LMC 6312
FALL 2017
DATA WALKS
or "Technology, Representation and Design"

Syllabus (Current 8.22.17)

Details:
Tuesdays / Thursdays, 1:30PM-2:45PM
Technology Square Research Building (TSRB), Room 209

Professor:
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Office Hours: Tuesday/Thursday 12:00pm-1:00pm, TSRB 318A

OVERVIEW

This course seeks to engage graduate students from across Georgia Tech in exploring what Atlanta looks like through public data. Today, data on the city of Atlanta are increasingly available. Micro and macro changes in the makeup of local neighborhoods can be tracked through demolition and construction permits, tax records, and community surveys, among other sources; all of which might be easily downloaded by anyone with an internet connection. But data can be available, without necessarily being accessible. In this course, students will examine how data can be made accessible and interpretable through publically-oriented *data installations* designed to open dialogue about ongoing changes in the life of the city.

The focus and the site for our installations will be the Atlanta Beltline: one of the most visible ongoing works of infrastructure in Atlanta. The project is currently under construction along a loop of disused railroad tracks that circumvent the city, stitching together some of Atlanta's most historic neighborhoods and bringing with it new facilities for recreation, transportation, and housing greatly needed by a growing Intown population. But we don't yet know how the Beltline is transforming communities along its path. The course will investigate how, through a series of hybrid physical and virtual "walks" through data, we might foster public discussion about this question.

LMC 6312 will combine aspects of a seminar and a studio. Early in the term, students will read about and discuss theories and practices from data studies and data visualization. Thereafter, students will develop their own data installation projects (i.e. sidewalk drawings, projections, audio, or augmented reality) in order to create a movable forum for public reflection on the Beltline. The course is meant to equip students with the skills and resources necessary to think critically about cities through their data.

LEARNING OUTCOMES

- Students will learn to examine data as cultural artifacts, inextricably tied to information infrastructures and the details of their social, historical and material context.
- Students will learn to speak effectively about the ethics, aesthetics and epistemology of data.
- Students will develop skills for creating and critiquing visualizations of large data sets for public audiences.
- Students will learn to frame questions about data and develop their own answers through a combination of design and social science methods.

Serve-Learn-Sustain Outcomes

- Students will be able to identify relationships among ecological, social, and economic systems.
- Students will be able to evaluate how decisions impact the sustainability of communities.

ASSIGNMENTS

There are two types of assignments in this course:

Readings: These assignments will structure the theoretical portion of the course. Each student should complete readings before class and submit a written response on the T-Square blog. Clear instructions will be given at the time the reading assignment is made. All reading selections listed on the syllabus are tentative. Additional readings may be assigned as supporting material along with projects and written assignments.

Projects: These are substantial, multi-week efforts meant to develop your capacity to conceptualize and execute creative work. This requires the merger of technical expertise and creative vision. Projects also may demand that you identify and describe a creative goal, such that I can evaluate your work against your stated objective. Attention to detail in execution is appreciated, but rougher-edged well-conceived work is encouraged over very polished, unimaginative work.

GRADING

Grades will be given based on completeness and excellence, distributed as follows:

20% Participation
30% Preliminary project (Data Field Guide)
50% Final project (Data Walk)

Grades for projects will be distributed A-F with +/- modifiers used sparingly. Submissions that meet only the basic requirements of the assignment will receive a "B". B means "satisfactory." To receive an "A" on assignments (and therefore, in the course), submissions must go above and beyond the basic requirements, showing exceptional care, creativity, and coherence. Submissions that fail to meet the requirements of the assignment or whose execution is incomplete or inadequate will receive a "C" or below.

Deadlines: All assignments will include submission instructions and a due date. Late assignments will be penalized one letter grade per day. Assignments turned in on the due date, but after the specified deadline will be penalized half a letter grade. Extensions will only be granted in extreme circumstances (i.e. serious illness, family emergency). Failure to complete any of the projects may be grounds for a failing grade.

CLASS REQUIREMENTS AND POLICIES

Students are encouraged to bring their laptops to class. It is important to keep in mind that this class focuses on the principles and processes of design, not on technical skills; it is therefore up to you to develop and/or hone your facility with any tools required to complete assignments.

Attendance: Students are required to attend and actively participate in all classes. Failing to attend 3 or more classes is grounds for a failing grade.

Readings and Materials: These will be distributed electronically via T-Square, email, or another readily available means. Some readings will be linked directly from the syllabus. Any materials not linked here can be found in the T-Square resources. Additional materials for projects will be distributed electronically. You will need your own laptop computer (Windows or Mac).

DEBATE, DIVERSITY, AND RESPECT

In this class, we will present and discuss a diversity of perspectives. Although you may not always agree with others' perspectives, you are required to be respectful of others' values and beliefs. Repeated inappropriate or abusive comments and/or behavior will be cause for disciplinary action. If you feel that your perspectives are being ignored or slighted, or you in anyway feel uncomfortable in the classroom, please contact me immediately.

THE COMMUNICATION CENTER

The Communication Center is located in Clough Commons, Suite 447. It is an excellent resource for any student (undergraduate or graduate) who wants help with a communication-related project. You can visit the center for help at any stage of the process for any project in any discipline. The knowledgeable and friendly tutors are available to help you develop and revise your projects. They are not available to "fix" your projects. Please do not ask the tutors to proofread or edit your work. For information on making an appointment please visit http://communicationcenter.gatech.edu/content/makeappointment. If you need assistance with the appointment system, you can call 404-385-3612 or stop by the center. All services are free and confidential.

STUDENTS WITH DISABILITIES

Students should self-report to the Access Disabled Assistance Program for Tech Students at: 220 Student Services Building Atlanta, GA 30332-0285 404.894.2564 (voice) or 404.894.1664 (voice/TDD) www.adapts.gatech.edu/guidebook.html

PLAGIARISM WARNING

Plagiarism of any form will not be tolerated, and will result in a failing grade for the course. Plagiarism is not only the uncredited copying of text from another's work but also copying ideas or code from other digital artifacts. Adaptation of code samples (provided or found online) is not necessarily plagiarism. To facilitate your success on projects, I will try to provide sample code or links to other samples. However, explicitly copying entire algorithms or sample applications and representing them as your own is not permitted. Use sample code and online resources as tutorials to help you write your own original code. Copying more than 10% of a code sample will be considered plagiarism.

Having said that, students are encouraged to share and critique each other's' work. You are allowed (and encouraged) to get feedback from other students, but collaboration is only permitted on group projects. On all other assignments, you are expected to complete and turn in your own work. Students may not submit work on another's behalf. Unauthorized use of any previous semester course materials is prohibited. Violating these terms will be considered a direct violation of academic policy and will be dealt with according to the GT Academic Honor Code.

SERVE-LEARN-SUSTAIN (SLS) AFFILIATION

This [course/project] is part of Georgia Tech's Serve-Learn-Sustain (SLS) initiative, which provides students with opportunities to combine their academic and career interests with their desire to make worthwhile contributions to the world and build sustainable communities where people and nature thrive, in Georgia, the United States, and around the globe. More information about SLS can be found at www.serve-learn-sustain.gatech.edu. Visit the website to sign up for the SLS Email List, view the full list of affiliated courses and projects, and find links to Facebook, Instagram and Twitter.

SCHEDULE

Details about forthcoming assignments will be added to this syllabus weekly, so you will need to check it regularly. This schedule is subject to change at any time. Updates and changes will be announced in class or by email to students.

Week 1: Local Data

Aug 22 Introduction

Data Walks Overview

Aug 24 Seminar

Lecture + Discussion: Local Origins / Placing Data

Project Introduction:
Data Field Guide (in 5 Parts)
Students must select a data set from one of the following:

1. Atlanta Geographic Map, Open Street Map
   https://www.openstreetmap.org

2. American Community Survey, Fulton County tracts
   https://www.census.gov/programs-surveys/acs/

3. Building / Demolition Permits, City of Atlanta
   https://aca3.accela.com/Atlanta_Ga/Default.aspx

4. Housing Tax Assessments, Fulton County
   http://share.myfultoncountyga.us:8080/geoportal/catalog/search/browse/browse.page

5. Tree Canopy Data, Trees Atlanta
   https://treesatlanta.org/ (data posted on T-Square)

6. Directory of Businesses in Atlanta, Yelp:
   https://www.yelp.com/developers/documentation/v2/overview

7. Classified Ads, Craigslist Atlanta:
   https://atlanta.craigslist.org/

8. Homes for Sale, Zillow Atlanta:
   https://www.zillow.com/

Week 2: Data Settings

Aug 29 Studio

Project Due:
Data Field Guide, Part 1: Data Setting + Standards
Students will share their initial findings on one of the data sets provided. They will introduce an overview of the data setting as well as a detail of the data set. They will also explain the standards used and their history.

Aug 31 Seminar

Student-led Tutorials:
Basic Visualization Skills

Recommended Platforms or Libraries:

Raw:
http://rawgraphs.io

Databasic:
https://databasic.io/en/

Processing (or Processing.JS):
www.processing.org

Javascript D3:
https://d3js.org/

Week 3: Visualizing Data

Sept 5 Seminar

Student-led Tutorials:
Basic Visualization Skills (continued)

Reading/Writing Due:
Fry, Ben. 2008. *Visualizing Data* (excerpt)
Kurgan, Laura. 2013. *Up Close, at a Distance* (excerpt)

Sept 7 Studio

Project Due:
Data Field Guide, Part 2: Codebook + Data Visualization
Students will share a basic visualization of their data set using one of the recommended platforms or coding libraries. Students will also create a codebook for the data set.

Week 4: Collecting Institutions

Sept 12 Seminar

Lecture + Discussion: Collecting Institutions

Reading/Writing Due:
Iliadis, Andrew and Federica Russo. 2016. "Critical Data Studies: An Introduction"
Burdick, Anne, et. al. 2012. *Digital_Humanities* (excerpt)

Sept 14 Studio

Project Due:
Data Field Guide, Part 3: Institutional context + Limitations
Students will share the results of at least one interview with a data collector, analyst, or subject. They will identify errors and limitations that potentially illuminate the context of collection for their data set.

Week 5: Algorithmic Entanglements

Sept 19 Seminar

Lecture + Discussion: Algorithmic Entanglement

Reading/Writing Due:
Crawford, Kate. 2016. "Can an Algorithm be Agonistic?"
Manovich, Lev. 2002. *The Language of New Media* (excerpt)

Sept 21 Studio

Project Due:
Data Field Guide, Part 4: Data Workflow
Students will share a diagram of the collection, normalization, and analysis processes used to produce their data set.

Week 6: Operational Contexts

Sept 26 Seminar

Lecture + Discussion: Operational Context

Reading/Writing Due:
Boyd, Danah and Kate Crawford. 2012. "Critical Questions for Big Data"

Dourish, Paul. 2004. “What we talk about when we talk about Context”

Sept 28 Studio

Project Due:
Data Field Guide, Part 5: Contexts of Use + Ethics
Students will share their analysis of three contexts of use for their data in Atlanta and raise ethical considerations.

Week 7: Critical Models

Oct 3 Seminar

Lecture + Discussion: Critical Models

Watching/Writing Due:
Bear 71, Dear Data, Anti-Eviction Mapping Project, Architecture and Justice, A Sort of Joy, Grassroots Mapping

Oct 5 Studio

Project Due:
Data Field Guide, Complete
Students must work together to reconcile different versions of the field guide for each data set (if necessary) and create a refined final version in html format.

Week 8: Local Ends

Oct 10 Institute Holiday

Oct 12 Seminar

Lecture + Discussion: Local Ends

Reading/Writing Due:
Bowker, Geoffrey and Susan Leigh Star. 1999. *Sorting Things Out (excerpt)*
Borgman, Christine. 2015. *Big Data, Little Data, No Data (excerpt)*

Week 9: Project Brief

Oct 17 Studio

Site Visit / Project Introduction:
Atlanta Beltline Project

Oct 19 Seminar

Guest Visit:

The Beltline's Director of Community Engagement (tentative date)

Week 10: Project Proposals

Oct 24 Seminar

Project Due:
Atlanta Beltline Project Proposal

Oct 26 Studio

Guest Visit:
Members of Housing Justice League (confirmed)

Week 11: Working Session

Oct 31 Seminar

Guest Visit:
Director of Serve Learn Sustain at Georgia Tech (tentative date)

Nov 2 Studio

Group Critiques

Week 12: Mid-Project Critique

Students will present the first complete iteration of their final project.
Guest critics will be present.

Nov 7 Studio

Mid-Project Group Critiques (Part 1)

Nov 9 Studio

Mid-Project Group Critiques (Part 2)

Week 13: Skill Share

Nov 14 Studio

Student-led Tutorials:
Students share technologies and skill sets that they have prior experience with.

Nov 16 Studio

Student-led Tutorials:

(continued)

Week 14: Working Session

Nov 21 Studio

Individual Critiques

Nov 23 Studio

Thanksgiving

Week 15: Preliminary Review

Students present rough drafts of their final projects.

Nov 28 Studio

Group Critiques

Nov 30 Studio

Group Critiques

Week 16: Wrap Up

Dec 5 Review Session

We will review the course structure and content as well as expectations for the final review. Students will complete course evaluations.

Final Project Due Dates

Dec 7 Final Review

The review will be held 2:50pm-5:40pm in TSRB Room 209.

Project Due:
Atlanta Beltline Project Presentation

Dec 14 Submission Deadline (No class meeting)

Project Due:
Atlanta Beltline Project Materials