

*SPRING 2016*

## ***LMC 6399: Discovery and Invention in Digital Media***

Office: TSRB 316A  
 Office Hours: Friday 9:00AM–11:00AM and by appointment.  
 Email: ledantec@gatech.edu

Class Meetings: Monday/Wednesday, 10:05–11:25AM  
 Class Location: Skiles 354  
 Lab Meeting: Friday 11:00AM–12:00PM  
 Lab Location: Skiles 346

TA: Albith Delgado  
 TA Email: albith@gmail.com

### ***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 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 projects, 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 11	First day of class.  Administrivia  Structure, Content, and purpose of the course.
	January 13	<b>What is Design Research?</b>  “Rhetoric, Humanism, and Design”, Buchanan  “The Interaction Design Research Triangle of Design Practice, Design Studies, and Design Exploration”, Fallman  “What Can We Expect from Design Research?”, Gaver  DESIGN RESEARCH METHOD 1: HACKING, TINKERING, AND OPPORTUNISTIC DESIGN Assignment: Construct, deploy, document, and assess the use of a D.I.Y. media system
Week 2	January 18	No class, MLK Day.
	January 20	<b>Hacking and Tinkering As Method, part 1</b>  “Epistemological Pluralism: Styles and Voices within the Computer Culture”, Turkle and Papert

		<p>“Critical Making: Conceptual and Material Studies in Technology and Social Life”, Ratto</p> <p>“Confronting the Challenges of Participatory Culture”, Jenkins</p>
Week 3	January 25	<p><b>Hacking and Tinkering As Method, part 2</b></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, <a href="http://www.joaap.org/issue8/GrassrootsMapping.htm">http://www.joaap.org/issue8/GrassrootsMapping.htm</a></p> <p>“Hacking, Mashing, Gluing: Understanding Opportunistic Design”, Hartmann, Doorley, and Klemm</p>
	January 27	Project Work Day
Week 4	February 1	Interim Project Presentations
	February 3	Portfolio Review (Ahead of Interactivity, 2/9)
Week 5	February 8	<p><b>Annotated Portfolios and Design Notebooks</b></p> <p>“Annotated Portfolios”, Gaver and Bowers</p> <p>“The logic of Annotated Portfolios: Communicating the value of ‘research through design’”, Bower</p> <p>“Making Spaces: How design notebooks work”, Gaver</p>
	February 10	Project Work Day
Week 6	February 15	Final Project Presentations
	February 17	Final Project Presentations
Week 7	February 22	<p><b>Design Fiction As Method, part 1</b></p> <p>“Design Fiction”, Bleeker</p> <p>“Design Fiction”, Stirling</p> <p>“The Rhetoric of the Image”, Barthes</p> <p>DESIGN RESEARCH METHOD 2: DESIGN FICTION</p> <p>Assignment: Design and document a prototype interface for a speculative product or service.</p>
	February 24	<p><b>Design Fiction As Method, part 2</b></p> <p>“Speculative Design: Crafting the Speculation”, Auger</p> <p>“The Future is Now: Diegetic Prototypes &amp; the Role of Popular Films in Generating Real-World Technological Development”, Kirby</p>
Week 8	February 29	<p><b>Design and Knowledge</b></p> <p>“The Design Way” (chapter 1), Nelson and Stolterman</p> <p>“Strong Concepts” Höök and Löwgren</p>

		"Sciences of the Artificial" (chapter 5), Simon
Week 9	March 2	Project Work Day
	March 7	Interim Project Presentations
	March 9	Interim Project Presentations
Week 10	March 14	Final Project Presentations
	March 16	Final Project Presentations
Week 11	March 21	Spring Break. No Class.
	March 23	
Week 12	March 28	<p><b>Reflective Design as Design Research Method, part 1</b></p> <p>"Reflective Design", Sengers, Boehner, 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 20	<p><b>Reflective Fiction as Design Research Method, part 2</b></p> <p>"Understanding Repair as a Creative Process of Everyday Design", Maestri and Wakkary</p> <p>"Spyn: Augmenting the creative and communicative potential of craft", Rosner and Ryokai</p> <p>"Reflections on Craft: Probing the process of everyday knitters", Rosner and Ryokai</p>
Week 13	April 4	<p>Prototyping Practices.</p> <p>In-class activity</p>
	April 6	Observational practices + Interim Project Presentations
Week 14	April 11	Observational practices + Interim Project Presentations
	April 12	Project work day
Week 15	April 18	Project work day.
	April 20	Project work day.

Week 16	April 25	Final presentations.
	April 27	Final presentations.
Week 17	May 1	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**.