STS/HIST/SOC 2604: Intro to Data in a Social Context
Syllabus
Fall 2023

INSTRUCTOR:

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Office: 322 Lane Hall
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Office Hours: By appointment

COURSE LOCATION AND TIME:

Location: TORG 1020
Time: Tuesdays and Thursdays 12:30 - 1:45
Note: All assignments and announcements will be posted on CANVAS

COURSE DESCRIPTION:

Introduction to Data in Social Context examines the use of data to identify, reveal, explain, and interpret patterns of human behavior. This course explores historical trajectories of data to ask how societies have increasingly identified numerical measures as meaningful categories of knowledge. It also interrogates the persistent challenges to assumptions about the universality of social categories reducible to numerical measures.

The course examines the range of information that can be classified as "data" in the form of quantified measures of social categories, textual collections, sound, visual media, and geographical information. Students will learn how social context shapes the collection, interpretation, and uses of data by examining the changing nature of categories defined by class, ethnicity, race, gender, and other elements of collective and individual identity. The course challenges students to ask how data is being collected, how data has been used to shape policies, and how the process of analyzing data is shaped by social conditions.

LEARNING OBJECTIVES:

In this course you will engage in practices that will develop your ability to:

- Devise questions aimed at critically assessing data collection, interpretation, and presentation.
- Recognize the influential role of humans in data collection, manipulation, and interpretation.
- Situate data within its particular social context by interrogating the implicit assumptions and biases that shape data collection and interpretation.
- Recognize how we use data to construct representations of various realities and how these representations are used to intervene in and shape those same realities.

INCLUSION STATEMENT AND ACCOMODATIONS:

Students with disabilities are responsible for self-identification and are encouraged to contact Services for Students with Disabilities. If you require any special arrangements or considerations for the class, please contact me as soon as possible to discuss accommodations. See https://www.ssd.vt.edu/.

All students learn differently. If you are concerned that your learning style is not currently accommodated in the class, please contact me to discuss your individual learning needs.

If the official Virginia Tech roster does not list your preferred name or indicate your preferred pronouns, please let me know as soon as possible so I can adjust my roster accordingly. This course strives to uphold the Virginia Tech Principles of Community. If you are concerned at any point that I or a fellow student have failed to uphold these Principles, please notify me.

COMMUNICATION EXPECTATIONS:

You're welcome to contact me via email or directly through Canvas. I strive to respond to any emails within a 48 hour period.

Just as you hold me accountable for answering emails, I hold you responsible for checking your emails and Canvas announcements regularly and reading them in their entirety. I promise to try to keep the emails to a minimum.

If you have questions regarding assignments or due dates please refer to the syllabus and schedule located on Canvas before reaching out to me. If the syllabus changes I will email you to let you know.

If you find you're struggling with either the course material or assignments please reach out and I will try and assist you (or point you to resources that might help). That being said, do not wait until the last week of class or 5 minutes before an assignment is due to ask for help.

REQUIRED TEXTS:

There are no required texts for this course. All reading materials will be made available in a virtual format whether via PDF or through the library. However, we will be reading several chapters out of Cathy O'Neil's *Weapons of Math Destruction* (2016), and *Captivating Technology* by Ruha Benjamin (2019), so if you prefer a physical copy feel free to purchase one. Also, if you choose to complete the extra credit assignment you will need to acquire a copy of *Feed* by M.T. Anderson. I encourage you to shop locally for your books.

GRADING POLICIES:

Course Requirements
The course has a total of 200 possible points, distributed as follows and explained below:

Participation	= 20 pts
4 Reflection Assignments	= 80 pts (20 x 4)
Midterm Essay	= 50 pts

Final Project	= 50 pts

Total   = 200 pts

Late Work

Though this course has "suggested deadlines" which I highly recommend you follow, it **does not** penalize for late work. However, all assignments do have a **final deadline** which is listed at the end of the syllabus.

Participation

Participation is strongly encouraged in this course. BUT, I understand that life gets in the way for everyone. To earn full credit for your participation grade you must attend 75% of our lectures. As of right now there are 28 lectures scheduled, which means **you can miss 7 lectures** with no penalty.

Extra Credit

This semester you will have one definite extra credit opportunity and other potential ones. To earn extra credit you will read the fiction novel *Feed* by M.T. Anderson and respond in 500 words to a writing prompt about the book. I'll explain this in further detail later in the semester. *Feed* is a young-adult dystopian novel that focuses on issues such as corporate power, consumerism, information technology, data mining, and environmental decay. The Extra Credit assignment is worth 10 points and is due on **Thursday November 30th at 11:59pm**.

Feedback

This is a large course with only one lecturer, which means I will not be able to provide *extensive* feedback on every assignment. That being said, I will aim to give you some feedback and you can always reach out to me if you would like to schedule a more substantial feedback session or if you are concerned about your progress in the course.

Assignments

Reflection Assignments

You will have 4 reflection assignments to complete over the course of the semester. These will vary in nature and style. But all will involve a written component. Each reflection assignment will require that you prove your comprehension of the assigned materials for the selected module and that you display your knowledge of course concepts.

All reflection assignments will be available to view at the beginning of the semester. Each will come with it's own set of instructions. Make sure that you review the requirements for each reflection assignment carefully.

Reflection assignments are worth 20 points each for a total of 80 points. Their suggested are at 11:59pm on Friday nights.

Midterm Project

For your midterm essay you will write a 1,000-1,200 word essay or freestyle responses to a prompt which will require you to reflect on and prove your comprehension of course concepts and themes.

The midterm essay is worth 50 points for a total of 25% of your final grade. It has a suggested deadline of **11:59 pm on Friday October 20th.**

Final Project

The final project requires you to reflect back on everything you've learned about data in a social context and apply it to your own personal experiences and reality.

The final project will have multiple components and is worth 50 points, or 25% of your final grade. The Final Deadline for Final Projects is **11:59 pm on Friday December 8th.**

COURSE SCHEDULE:

	Dates	Readings/Materials	Notes & Suggested Deadlines
Module 1 - What is Data?			
	Tuesday, August 22nd	● Read the Syllabus ● Explore the Canvas Page	Welcome to the course!
	Thursday, August 24th	● "From Data to Wisdom" by Russell Ackoff (2p) ● "Data, Information, Knowledge, and Wisdom" by Gene Bellinger, Durval Castro, Anthony Mills (4p)	
	Tuesday, August 29th	● "On the Presumed Neutrality of Technology" by Norman Balabanian (10p) ● "Data Isn't 'Truth'" by Kalev Leetaru (5p) ● (Watch) This is How Easy It Is to Lie With Statistics https://www.youtube.com/watch?v=bVG2OQp6jEQ	We'll go over the instructions for Reflection Assignment 1 in class.
	Thursday, August 31st	● "Ch. 1: Bomb Parts, What is a Model?" In Weapons of Math Destruction by Cathy O'Neil (16p)	**Suggested Deadline:** Reflection Assignment 1 has a suggested deadline of **Friday September 1st.**
Module 2 - Data and Identity			
2.1 Measuring Bodies	Tuesday, September 5th	● "Ch.1 - Skulls" in the Materials of the Mind: Phrenology, Race, and	

		the Global History of Science, 1815-1920 (21p)	
	Thursday, September 7th	"Ch. 5 - The Hereditarian Theory of IQ" (pages 176-183, 223-229) in The Mismeasure of Man by Stephen Jay Gould (13p) (Watch) The dark history of IQ tests - Stefan C. Dombrowski https://ed.ted.com/lessons/the-dark-history-of-iq-tests-stefan-c-dombrowski	
	Tuesday, September 12th	"Chapter One: Multiple Ts" in Testosterone: An Unauthorized Biography by Rebecca M. Jordan-Young and Katrina Karkazis (11p)	Guest lecture with Lyndon Frommer
2.2 Maps and Charts	Thursday, September 14th	"Ch. 1 - Maps Work by Serving Interests" (pages 4-12, 17-27) in the Power of Maps by Denis Wood (18p) "Boston Schools Have Vowed to Combat 'Racist' Maps. Experts Want a Better Geography Curriculum" by Kevin Mahnken (4p)	**Suggested Deadline:** Reflection Assignment 2 has a suggested deadline of **Friday September 15th.**
	Tuesday, September 19th	"Extra-terra incognita: Martian maps in the digital age" by Lisa Messeri (17p)	
	Thursday, September 21st	"Mind the Gap: The London Underground Map and Users' Representations of	

		Urban Space" by Janet Vertesi (21p)	
2.3 Social Credit Systems	Tuesday, September 26th	• "Big data meets Big Brother as China moves to rate its citizens" by Kevin Hong (12p)	
	Thursday, September 28th	• "From Inherent Racial Bias to Incorrect Data—The Problems With Current Credit Scoring Models" by Natalie Campisi (8p) • "Ch 7: Digital Character in 'The Scored Society' fico, social networks, and competing measurements of creditworthiness" in Captivating Technology by Tamara K. Nopper (12p)	**Suggested Deadline:** Reflection Assignment 3 has a suggested deadline of **Friday September 29th.**
	Tuesday, October 3rd **WEEK of FALL BREAK (No Class Thursday)**	• "Ch. 8: Collateral Damage, Landing Credit" in Weapons of Math Destruction by Cathy O'Neil (20p)	
Module 3 - Big Data			
3.1 What is Big Data?	Tuesday, October 10th	• (Watch) Big Data in 5 Minutes - What is Big Data? https://www.youtube.com/watch?v=bAyrObl7TYE • (Watch) Ted Talk: Kenneth Cukier "Big data	Mid-Term Essay prompt, Make Up Assignment and Extra Credit assignment explained.

		is better data" https://www.youtube.com/watch?v=8pHzROP1D-w ● (Watch) Ted Talk: Prukalpa Sankar "How Big Data Can Influence Decisions That Actually Matter"	
	Thursday, October 12th	● "Critiquing Big Data: Politics, Ethics, Epistemology" by Kate Crawford (8p) ● "Ch. 4 - Propaganda Machine, Online Advertising" in Weapons of Math Destruction by Cathy O'Neil (15p)	
3.2 The Human Face of Big Data	Tuesday, October 17th	● "Justice for Data Janitors" by Lilli Irani (10p) ● Watch Google's Selfish Ledger https://www.youtube.com/watch?v=LUSZfEBTwRc (8 minutes)	
	Thursday, October 19th	● (Watch)Ted Talk: How data brokers sold my identity | Madhumita Murgia https://www.youtube.com/watch?v=AU66C6HePfg ● (**Skim**)Visualizing Seven Years of Twitter's Evolution by Kalev Leetaru	**Suggested Deadline:** Midterm Project has a suggested deadline of **Friday October 20th.**
3.3 Algorithmic Accountability	Tuesday, October 24th	● Algorithmic Accountability: A Primer (9p)	

		● "A Few Useful Things to Know about Machine Learning" by Pedro Domingos (8p)	
	Thursday, October 26th	● "Algorithms and Automation: An Introduction" by Ian Lowrie (9p) ● "The Digital Poorhouse" By Virginia Eubanks (3p)	
	Tuesday, October 31st	● "Chapter 5: Civilian Casualties, Justice in the Age of Big Data" in Weapons of Math Destruction by Cathy O'Neil (20p)	
Module 4 - Discriminatory Data			
4.1 Search Engines & Racist AI	Thursday, November 2nd	● "Missed Connections: What Search Engines Say About Women" by Safiya Umoja Noble (4p)	
	Tuesday, November 7th	● "Beyond Algorithmic Bias: A Socio-Computational Interrogation of the Google Search by Image Algorithm" by Orestis Papakyriakopoulos and Arwa Michelle Mboya (12p)	
	Thursday, November 9th	● "Ch. 1 - Engineered Inequity, Are Robots Racist?" (pages 34-44) in Race After Technology by Ruha Benjamin (10p)	**Suggested Deadline:** Reflection Assignment 4 has a suggested deadline of **Friday November 10th.**

4.2 Surveillance	Tuesday, November 14th	● Erika Lee, "The Chinese Exclusion Example: Race, Immigration, and American Gatekeeping, 1882-1924" Journal of American Ethnic History 21 (2002): 36-62. (26p)	
	Thursday, November 16th	● "Fitting the description: historical and sociotechnical elements of facial recognition and anti-black surveillance" by Damien Patrick Williams (7p) ● (Listen) "The Centuries-Long History of Racism in Surveillance Tech" Wired Interview	
Thanksgiving Break			
	Tuesday, November 28th	● "Ch. 9 - Employing the Carceral Imaginary, An Ethnography of Worker Surveillance in the Retail Industry" in Captivating Technology by Ruha Benjamin (12p)	Final Project explained.
Module 5: Looking Beyond Data			
	Thursday, November 30th	● "Introduction: The Machine Has No Fear," in Affect and Artificial Intelligence (28p)	**FINAL DEADLINES:** Extra Credit Assignment **Due Thursday November 30th**. All Reflection

			Assignments and late midterms **Due Thursday November 30th.**
	Tuesday, December 5th	● (Watch) "The human insights missing from big data" Tricia Wang ● An Ethnographic Approach to Software by Kelly Moran (4p)	
Reading Week / Classes End			**FINAL DEADLINES:** Final Project **Due 11:59pm, December 8th.**

HONOR CODE:

We follow the Virginia Tech Honor System in this class. Please make yourself familiar with the Honor System practices and the various definitions of plagiarism. All assignments submitted should be considered graded work, unless otherwise noted. For more information on the Honor Code, please see http://www.honorsystem.vt.edu.