

AI-Augmented Interaction Design Studio

Draft Course Proposal

A studio-based UX design course focused on designing mobile and web experiences in an AI-augmented professional environment.

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Proposal Snapshot

Item	Proposal
Proposing unit	School of Industrial Design (working assumption)
Working course title	AI-Augmented Interaction Design Studio
Pilot format	Recommended: ID 3824 Special Topics, 4 credits, before a permanent course number
Permanent course level	Upper-division undergraduate elective; optional separate graduate section
Instructional mode	Studio (Georgia Tech Effort 2)
Term length	15 weeks
Recommended enrollment cap	20-24 students, based on critique and studio supervision
Primary project	Semester-long team mobile/web application responding to a shared brief
Final product	Portfolio-quality prototype, presentation, case study, and AI-use rationale
Core principle	Students are evaluated on judgment about when AI adds value and when human expertise should lead.

Executive Summary

The course centers on a semester-long team project that takes students through problem framing, research, synthesis, exploration, interaction design, prototyping, evaluation, iteration, and delivery. Throughout that process, students practice deciding when AI can provide meaningful support and when design work should remain human-led.

The course is not an "AI feature" course. Teams may include AI-enabled functionality when justified, but the final application does not need AI. AI is treated selectively as a design tool, design material, and object of critique. Students learn where AI adds useful leverage and where user research, creative exploration, design expertise, craft, and human judgment should lead.

The studio format supports repeated making, critique, prototyping, testing, and reflection. Its structure draws on established interaction design studios while adapting emerging AI-augmented design pedagogy to preserve human-led problem framing and ideation.

1. Instructional Need and Rationale

Design students increasingly enter professional environments where AI is embedded in research, content, prototyping, coding, analytics, and user-facing products. The curriculum therefore needs to teach not only how to use AI-enabled tools, but how to judge whether they should be used for a given design task.

The course addresses a gap between conventional interaction design studios and technically oriented AI coursework. Students practice evidence-based decisions about delegation, verification, automation, and human responsibility while still demonstrating core design competencies independently.

To avoid over-automation, early problem framing, exploration, and ideation remain primarily human-led. AI is introduced selectively for critique, expansion, prototyping, coding, evaluation, and documentation after students have developed their own understanding and concepts.

Why a Studio Format

- The learning goals require repeated cycles of making, critique, testing, and revision.
- A semester-long project shows how early research and framing decisions shape later interaction, prototype, and evaluation choices.
- Desk and peer critiques make reasoning visible and allow assessment of design judgment, not just final artifacts.
- Individual exercises ensure every student practices research, ideation, AI evaluation, and prototyping.
- The final project produces portfolio-quality evidence of process and outcome.

Georgia Tech's Curriculum Guide asks new-course proposers to address need, sustainability, Special Topics testing, duplicate content, syllabus completeness, and credit/method alignment (Georgia Tech Registrar's Office, 2025).

2. Curricular Positioning and Differentiation

Current Georgia Tech offerings are adjacent but do not combine an upper-level mobile/web interaction design studio with systematic evaluation of AI across the design process. This course is differentiated by its semester-long application project, explicit AI judgment framework, human-led ideation, and selective AI-assisted prototyping and evaluation.

Adjacent offering	Primary emphasis	How this proposal differs
ID 3041 / 3042 Product Development Studio	User-centered product, service, interface, and systems development; sponsor emphasis.	Centers on mobile/web interaction design and evaluates AI use across the process.
ID 3051 / 3052 Interactive Product Design Studio	Sensor-based interactive products, interfaces, environments, navigation, and mobility.	Centers on mobile/web applications rather than sensor/product hardware; AI judgment is a recurring outcome.
ID 3320 Design Methods: User Centered Design	Methods for identifying and prioritizing user-centered design factors.	Semester-long studio with milestones, critique, prototyping, testing, and AI decision-making.
ID 6515 Interface Prototyping: Exploring Tools & Theories	Graduate focus on interface prototypes, methods, feedback, and technologies.	Targets upper-level undergraduates; prototyping is one phase of a broader research-to-delivery studio.
CS 3600 Introduction to Artificial Intelligence	Technical introduction to AI/ML, including search, problem solving, and learning.	Design-practice focused; AI engineering is not the primary subject.

The proposing unit should confirm the duplicate-content review before formal NCP submission. A Special Topics pilot can also provide student-work and enrollment evidence for a permanent-course proposal.

3. Proposed Catalog Description

A project-based interaction design studio focused on contemporary mobile and web application design in an AI-augmented professional environment. Student teams respond to a shared brief through research, synthesis, concept development, interaction design, prototyping, evaluation, and iteration. AI is integrated selectively while problem framing and creative exploration remain human-led. AI features are optional. Emphasis is placed on design judgment, evidence-based decisions, critique, usability, accessibility, and professional communication.

4. Student Audience and Recommended Prerequisites

Primary audience: upper-level undergraduates in Industrial Design and related interaction/UX programs with foundational design-process, research, visual communication, and prototyping skills.

Recommended prerequisite: foundational studio and user-centered design/methods coursework, or instructor permission. A Special Topics pilot should follow Georgia Tech rules for temporary-course enrollment restrictions.

Graduate participation could use a separately numbered section with added expectations for literature integration, research/evaluation rigor, and documentation.

5. Primary Learning Outcome

Students will critically evaluate when and how to use AI throughout the design process, distinguishing tasks that benefit from AI assistance from decisions requiring human judgment, domain knowledge, design expertise, creative exploration, or direct user engagement.

6. Student Learning Outcomes

1. Frame a meaningful interaction-design problem within a shared brief and realistic scope.
2. Plan and conduct user research appropriate to the problem, audience, and design stage.
3. Synthesize evidence into defensible needs, insights, opportunities, and design principles.
4. Generate, compare, and communicate multiple design directions before convergence.
5. Create coherent flows, interaction models, wireframes, and prototypes for a mobile or web application.
6. Evaluate where AI can accelerate or improve design work without replacing independent reasoning or creative exploration.
7. Recognize AI risks including false confidence, hallucinated evidence, generic outputs, bias, over-automation, privacy concerns, and loss of user control.
8. Plan and conduct usability evaluation, interpret findings, and prioritize revisions.
9. Explain and defend when AI was used, modified, rejected, or intentionally avoided.
10. Communicate design rationale through critique, presentation, prototype demonstration, and portfolio-oriented documentation.

7. Course Design Principles

Design process first

The course follows Frame > Research > Synthesize > Explore > Prototype > Test > Iterate > Deliver. AI supports this process rather than replacing it.

Human-led exploration and ideation

Students build their own understanding and generate original concepts before AI is used to challenge, critique, or expand their thinking.

AI as tool, material, and object of critique

Students may use AI for research support, synthesis, prototyping, coding, evaluation, and documentation; design AI-enabled behavior when justified; and critique AI limitations and consequences.

AI is not required in the final product

Project quality is not measured by AI use. A well-supported decision not to use AI is equally valid.

Evidence over novelty

Design choices must connect to research, critique, testing, accessibility, and user needs rather than novelty.

Reflection and accountability

Students document where AI helped, failed, required verification, or should be handled differently.

8. Recurring AI Judgment Framework

At major project phases, students revisit five questions:

- Should AI be used here?
- What should the designer remain responsible for?
- What evidence would show that AI improved the outcome?
- What must be verified, corrected, or interpreted by a person?
- What could be lost if this step is automated?

When relevant, students test AI against a human-led baseline, real user evidence, or another credible reference point. The goal is transferable judgment, not platform-specific skill.

9. Studio Project Structure

The class responds to one broad shared brief while teams pursue distinct opportunities. This creates common critique criteria and focused instruction while preserving team autonomy.

Phase	Timing	Primary studio work
Phase 1: Frame	Weeks 1–2	Shared brief, opportunity mapping, problem framing, competitive/analogous review
Phase 2: Research + Define	Weeks 3–5	Research plan, primary research, synthesis, needs, principles
Phase 3: Explore	Weeks 6–8	Human-led ideation, scenarios, storyboards, flows, concept selection, midterm critique
Phase 4: Prototype	Weeks 9–10	Prototype strategy, interaction detail, design system, traditional/AI-assisted implementation
Phase 5: Test + Iterate	Weeks 11–12	Usability evaluation, comparative AI-assisted analysis, accessibility, revision
Phase 6: Deliver	Weeks 13–15	High-fidelity experience, final critique, AI Practice Audit, presentation, case study

10. Assessment and Grading

Assessment	Weight	Mode	Primary evidence
Studio Process + Individual Exercises	15%	Individual	Independent research/ideation, AI judgment exercises, reflection, critique, prototype experiments
Research + Problem Framing	15%	Team + individual evidence	Problem framing, research plan, primary research, competitive/analogous analysis, synthesis
Concept Development + Midterm Critique	15%	Team	Design principles, human-led concepts, scenarios, flows, rationale, midterm critique
Prototype + Evaluation	20%	Team	Low/mid-fidelity prototype, usability testing, findings, revision plan, AI-assisted comparison

Assessment	Weight	Mode	Primary evidence
Final Studio Project + Presentation	25%	Team + individual reflection	Polished prototype, rationale, demo, case study, AI Practice Audit
Participation + Studio Practice	10%	Individual	Preparation, critique, collaboration, feedback, studio contribution

Outcome–Assessment Alignment

Outcome area	Primary evidence
AI judgment	Studio exercises; milestone rationales; AI Practice Audit; individual reflection
Research + synthesis	Research + Problem Framing milestone; critique evidence
Human-led ideation	Individual concept exploration; team concept set; midterm critique
Interaction design	Flows, scenarios, wireframes, prototypes, final design
Evaluation + iteration	Usability testing, issue prioritization, revised prototype
Professional communication	Critiques, final presentation/demo, case study

11. Proposed 15-Week Schedule

Week	Studio focus	AI integration / instruction	Milestone
1	Studio Orientation + AI-Augmented Practice	Shared brief; what AI changes; baseline AI judgment	Team formation begins
2	Problem Framing + Opportunity Mapping	AI-assisted landscape exploration and source verification	Opportunity areas; problem statements
3	Research Planning + Responsible AI Use	AI for planning, secondary research, requirements/specs; privacy and provenance	Research plan; competitive/analogous analysis
4	User Research + Comparative Synthesis	Interviews/contextual research; transcription; synthetic-user comparison; human vs. AI coding	Primary research; individual synthesis
5	Insights, Needs + Design Principles	Affinity mapping; critique AI-generated themes/summaries	Synthesis; refined problem; principles
6	Divergent Ideation	Human-led sketching, analogies, reframing, critique; no AI in initial ideation	Individual concepts; team set
7	Scenarios, Storyboards + User Flows	Student-led concepts; AI optional for edge cases/constraints	Scenarios/storyboards; flows; AI decision
8	Concept Selection + Midterm Critique	Evidence-based convergence; low-fi prototyping	Midterm critique; selected direction
9	Prototyping Strategy: Figma, Code + Vibe Coding	Traditional vs. AI-assisted implementation; specification exercise; test generated output	Low/mid-fi interactive prototype

Week	Studio focus	AI integration / instruction	Milestone
10	Interaction Detail + Design Systems	Patterns, components, content, states, accessibility; maintain system coherence	Prototype iteration; components
11	Usability Testing + Evaluation	AI-assisted analysis and synthetic heuristic evaluation vs. human/user evidence	Test evidence; prioritized issues
12	Iteration, Accessibility + QA	Revise from findings; accessibility, edge cases, code/output QA	Revised prototype
13	High-Fidelity Experience + Portfolio Narrative	Visual/interaction refinement; document rationale and evolution	High-fi prototype v1; case-study structure
14	Final Critique + AI Practice Audit	Final testing; presentation rehearsal; reflect on AI use/non-use	Final revisions; AI Practice Audit
15	Final Presentations + Reflection	Critique and prototype demonstration	Final prototype; presentation; case study; reflection

12. Credit Hours and Contact-Hour Justification

Recommended proposal: 4 credit hours, Studio (Georgia Tech Effort 2). At the 2:1 in-seat effort ratio, a four-credit studio implies about eight scheduled contact hours per week, supporting the project intensity, critique, supervised work, and iterative prototyping expected.

Students should also expect about 4-6 hours per week outside studio for research, prototype refinement, documentation, readings, coordination, and critique preparation. A 3-credit version should reduce scope and milestones rather than compress the same workload.

13. Space, Technology, and Resource Needs

Resource	Recommended requirement
Space	Studio classroom with movable seating, Wi-Fi, display capability, critique surfaces, and team-work space.
Core design tools	Figma or equivalent prototyping software; FigJam/Miro or equivalent mapping tool; presentation software.
AI access	Approved or free-access generative AI tools. No specific paid AI subscription should be required.
Code/prototyping	Browser-based prototyping/code tools, GitHub, and optional AI-assisted coding. Functional prototypes are encouraged when they improve evaluation.
Research	Access to compliant user-research recording/transcription practices.
Special facilities	No fabrication lab or specialized hardware required.

14. Sustainability and Staffing

The course emphasizes transferable design principles rather than one AI platform, allowing tools to change without changing core outcomes. Instructors should have strong interaction/UX design and studio-critique experience plus familiarity with current AI-assisted design and prototyping workflows.

- Primary instructor: TBD by proposing unit.
- Backup instructor/coverage plan: TBD; identify at least one additional qualified instructor.

- Recommended enrollment cap: 20-24 students to preserve meaningful critique and feedback.
- TA support: recommended above 20-24 students or with a graduate section.
- Recommended cadence: once per academic year, subject to enrollment and staffing.
- Review tools before each offering while keeping learning outcomes stable.

15. Recommended Pilot and Approval Path

Georgia Tech's Curriculum Guide recommends testing new courses in Special Topics at least once, preferably twice, before requesting a permanent number. A practical path is to pilot this as a four-credit Industrial Design studio, collect enrollment and learning evidence, revise, and then consider a permanent proposal.

1. Pilot 1: test the shared brief, scope, pacing, AI judgment exercises, and tool access.
2. Collect evidence: enrollment, feedback, project quality, rubric results, workload, critique load, and AI-use/non-use decisions.
3. Pilot 2, if needed: refine scope and confirm repeatability with another instructor or teaching team.
4. Permanent NCP: finalize course number, prerequisites, grade modes, enrollment cap, staffing, and curricular placement.

16. Key Risks and Mitigations

Risk	Mitigation
AI overuse weakens independent design reasoning	Require human-led framing/initial ideation and assess independent concepts and rationale.
Tool volatility makes content obsolete	Teach durable decision frameworks; update tool examples each term.
AI-generated research claims are unreliable	Require source verification, direct user evidence, and separation of observation from AI inference.
Unequal access to paid tools	Use institutional/free tools; paid tools may be optional but not required.
Privacy/confidentiality concerns	Use de-identified research data unless an approved workflow permits otherwise.
Studio project becomes too broad	Use a shared brief, early scope review, milestone gates, and defined core tasks.
Team work hides individual learning	Pair team milestones with individual exercises, participation evidence, and reflection.

17. Curricular Precedents

The proposal draws on comparable studio and AI-augmented design courses while combining four elements: one semester-long team application project, human-led exploration and ideation, selective AI augmentation, and explicit assessment of AI judgment.

Carnegie Mellon University — The AI Augmented Designer (Martelaro, 2026)

Provides a precedent for evaluating AI across Discover, Define, Develop, and Deliver. This proposal adopts that judgment-oriented framing but keeps initial ideation human-led and uses one team-based semester project rather than four individual projects.

University of Michigan — SI 482 Interaction Design Studio (Haimson, 2024)

Demonstrates a semester-long team studio with sequential research, ideation, prototyping, testing, critique, and portfolio-oriented outcomes.

San José State University — DSID 131 Interaction Design (Tang, 2022)

Demonstrates an interaction-design studio where smaller assignments build toward a semester project assessed through critique, milestones, participation, presentation, and case-study work.

18. Selected Sources and Readings

The final syllabus should combine foundational interaction design readings, human-centered AI guidance, current AI-design research, and official platform documentation.

- Amershi, S., et al. (2019). Guidelines for Human-AI Interaction. Proceedings of CHI 2019.
- Google People + AI Research (PAIR). (n.d.). People + AI Guidebook.
- Rogers, Y., Sharp, H., & Preece, J. (2023). Interaction Design: Beyond Human-Computer Interaction (6th ed.). Wiley.
- National Institute of Standards and Technology. (2023). Artificial Intelligence Risk Management Framework (AI RMF 1.0).
- Das, M., Li, X., Fabunmi, O., & Hölttä-Otto, K. (2026). User Needs Analysis in Design Research by Using Large Language Models as Interviewees. *Journal of Computing and Information Science in Engineering*, 26(8).
- Zhong, R., McDonald, D. W., & Hsieh, G. (2025). Synthetic Heuristic Evaluation: A Comparison between AI- and Human-Powered Usability Evaluation. arXiv:2507.02306.
- Gmeiner, F., Luo, K., Wang, Y., Holstein, K., & Martelaro, N. (2025). Exploring the Potential of Metacognitive Support Agents for Human-AI Co-Creation. Proceedings of DIS 2025.

19. References and Administrative Sources

Georgia Institute of Technology Registrar's Office. (2025). Curriculum Guide. Last revised December 9, 2025.

https://curriculum.registrar.gatech.edu/sites/default/files/2026-02/GT%20Curriculum%20Guide_12.9.25.pdf

Georgia Institute of Technology. (2026–2027). Industrial Design (ID) course catalog.

<https://catalog.gatech.edu/coursesaz/id/>

Georgia Institute of Technology. (2026–2027). Computer Science (CS) undergraduate course catalog.

<https://catalog.gatech.edu/courses-undergrad/cs/>

Martelaro, N. (2026). The AI Augmented Designer. Carnegie Mellon University Human-Computer Interaction Institute. <https://nikmartelaro.com/ai-augmented-designer/>

Haimson, O. (2024). SI 482 Interaction Design Studio: Fall 2024 Course Syllabus. University of Michigan School of Information.

Tang, M. (2022). DSID 131 Interaction Design: Spring 2022 Course Syllabus. San José State University Department of Design.

20. Items to Finalize Before Formal Submission

- Confirm proposing unit and undergraduate-only vs. paired graduate section.
- Confirm 4 credits / Effort 2 Studio and weekly meeting pattern.
- Confirm Special Topics pilot number and target term.
- Confirm permanent-course prerequisites after the pilot.
- Confirm enrollment cap and whether TA support is available.
- Complete a final duplicate-content review with affected Georgia Tech units.
- Determine elective-only status or future degree/minor/certificate placement.
- Select the shared design brief/theme for the pilot offering.
- Finalize AI tool and data-handling guidance for research materials.
- Attach the student-facing syllabus and required NCP/signature documentation.