

SPRING 2015**LMC 6399: Discovery and Invention in Digital Media**

Office: TSRB 316A

Office Hours: Friday 10:00AM–12:00PM and by appointment.

Email: ledantec@gatech.edu

Class Meetings: Monday/Wednesday, 10:05-11:25AM

Location: Skiles 346

TA: Eric Corbett

TA Email: ecorbett@gatech.edu

COURSE DESCRIPTION

The purpose of this course is to introduce you to a suite of design research methods that can be used to discover opportunities for inventive new computational products and services. It complements the design and production skills developed in LMC 6310 and LMC 6313 with applied research skills.

The course is comprised of readings and projects. The readings provide the theoretical background to the design methods that you will explore through the projects.

LEARNING OBJECTIVES**M.S. Objectives**

- Devise, design, create, and assess prototypical digital media artifacts, services, or environments and to contextualize them within recognized traditions of practice.
- Explain, give examples of, and defend one's use of formal digital media design terminology
- Compare, critique, and appraise digital media artifacts, services, and environments using formal terminology
- Summarize your work orally and in written form using formal terminology
- Justify the design choices in your works

Ph.D. Objectives

- Identify and analyze a domain within the field and identify areas for original contribution as well as methods to pursue these contributions
- Explain, give examples of, and defend one's use of formal digital media design terminology
- Identify and define a suitable research problem in digital media design and apply appropriate disciplinary or interdisciplinary research methods to address it.
- Demonstrate ability to conduct original research in support of designing new genres and forms of digital media

In addition, both MS and PhD students should have three portfolio worthy projects that demonstrate your skills in design research methods for innovation in digital media.

PARTICIPATION & ATTENDANCE

Class attendance and participation is mandatory. Participation in class discussion is imperative because it allows you to explore the

readings and themes collaboratively, and in the process, discover meanings and issues that you probably would not discover on your own. Participation in class also challenges you to continuously question, refine and articulate your own ideas and interpretations.

In addition, much of this class is based in discussion of the readings and constructive critique of the design assignments and class project, all of which require full participation and cannot be replicated outside of class. Part of your participation grade will be determined by your application of insights and references from assigned readings to class project critiques.

GRADING

If you complete all of the requirements for the assignment reasonably well, you should expect to earn a B. In order to earn an A, you must complete and go “above and beyond” all of the requirements and your work must be exceptional across multiple grading factors.

Absence from more than three classes will result in the loss of 1-letter grade for the course. Tardiness for more than four classes will result in the loss of 1-letter grade for the course.

HONOR CODE STATEMENT

Students are expected to adhere to the **Georgia Tech Honor Code**.

ASSIGNMENTS

The course grade will comprise the following assignments, equally weighted:

- Project 1
- Project 2
- Project 3
- Written Responses
- Research paper (PhD)

To be extra clear, MS students will have four deliverables, each contributing 25% to the overall grade; PhD students will have 5 deliverables, each contributing 20% to the overall grade.

COURSE SCHEDULE

What follows is an outline for the course. As the course progresses, we may adjust dates and materials; however, unless specifically stated in class, you should assume this schedule is current and accurate.

Week 1	January 5	<p>First day of class.</p> <p>Administrivia</p> <p>Structure, Content, and purpose of the course.</p>
	January 7	<p>What is Design Research?</p> <p>“Rhetoric, Humanism, and Design”, Buchanan</p> <p>“The Interaction Design Research Triangle of Design Practice, Design Studies, and Design Exploration”, Fallman</p> <p>“What Can We Expect from Design Research?”, Gaver</p> <p>DESIGN RESEARCH METHOD 1: HACKING, TINKERING, AND OPPORTUNISTIC DESIGN</p> <p>Assignment: Construct, deploy, document, and assess the use of a D.I.Y. media system</p>

Week 2	January 12	<p>Hacking and Tinkering As Method, part 1</p> <p>“Epistemological Pluralism: Styles and Voices within the Computer Culture”, Turkle and Papert</p> <p>“Critical Making: Conceptual and Material Studies in Technology and Social Life”, Ratto</p> <p>“Confronting the Challenges of Participatory Culture”, Jenkins</p>
	January 14	<p>Hacking and Tinkering As Method, part 2</p> <p>“Grassroots Mapping: Creating a participatory map-making process centered on discourse” by Public Laboratory for Open Technology and Science, Dosemagen, Warren, and Wylie, http://www.joaap.org/issue8/GrassrootsMapping.htm</p> <p>“Hacking, Mashing, Gluing: Understanding Opportunistic Design”, Hartmann, Doorley, and Klemmer</p>
Week 3	January 19	No class, MLK day.
	January 21	Project Work Day
Week 4	January 26	Interim Project Presentations
	January 28	Interim Project Presentations
Week 5	February 2	<p>Annotated Portfolios and Design Notebooks</p> <p>“Annotated Portfolios”, Gaver and Bowers</p> <p>“The logic of Annotated Portfolios: Communicating the value of ‘research through design’”, Bowers</p> <p>“Making Spaces: How design notebooks work”, Gaver</p>
	February 4	Portfolio Review
Week 6	February 9	No Class – Interactivity
	February 11	Final Project Presentations
	February 13	Lab: Final Project Presentations
Week 7	February 16	<p>Design Fiction As Method, part 1</p> <p>“Design Fiction”, Bleeker</p> <p>“Design Fiction”, Stirling</p> <p>“The Rhetoric of the Image”, Barthes</p>

DESIGN RESEARCH METHOD 2: DESIGN FICTION

Assignment: Design and document a prototype interface for a speculative product or service.

	February 18	<p>Design Fiction As Method, part 2</p> <p>“Speculative Design: Crafting the Speculation”, Auger</p> <p>“The Future is Now: Diegetic Prototypes & the Role of Popular Films in Generating Real-World Technological Development”, Kirby</p>
Week 8	February 23	<p>Design and Knowledge</p> <p>“The Design Way” (chapter 1), Nelson and Stolterman</p> <p>“Design for the Real World” (chapter 1), Papanek</p> <p>“Sciences of the Artificial” (chapter 5), Simon</p>
	February 25	Project Work Day
Week 9	March 2	Interim Project Presentations
	March 4	Interim Project Presentations
Week 10	March 9	Final Project Presentations
	March 11	Final Project Presentations
Week 11	March 16	Spring Break. No Class.
	March 18	
Week 12	March 23	<p>Reflective Design as Design Research Method, part 1</p> <p>“Reflective Design”, Sengers, Bohner, David, and Kaye</p> <p>“Autobiographical Design in HCI”, Nuestaedter and Sengers</p> <p>DESIGN RESEARCH METHOD 3: REFLECTIVE DESIGN</p> <p>Assignment: Identify and study a creative practice and propose designs / design guidelines in support of that creative practice</p>
	March 25	<p>Reflective Fiction as Design Research Method, part 2</p> <p>“Understanding Repair as a Creative Process of Everyday Design”, Maestri and Wakkary</p>

“Spyn: Augmenting the creative and communicative potential of craft”, Rosner and Ryokai

“Reflections on Craft: Probing the process of everyday knitters”, Rosner and Ryokai

Week 13	March 30	Interim Project Presentations
	April 1	Interim Project Presentations
Week 14	April 6	Observational Practices. In-class activity
	April 8	Project Work Day Out on travel.
Week 15	April 13	Prototyping Practices. In-class activity
	April 15	Project work day.
Week 16	April 20	Final presentations.
	April 22	Final presentations.
Week 17	April 27	Finals Week. No class

INFORMATION FOR STUDENTS WITH DISABILITIES

Please notify the instructor if you have any disabilities with which you need special assistance or consideration. The campus disability assistance program can be contacted through **ADAPTS**.