

The theme of the course will be 'ecological thinking' and will cover thinking beyond human centered design, technological mediation, personal/environmental data, and embodied interaction to name a few things.

Important Links

⬀ **(https://gtvault-**

[my.sharepoint.com/:x:/g/personal/
hbiggs7_gatech_edu/EZr6QB_2iyJCg-
K7WaN2DZMBE1Bb2b8JSsdU3XzPzunjmA?
e=NiMYIw)](#)

[Teams⬀ (https://teams.microsoft.com/l/
channel/19%3A1ITj_6h6zszSc23xys1PfHLpcweAcb_-
yDYLrgXPBxc1%40thread.tacv2/General?
groupId=ac78f978-48e5-43fc-82b0-
171a07eb5d55&tenantId=482198bb-
ae7b-4b25-8b7a-6d7f32faa083)](#)

Goals

The projected learning outcomes of this course are:

- (Subject Matter Competency) Introduction to various modalities of expressive computing through seminal readings and exemplars.
- (Critical and Generative Thinking) Demonstrate comprehension, application, and justifications of theoretical knowledge when creating digital media artifacts.
- (Skills) Craft aesthetic and expressive artifacts demonstrating technical skills that will translate to future work and research.
- (Personal Research Trajectory) Students begin to establish their own research and theory interests and critical making practices.

Course Materials

- Arduino stuff – you might want to get some additional Arduino stuff at some point in time. We will have some loaners to learn with.
- No Textbook, all readings will be online.

Labs and Technology

Friday sessions are lab sessions hosted by TA Supratim Pait. They will provide introductions to the main technologies used in this course: digital fabrication, P5.js, and Arduino. Students will be expected to install the necessary software and purchase the necessary hardware.

Likewise, please let the instructors know if you would prefer your contributions and projects to be excluded from future references (e.g. as examples for students in future classes or as examples in scholarly events such as workshops or talks).

Main modes of learning in the class are reading and discussing theory, making projects, giving and receiving critique, and writing reflections on the making process.

Main Assignments (150 points total)

Reading Responses (5 x 5 points = 25)

- Respond to reading – summary, opinion, example on canvas discussion.

Discussion leadership / reading presentation in a group (25 pts)

Projects

For each project there will be small milestones and a final reflection:

- **P1 (15 points): Make a postcard that tells a story.**
- **P1 (25 points) : Story of a Landscape: Interactive Environment (p5.js)**
  - Construct relationships between elements of the environment that tell a story of life there.
  - Goals: craft an interactive digital narrative and explore visual, procedural, speculative, narrative forms of expressive computation.
- **P3 (25 points) : Environmental Data: Fabrication of Personal/Environmental Data**
  - Data physicalization (digital fabrication) making a set of data physical using some fabrication techniques
  - Goals: Think about the materiality and medium of data. Get comfortable with maker space.
- **P4 (35 points): Permeable: Embodied, Tangible, and Entangled (arduino +)**
  - Construct a speculative design, expressive design, or fabulation that highlights an entanglement between the environment and the body.
  - Goals: Use Arduino, explore technological mediation of critical relations between body and environment.

Final Reflections:

- Write a short 500-word blog post reflecting on
  - Concept: relationship between concepts in the micro-project
  - Process
  - Stumbling blocks / Break throughs
  - What you learned
- **Give a short, 5 minute presentation of the blog post and what you made**

Attendance Policy

I will not track attendance, but a great deal of the class is graded through presenting and sharing work. If you cannot be present to present and share your work, please email me in advance and we can work out alternatives. If you miss class without an explanation and can't present your work, your assignment will be counted late.

PLEASE DON'T COME TO CLASS SICK. I will make sure that you are not penalized for missing class and for being sick. Other acceptable reasons for missing class are educational or professional conflicts, family emergencies, health issues. Etc. Discuss with me ahead of time and we will find a way. But please don't abuse this policy.

Accommodations

Please refer to the Office of Disability Services for information on how to request accommodations. The instructor and TA are committed to working with you to accommodate your needs. Communicating with us about your needs will assist us in best accommodating your needs.

Technology use

Bring a computer to class every day. No use of cell phones (including texting) in class.

Inclusivity Statement

The Ivan Allen College of Liberal Arts is committed to creating a campus free of discrimination on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status. We further affirm the importance of cultivating an intellectual climate that allows us to better understand the similarities and differences of those in our community, as well as the necessity of working against inequalities that may also manifest here as they do in the broader society.

Workload

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...nd projects. For every one hour of class time, ...r. Biggs and we can craft some strategies for work

Mental Health

Your mental and physical health are more important than this class, and there are SO MANY ways to work towards taking care of yourself and not disregarding your education. If you are experiencing anxiety or depression or a medical, personal, or family crisis, or if you just feel overwhelmed, please do not hesitate to reach out for help. Everybody needs help sometimes, and college can be a personally challenging time. You are not alone, and many of us are available to be sympathetic listeners and to share our own strategies for coping with stressful situations. In addition, professional counselors and medical practitioners have expertise that can be very helpful.

If you are struggling with any level of mental health issues, there are resources available on campus. Between 9 a.m. and 5 p.m. you can walk into Smithgate Hall 238, or there are services available by phone 24/7 if you call 404-894-2575. More information is at: **https://mentalhealth.gatech.edu/** ⮞ **(https://mentalhealth.gatech.edu/)**

Student Resources

The Dean of Students has a list of services (see **https://studentlife.gatech.edu/content/get-help-now** ⮞ **(https://studentlife.gatech.edu/content/get-help-now)** Links to an external site.).

Additional Resources

If you are the victim of sexual misconduct or harassment, resources are listed at: **https://diversity.gatech.edu/equitycompliance/reporting-options/i-want-report-incident** ⮞ **(https://diversity.gatech.edu/equitycompliance/reporting-options/i-want-report-incident)**)

VOICE Advocates also serve as confidential resources for victim-survivors (speaking to them does not trigger an official reporting process): **https://wellnesscenter.gatech.edu/voice** ⮞ **(https://wellnesscenter.gatech.edu/voice)**

ChatGPT and other Generative AI Tools Policy

I want to acknowledge that we are still in a period where there are not clear norms about how to use ChatGPT and other generative AI tools. This policy may get updated over the semester as we all learn about different uses of these tools or encounter them in new situations.

My pedagogical position:

1. **On the power of writing/drawing/creating:**

I urge the students of this class to turn to themselves for answers whenever the can and pride yourself in struggling to understand and grapple with material on your own. I say this mostly in regard to writing because I love writing. Every time I write, I learn something new. I cannot tell you why, be it creative writing, essayistic writing, analytical writing, personal writing. Writing is alchemical and magical. An act of uncovering. It is a way of playing, constructing, discovering, wandering, and coming to know yourself and your beliefs.

Feminist scholar Helen Cixous claims writing is a radical feminist act – speaking one's own embodied truth struck up from the place of the unconscious can break normative paradigms. Similar radical affirmations have been shared by Audrey Lorde in her discussions of poetry and the erotic. Writing, having a voice, being willing to be seen and heard and having the vulnerability to find that voice and share it are radical acts of critical thought and expression. Don't let Chat GPT deprive you of these things.

I personally believe that even using Chat GPT as a creative aid stunts the poetics of this process. In its suggestions, we lose our own voices. I urge all of you to struggle with the blank page, the unknown, and dig into the silent space of your own interiority to seek out direction, answers, and opinions.

1. **On the value of struggle in learning:**

Learning is uncomfortable. We make mistakes. But trusting a process of uncovering, learning to see the corner of a treasure in the mess, is so much richer and more exciting than always looking to an other for an answer.

As a teacher speaking to my students, I want to impress upon you that the nature of learning is both learning a subject matter, but also learning how to learn. In our course work, we should not ignore the value of struggle, uncertainty, and writing/making as imperative to the learning process.

ChatGPT and generative AI tools are based on matching patterns on past materials, and they're not actively thinking/reasoning like a human does. (A metaphor: if you asked me to design a bridge without any engineering training, and I drew up some blueprints based on a bunch of designs of bridges through Google, it might look pretty cool and it might even stand up! But we probably wouldn't build that exact bridge because I didn't follow any of the reasoning and requirements that's been developed in structural and civil engineering).

1. **On disclosing the acceptable uses of Chat GPT**

That being said, I know that tools like ChatGPT and generative AI can be useful for certain types of tasks, or as resources to help in writing. Therefore, for any assignment for which you use ChatGPT or any other generative AI, you must both (1) cite the tools you use, as you would cite a research paper or other resource that you used in your work, and (2) add a section titled "Generative AI Usage" documenting how you used the tool(s). Include

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...m/with AI, etc, to thoroughly document your

...ow you used it. Of course, low quality assignments

will still receive lower grades. However, writing a false statement about your use of ChatGPT or other generative AI tools, or turning in a document that was completely written by ChatGPT or an AI tool are likely violations of the academic honor code (plagiarism, false claims of performance, deliberate falsification), and will result in a 0 grade and a possible referral to the Office of Student Integrity.

Use of ChatGPT and AI tools is a large gray zone – the following are not 100% rules, but some suggestions and guidelines to help you use these tools in a way that will be helpful to you achieving the course goals and objectives.

Likely useful ways of using ChatGPT:

- Helping to re-word or re-structure a sentence or paragraph to help you more clearly convey an idea
- Translating languages (you may need to double check manually for errors)
- Finding a specific resource/paper you already know about but can't remember the name of
- Providing a template for a paragraph
- Asking it to critique your writing
- Cut down words you've written to meet a word count or page limit.
- Brainstorming (while keeping in mind the normative bent of generative AI tools, which are based on training data whose statistical majorities may not match what you want for your work)

Likely non-useful ways of using ChatGPT:

- Writing the assignment for you and turning it in – this is likely a violation of the academic honor code and will be dealt with as such
- Citing factual statements from ChatGPT – ChatGPT can "hallucinate," or create very convincing sounding facts and citations, and passing them off as real
- Finding new sources and papers – the hallucination problem again
- Using ChatGPT as a general search engine – the hallucination problem again

Course Summary:

Date	Details	Due
Wed Sep 24, 2025	🗨 **Data as Material** (https://gatech.instructure.com/courses/481202/assignments/2252530)	due by 11:59pm
Mon Oct 13, 2025	📝 **Data As Material Proposal** (https://gatech.instructure.com/courses/481202/assignments/2241192)	due by 11:59pm
Wed Oct 15, 2025	📝 **Data as Material** (https://gatech.instructure.com/courses/481202/assignments/2183010)	due by 11:59pm
Wed Oct 22, 2025	🗨 **Tangible Embodied** (https://gatech.instructure.com/courses/481202/assignments/2252528)	due by 11:59pm
Mon Oct 27, 2025	🗨 **MTH & Fabulation** (https://gatech.instructure.com/courses/481202/assignments/2252526)	due by 11:59pm
Wed Oct 29, 2025	📝 **Final Project Proposal Due** (https://gatech.instructure.com/courses/481202/assignments/2241196)	due by 11:59pm
Mon Dec 1, 2025	📝 **Final: Body / Environmental Entanglements** (https://gatech.instructure.com/courses/481202/assignments/2183384)	due by 11:59pm
	📝 **Group Reading Presentation** (https://gatech.instructure.com/courses/481202/assignments/2192664)	

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Date	Details	Due
	Narrative & Speculation (https://gatech.instructure.com/courses/481202/assignments/2220064)	
	Narrative Postcard (https://gatech.instructure.com/courses/481202/assignments/2182938)	
	What is Critical / Expressive Computing (https://gatech.instructure.com/courses/481202/assignments/2220062)	

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