Term Information

Effective Term   Autumn 2025

General Information

Course Bulletin Listing/Subject Area   Design
Fiscal Unit/Academic Org   Design - D0230
College/Academic Group   Arts and Sciences
Level/Career   Graduate
Course Number/Catalog   6112
Course Title   Emerging Technologies Studio
Transcript Abbreviation   EmergingTechStudio
Course Description   Students explore emerging technologies and their potential for graduate design research through multidisciplinary and collaborative activities. Emphasizing making and learning through experimentation and practice, students conduct research, analyze and visualize data, translate findings into concepts, and design content and experiences, considering the complex systems in which they reside.
Semester Credit Hours/Units   Fixed: 3

Offering Information

Length Of Course   14 Week
Flexibly Scheduled Course   Never
Does any section of this course have a distance education component?   No
Grading Basis   Letter Grade
Repeatable   No
Course Components   Laboratory
Grade Roster Component   Laboratory
Credit Available by Exam   No
Admission Condition Course   No
Off Campus   Never
Campus of Offering   Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites   Grad Standing in Design MFA program
Exclusions
Electronically Enforced   No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code   30.3101
Subsidy Level   Masters Course
Intended Rank   Masters

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors

Course Details

Course goals or learning objectives/outcomes	• Represent design methods, processes, and concepts
	Select appropriate research methods
	Use visualization processes as inquiry
	Explore how making influences new processes
	Study precedents to inform research, analysis, and design
	Express ideas visu
Content Topic List	• technology development; technical innovation; current trends; critical analysis; decision making; accessible technologies; technology ethics; role of the designer; creative relationships; design for engagement; proceedings reading;
Sought Concurrence	No

Attachments

• UPDATED_Design6112_EmergTechStudio_Syllabus.docx: updated version

(Syllabus. Owner: Proulx,Sebastien)

Comments

• All contingencies have been addressed. Suggestions have been communicated to the instructor to be addressed. *(by Proulx,Sebastien on 09/03/2024 02:34 PM)*

• Please see Subcommittee feedback email sent 9/3/24. *(by Neff,Jennifer on 09/03/2024 10:23 AM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Proulx,Sebastien	05/14/2024 01:18 PM	Submitted for Approval
Approved	Munch,Fabienne	05/14/2024 02:29 PM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	08/07/2024 01:11 PM	College Approval
Revision Requested	Neff,Jennifer	09/03/2024 10:23 AM	ASCCAO Approval
Submitted	Proulx,Sebastien	09/03/2024 02:34 PM	Submitted for Approval
Approved	Munch,Fabienne	09/03/2024 03:21 PM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	09/04/2024 02:39 PM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Hilty,Michael Neff,Jennifer Vankeerbergen,Bernadette Chantal Steele,Rachel Lea	09/04/2024 02:39 PM	ASCCAO Approval

THE OHIO STATE UNIVERSITY

SYLLABUS: DESIGN 6112
EMERGING TECHNOLOGIES STUDIO
AUTUMN 2025

Course overview

Instructor

Instructor: Matthew Lewis

Email address: lewis.239@osu.edu

Phone number: 614.292.0747 (office)

Office hours: by appointment (Zoom or Sullivant Hall 339C)

Course description

Students explore emerging technologies and their potential for graduate design research through multidisciplinary and collaborative activities. Emphasizing making and learning through experimentation and practice, students conduct research, analyze and visualize data, translate findings into concepts, and design content and experiences, considering the complex systems in which they reside.

Credit hours and work expectations

This is a 3-credit-hour lab/studio. According to Ohio State policy (go.osu.edu/credithours), students should expect 5-6 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 3-5 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

Course learning outcomes

By the end of this course, students should successfully be able to:

- Represent design methods, processes, and concepts
- Select appropriate research methods
- Use visualization processes as inquiry
- Explore how making influences new processes

- Study precedents to inform research, analysis, and design
- Express ideas visually and verbally in a clear manner
- Confidently approach new technologies

Course format

This course is intended to be a synchronous classroom learning experience.

This is a progress-oriented studio course emphasizing making and learning through experimentation and practice. Class sessions will be partially comprised of lectures, examples, group discussion, critiques of work in progress, exercises, and student presentations. However, most of the class time will be spent actively developing student research projects in the lab. The course will expose students to issues surrounding emerging technologies in the context of design projects. Students may explore the use of emerging technologies for real-time graphics and virtual environments, performance animation, game design, and interactive media and installations, including the capabilities of tools, products, and services relevant to their research topics. Concept mapping and system description, sketching, and diagramming will be used for idea generation and prototyping.

While images, video, software, and hardware will all be introduced, students will learn primarily by creating and using their own iteratively developed system prototypes. Previous basic experience working with digital files, images, and video will be assumed. Students will be evaluated based on three formal presentations/projects during the semester, weekly reflection writing, and class participation. The three assignments will require presentations and submission of research documentation and materials such as image, video, slide, and text files. Collaboration between students in the course will be encouraged and dependent on shared research topic interests.

Course materials

Required Supplemental Materials

There are no required textbooks, specific software, or specific hardware. Software documentation, tutorials, and examples are provided with software installation or are available for download. Links to blogs, web sites, etc. are updated through the semester via Carmen reflecting emerging technologies.

Communication Tools

Optional video conferencing with your instructor requires the use of a video call using Zoom. Therefore, it is required that you install the Zoom application. Be sure to log in with the SSO (osu.zoom.us). You will also need a microphone for voice connection. Video connection is optional, but highly recommended to ensure optimized communication.

Scanning and Documentation Tools

You are not required to print anything for this course. All of your work will be uploaded as a

digital file. In some cases, images may be included in your work, and you will be required to scan or download and insert them into documents. I will be happy to guide you through this process (as well as file size management) if you require help.

Course technology

For help with your password, university e-mail, Canvas, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at https://ocio.osu.edu/help/hours, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** http://ocio.osu.edu/selfservice
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Grading and faculty response

Grades

Assignment or category	Points
Project1: Visualizing Research Spaces: Students will each select an unfamiliar emerging technology, a contemporary social issue, and one other area of personal research interest. These concept spaces, their intersections, and research opportunities will be explored and *visually represented* using familiar tools.	24
Project2: Emerging Technology Prototyping: Unfamiliar technologies will be selected and used as prototyping tools to further explore students' evolving design research topics. The focus will be on the *process* of learning to use new technologies.	24
Project 3: Research Prototyping: Students will create and present a project combining emerging technologies and topics of their choosing to explore, extend, and/or integrate one or more of their previous design research concepts or projects. There should be a clear emphasis on making, with a balance between prototyping, functionality, speculative concepts, and design research.	24
Weekly progress writing: Each week (by Sunday night) write a 200+ word reflection on your current design progress. Additionally (by Monday night) post a substantial response to one of your classmate's posts.	14
Class participation: Engaging in online discussions provides an opportunity for improving your participation grade (another 14%). Other opportunities include class discussions, asking questions in class, emailing questions, and sharing links.	14

See course schedule, below, for due dates.
Full project descriptions/details are provided on the Carmen class assignment pages.

Course Schedule

Tentative weekly schedule: topics and dates may vary based on student background and interests, emerging technology capabilities, and resource availability and scheduling.

WEEK	MODULE	TOPIC	DUE DATES/DEADLINES
1	1a	Introductions, overview, goals;	
2	2a 2b	Research space representation Emerging technologies	Weekly progress writing due
3	3a 3b	No class; Labor Day Resource/technology awareness	Weekly progress writing due
4	4a 4b	Generative design Working Lab	Weekly progress writing due
5	5a 5b	Working Lab Project 1 presentations	Weekly progress writing due Presentation 1 due
6	6a 6b	Project 1 presentations Project 2 introduction	Weekly progress writing due
7	7a 7b	System representation Technology prototyping	Weekly progress writing due
8	8a 8b	Prototyping technologies Systems, tutorials, sources	Weekly progress writing due
9	9a 9b	XR concepts/prototyping Emerging topics	Weekly progress writing due
10	10a & 10b	Working Lab	Weekly progress writing due
11	11a & 11b	Project 2 presentations	Weekly progress writing due Presentation 2 due
12	12a 12b	Project 3 introduction VR/AR hands-on lab visit	Weekly progress writing due
13	13a 13b	Design in technology Complex systems	Weekly progress writing due
14	14a 14b	Technology ethics Thanksgiving break	
15	15a & 15b	Working Lab	Weekly progress writing due
16	16a & 16b	Project 3 presentations	Presentation 3 due

Late assignments

Finished work received after the due date and time of an assignment will be accepted, but you

must speak with your instructor to negotiate a modified deadline in order for late work to receive credit. Communication requesting a modified deadline must take place within 24 hours of the original deadline. Any work received after the modified deadline will not receive credit. 10% per day will be subtracted from late assignments.

Grading scale and translation of marks

A (93–100) Work, initiative, and participation of exceptional quality

A- (90–92.9) Work, initiative and participation of very high quality

B+ (87–89.9) Work, initiative and participation of high quality which reflects higher than average abilities

B (83–86.9) Very good work, initiative and participation that satisfies the goals of the course

B- (80–82.9) Slightly above average work, initiative and participation that satisfies the goals of the course

C+ (77–79.9) Average work, initiative and participation which reflects an understanding of course material

C (73–76.9) Adequate work; student has a less than average level of initiative and participation

C- (70–72.9) Passing but below good academic standing; student has a less than average level of work, initiative and participation

D+ (67–69.9) Below average work, initiative and participation

D (60–66.9) Well below average work, initiative and participation

E (59.9–0) Failure; no credit. Unsuccessful completion of work. Limited or no participation. Objectives of the assignment are not met or are met in a significantly limited way.

Faculty feedback and response time

I am here to help and I encourage you to communicate with me. The following list should give you an idea of my intended availability throughout the course and to encourage proactive communication. (Remember that you can call **614-688-HELP** at any time if you have a technical computer-related problem.)

Grading and feedback

For assignments, you can generally expect feedback within **7-10 days**.

E-mail

I will make every effort to reply to e-mails within **24 hours on weekdays**. Please note that e-mail sent between 5 pm and 8 am are not likely to be answered until the following day.

Carmen

Email through Carmen's inbox function or through your BuckeyeMail will be the only source of private and secure conversations. General information, personal matters, assignment or class-related inquiries or other similar topics should be addressed using these two sources. All university correspondence is sent to your BuckeyeMail email address, and all email sent to faculty and staff should be sent from your BuckeyeMail email address.

Ohio State will never ask you for your Ohio State username or password. Do not reply to any email asking for your Ohio State username, password, or other personal information. Report such messages to report-phish@osu.edu.

Zoom

The Zoom video call application is used for virtual class meetings. I understand that some students may have technical issues or poor internet connections. I will keep this in mind when interacting with you on Zoom. You can contact ODEE or visit the Zoom Resource Center for technical difficulties that are related to the application itself.
https://resourcecenter.odee.osu.edu/carmenzoom

There are protocols for professional use of Zoom that you should always keep in mind. You are expected to maintain professional behavior and appearance while in an active Zoom meeting. Using how you might look and behave in a face-to-face engagement/physical class meeting provides a good guideline to follow.

My office hours will be conducted either in my office or using the Zoom app. Please contact me for an appointment time.

Attendance and participation

Student participation requirements

This is a synchronous course, meaning that you will be expected to attend the course on the scheduled days at the scheduled times. In between class meetings, please review and study your instructor's announcements and posted presentations, as well as a variety of readings, videos, web sites, etc.

To complete the course successfully students should expect to participate in discussions online and in class. This course requires significant initiative from students, allowing for personal design interests and goals to be integrated into projects. With the freedom to guide one's own learning comes substantial obligation to design projects and processes.

The class participation grade will take into consideration student contributions during topic discussions and critiques, engaged questions and responses during class time or office hours, and via email and Carmen.

Design department attendance policy:

Attendance, productive class activity and meeting in-progress deadlines are factors in

the assessment of your assignments. Students are expected to be present and active for the entire synchronous class period. Attendance may be taken at any point in the course meeting therefore, you may be counted as absent if you are not present when attendance is taken. Three late entries / early departures = one absence. Tardiness, missing class, and poor preparation can, therefore, impact your project/course grades in a detrimental manner.

The Department of Design acknowledges that illness, family obligations, and other conflicts with your classes do occur from time to time and up to three absences are allowed for any reason during the semester without penalty. In the instance that you miss three class meetings, you are required to meet with your instructor to discuss strategies for avoiding additional absences. Missing class more than 20% of the semester (six class meetings for a course that meets twice a week or three class meetings for courses that meet once per week) may result in an E grade for the course.

Communication guidelines

The following are our expectations for how all of us should communicate as a class: in classroom discussions; in written communication; and in what you write as part of assignments and examinations. Above all, please remember to be respectful and thoughtful.

- **Writing style**: Any written submissions should follow the standard English guidelines for using proper grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics.
- **Tone and civility**: In verbal exchanges and in writing, let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online.
- **Citing your sources**: In any form of academic submission, please cite your sources to back up what you say. (When using course materials that originally took a printed form, list at least the title and page numbers. For online sources, include a link.)
- **Backing up your work**: Consider composing anything you submit for this course using a word processor where you can save your work, and then copying into the Carmen drop box for submission.

Other course policies

Academic integrity is essential

Policies for this course

- **Learning module quizzes (LMQ)** There will be no quizzes.
- **Assignments**: Your assignments should be your own original work. When referencing the works of others in formal assignments (both text and images), you should follow the **MLA citation style** to cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn

them in--but no one else should revise or rewrite your work. If you have questions about formatting, consult with me.

- **Reusing past work**: In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me first.

- **Falsifying research or results**: Any research you conduct in this course is intended to be a learning experience; you should never feel tempted to make your results or your library research look more successful than it was.

- **Collaboration and informal peer-review:** Some of the graded work in this studio may optionally be done as a group project. There are no exams. There is a brief weekly individual writing assignment. If you're unsure about a particular situation, please feel free to ask the instructor.

- **Group projects**: This studio involves three projects, the second and third may be done individually or as a group.

Ohio State's academic integrity policy

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct **http://studentlife.osu.edu/csc/**.

Accessibility accommodations for students with disabilities

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are isolating while waiting for a COVID-19 test result, please let me know immediately. Those testing positive for COVID-19 should refer to the Safe and Healthy Buckeyes site for resources. Beyond five days of the required COVID-19 isolation period, I may rely on Student

Life Disability Services to establish further reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

Statement on Religious Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the Office of Institutional Equity.

The Value of Diversity

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined

as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Caring for your Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614--292--5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614--292--5766 and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

Sexual Misconduct/Relationship Violence

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu

Bibliography and Resources

Example readings - we are likely to read many of these, all available online:

- AIGA Designer 2025. (2017) "Why Design Education Should Pay Attention to Trends" https://educators.aiga.org/wp-content/uploads/2017/08/DESIGNER-2025-SUMMARY.pdf

- Arikan, Burak. (2015) "Creative and Critical Use of Complex Networks" https://medium.com/graph-commons/creative-and-critical-use-of-complex-networks-412fe9eddecb

- Boyd, Stowe. "10 Work Skills for the Post-normal Era" https://stoweboyd.com/post/169589455027/10-work-skills-for-the-postnormal-era

- Christiansen, Jen. (2018) "Visualizing Science: Illustration and Beyond" https://blogs.scientificamerican.com/sa-visual/visualizing-science-illustration-and-beyond/

- Compton, Kate. (2016) "So you want to build a generator…" https://galaxykate0.tumblr.com/post/139774965871/so-you-want-to-build-a-generator

- IDEO CoLab. (2017) "Quick Prototyping Tools for Emerging Technologies" https://medium.com/ideo-colab/quick-prototyping-tools-for-emerging-technologies-3fb56f62360a

- Johnson, Steven. Where Good Ideas Come From. 2011

- Kelly, Kevin. "AR Will Spark the Next Big Tech Platform—Call It Mirrorworld" https://www.wired.com/story/mirrorworld-ar-next-big-tech-platform/

- Madsen, Rune. "Programming Design Systems" https://programmingdesignsystems.com

- Meadows, Donella. "Dancing with Systems" http://donellameadows.org/archives/dancing-with-systems/

- Mullany, Michael. (2016) "8 Lessons from 20 Years of Hype Cycles" https://www.linkedin.com/pulse/8-lessons-from-20-years-hype-cycles-michael-mullany

- Oxman, Neri. (2016). "Age of Entanglement". Journal of Design and Science. https://doi.org/10.21428/7e0583ad

- Saffer, Dan. Designing Gestural Interfaces. O'Reilly, 2009. (available online via OSU Library)

- Thorp, Jer. "You Say Data, I Say System" https://medium.com/@blprnt/you-say-data-i-say-system-54e84aa7a421

- Vassallo, Steve. "Rethinking Design Thinking" Chapter 4 in The Way to Design. https://thewaytodesign.com/manifesto/rethinking-design-thinking/

- Victor, Bret. (2015) "What Can a Technologist Do About Climate Change? (A Personal View)" http://worrydream.com/ClimateChange/