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|  | **LMC-6313**  **Principles of Interactive Design** |

**1. Instructor Name, Contact Information and Office Hours**

Instructor: Janet Murray

Email: jmurray@gatech.edu

Office: TSRB 320A

Office Hours: Mondays 4-6

Teaching Assistant: Chris DeLeon

Email: [cdeleon3@gatech.edu](mailto:cdeleon3@gatech.edu)

Office: Skiles 346 (Lab)

Office Hours: TBA or by appointment

**2. Course Prerequisites:**(None)

**3. Core Area/Attributes Fulfilled by this Class:** (None)

**4. Course Description**

To articulate goals and methods for the design of digital artifacts that will remain valid over a long period of technological innovation. To approach the design of digital artifacts as part of the collective task of inventing media formats and genres. To prepare students for professional employment with projects that integrate immediately useful technical methods with enduring design considerations.

**5. Learning Outcomes**

**Master’s Students**

* Demonstrate the ability to devise, design, create, and assess prototypical digital media artifacts, services, or environments and to contextualize them within recognized traditions of practice.
* Ability to explain, give examples of, and defend one's use of formal digital media design terminology
* Can analyze digital media as cultural objects
* Can justify the design choices in their works

**Additional Ph.D. Learning Objectives**

Top Level

* Students have knowledge, comprehension and ability to apply historical, cultural, and theoretical concepts to the study of digital media.
* Discuss and distinguish among historical, cultural, and theoretical contexts for digital media
* Students can formulate and explore the answers to critical questions in the domains of Arts & Entertainment, Public & Civic Media, and Knowledge & Creativity as related to new media.

**6. Texts**

**Required**

Janet H. Murray *Inventing the Medium: Principles of Interaction Design as a Cultural Process,* MIT Press 2012. (available on electronic reserve, and in shared copy in 346 as well as in bookstores)

Bush, Vannevar. (1945). As We May Think. Atlantic Monthly**:** 101-108. in Waldrip-Fruin, N. and N. Montfort (2003). *The New Media Reader*. Cambridge, MIT Press and also http://www.theatlantic.com/magazine/archive/1945/07/as-we-may-think/3881/

Nelson, Theodor Holm (1965). "A File Structure for the Complex, the Changing, and the Indeterminate." In *Proceedings of the 20th National Conference*. New York: Association for Computing Machinery, pp. 84–100. In Waldrip-Fruin, N. and N. Montfort (2003). *The New Media Reader*. Cambridge, MIT Press.

Tim Berners-Lee et al. “The World Wide Web” in Waldrip-Fruin, N. and N. Montfort (2003). *The New Media Reader.* Cambridge, MIT Press.

**Recommended**

<http://lynda.com> tutorials, available for free with your GT login

Lupton, Ellen, *Visual Design Basics* website <http://www.gdbasics.com/>

Lupton, Ellen *Thinking with Type* website:<http://www.thinkingwithtype.com/>

Dan Roam, *The Back of the Napkin*  (2008)

Nelson, T. (2007). Transclusion: Fixing Electronic Literature, Google Video. <http://video.google.com/videoplay?docid=246536133655830340>

Berners-Lee, T., J. Hendler, et al. (2001). "The Semantic Web." Scientific American (May 2001). <http://www.scientificamerican.com/article.cfm?id=the-semantic-web>

Berners-Lee, T., N. Shadbolt, et al. (2006). "The Semantic Web Revisited." IEEE Intelligent Systems. <http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=1637364>

Berners-Lee, T. (2007) Giant Global Graph. In timbl's blog <http://dig.csail.mit.edu/breadcrumbs/node/215>

**7. Graded Assignments**

**6 Short Design Notes** consisting of one or more annotated images of an artifact linked to relevant video or website where appropriate, accompanied by no more than 200 well-chosen words identifying a significantly good or bad design feature in clear, meaningful language specifically related to that week’s readings. The 6 required design notes must be submitted by 12:01am of the first lecture/recitation meeting day of the week (usually a Monday), except for the first two required Design Notes which are due by 12:01am of the Friday meeting. There are 4 optional Design Notes which may be submitted for extra credit – see Calendar for due dates. [15% total; plus up to 5 pts extra credit for optional Design Notes]

**Class participation** and constructive mutual critique [10%]

**3 Lab Exercises** covering HTML5, PHP, CSS, databases, Javascript [total 15%]

Exercise 1: Personal online portfolio with HTML/CSS/use of grid [5%]

Exercise 2: Demonstration of PHP/SQL/API essentials [5%]

Exercise 3: Author content for a Javascript interactive decision system [5%]

**2 Extended Design Critiques (oral reports with slides prepared from templates)** DC1 focuses on an information resource (e.g. IMDB, a “multimedia” “ebook”) related to your topic for Project 1. DC2 focuses on a simulation (e.g. a game like lemonade stand or Civilization; a scientific model of a pond) related to your topic for Project 2. Must be uploaded to course website by 12:01am of first meeting day of the week they are due.

[5% each = total 10%]

**2 Interaction Design Projects** [25% each = total 50%]

**Project 1:** An application that meaningfully combines information in multiple media types from multiple sources into one resource that is more useful or expressive than the individual components (e.g. a guide to skateboarding sites that includes user ratings, photographs, videos, and maps; an analysis of a political issue drawing on text and video news sources, partisan websites and blogs, and authoritative statistical resource). This project must run in a browser, using SQL and PHP.

(Full assignment is on the course website)

[15% design, 5% technical, 5% presentation = 25% total]

**Project 2:** An interactive model of a complex system (e.g. a lemonade stand, a biological ecosystem) using javascript and HTML5. (Full assignment is on the course website)

[15% design, 5% technical, 5% presention = 25% total]

Projects 1 and 2 must be completed to the level of a running prototype. There are interim deliverables including topic statements and wireframes, and the final project must be documented in a slide presentation from a template that is the basis of an oral presentation and live demonstration. In addition students are required to make a screencast documentation of the ideal demo of their projects. All deliverables must be uploaded to course website by 12:01am of first meeting day of the week they are due.

**Extra credit** up to 5% for helpfulness to other students by sharing expertise and for insightful in-class design responses to others’ presentations. Students may also submit Short Design Notes in excess of the 5 required Notes – each extra Note is worth up to 2 percentage points.

**8. General Policies**

Students are expected to indicate the source and authorship of any work not original to them. Students are expected to come to class prepared and to attend to and actively respond to presentations by the instructor and fellow students. All students need to ensure that they have access to the DM Lab in Skiles 346 and are expected to abide by the rules of that lab, including never propping open doors or leaving the room unlocked. Students are expected to refrain from distracting and disruptive behaviors in class and in the shared lab, and to treat one another with professional respect and courtesy.

**9. Attendance Policy**

Attendance and punctuality are mandatory. Three or more unexcused absences will result in a half grade point reduction. An **excused** absence is one in which permission is requested in advance and you have a legitimate reason to skip class, such as an illness. You are expected to make up what you missed by checking with other students and reviewing lecture materials on the web site.

**10. 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: <http://www.adapts.gatech.edu>

**11. Honor Code Statement**

Students are expected to adhere to the Georgia Tech Honor Code:

<http://www.honor.gatech.edu/plugins/content/index.php?id=9>

* Please note that since this class emphasizes team effort, collaboration is encouraged, but please

bear in mind that part of your evaluation for teamwork will be made by your peers. This means it’s

important to fulfill your team responsibilities and complete your assignments on time.

* Any works appropriated for your project (such as art assets or music) should be cited both within the

project and the final design documents.

1**2. Course Schedule**

This schedule is subject to change as the semester progresses! Please refer to the course site for the latest version: <http://www.classes.lmc.gatech.edu/lmc6313f14>

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| Week | **M, W, F** | **Topic** | **Due** | **Lab** | **Read all and Write about any 5** |
|  | August 19 , 21, 23–meet in Skiles 343 Mon/Wed, lab Friday | Inventing the Medium: Definitions, Methods, Design Goals | **Design Note 1** (Friday) | HTML, CSS | *ITM* Preface; Ch 1 |
|  | August 26, 28, 30 -No class on Wednesday, for DiGRA |  | **Lab Exercise 1: Portfolio**  **August 30 Design Note 2** (Friday) | Portfolio troubleshooting | *ITM*  Ch 2 |
|  | Sept 2- NO CLASS  Sept 4 Recitation, **Design Note 3**  Sept 6 Lab | Maximizing Digital Affordances |  | PHP, Database, API | *ITM*  Ch 3 |
|  | Sept 9 – **Lab**  Sept 11 – Recit **Design Note 4**  Sept 13 - **Recit** | Info Design:  Library and Database Models |  | PHP, Database, API | *ITM* Ch 7 |
|  | Sept 16 Present DC1  Sept 18 Present DC1  Sept 20 Lab (optional Design Note 5) | **DC 1 Presentations** | **DC 1 with Project 1 Topic** | PHP, Database, API | *ITM* Ch 8 |
|  | Sept 23 – Recit **Design Note 6**  Sept 25 – Recit  Sept 27 - Lab | Info Design: Structured Document Model | **Lab Exercise 2**  **Sept 28** | PHP, Database, API | *ITM*  Ch 9  V. Bush,  Ted Nelson  Tim Berners-Lee |
|  | Sept 30 Recit  Oct 2 **Lab**  Oct 5 Lab | **Project 1 Wireframes** | **Project 1 Wireframes**  **Oct 1** | Project 1 |  |
|  | **Oct 7 Lab**  Oct 9 Recit  Oct 11 Lab | Procedural Design: Complexity and Replay |  | Project 1 | *ITM* Ch 13  Review *ITM*  Ch 4, 5 |
|  | Oct 14 NO CLASS  Oct 16 Recit (Proj 1)  **Oct 18 Recit (Proj 1)** | **Project 1 Presentations** | **Project 1 presentation and running prototype**  **due October 16** | No lab |  |
|  | Oct 21 Project 1 Presentations  Oct 23 Recit **Design Note 10 (Ch 13)**  Oct 25 Lab | Proj 1 cont’d (M)  Simulation and Games |  | Pseudocode |  |
|  | Oct 28 Lab  Oct 30 Lab  Nov 1 Lab | **Lab Week** |  | Javascript |  |
|  | Nov 4 Present DC2  Nov 6 Present DC2  Nov 8 Lab (Optional Design Note 12) | **DC2 Presentation** Optional Design Note for Scripting the Interactor: Tool | **DC 2 with Proj 2 Topic** | Project 2 | *ITM* Ch 10 |
|  | Nov 11 Review Mockup  Nov 13 Revue Mockup  Nov 15 Lab (Optional Design Note 13) | **Project 2 Mock up**  Design Note for Scripting the Interactor: Machine | **Lab Exercise 3**  **Nov 15** | Project 2 | *ITM* Ch 11 |
|  | Nov 18 Recitation (Mockup Testing)  Nov 20 Recitation (Mockup Testing)  Nov 22 Lab (Optional Design Note 14) | Optional Design Note for Scripting the Interactor:Companion | **Project 2 Mock up**  **Nov 18** | Project 2 | *ITM*  Ch 12 |
|  | Nov 25 Lab  Nov 27 Lab  Nov 39 THANKSGIVING | Lab Week |  | Project 2 (Mon and Wed) |  |
|  | Dec 2 Project 2  Dec 4 Project 2  Dec 6 Project 2 | **Project 2 Presentations** | **Project 2 Presentations, with final running prototype due by 5pm Monday**  **December 9** | No lab |  |