

ENG/COM 395: Big Data and the Rhetoric of Information



“There were 5 exabytes [5 billion gigabytes] of information created between the dawn of civilization through 2003, but that much information is now created every 2 days.” – Eric Schmidt, of Google, 2010.

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Meeting times: M/W 4:30-5:45pm

Office Location: Rick’s Annex

Office Hours: By appointment

Course URL: <http://go.ncsu.edu/bigdatacourse>

Course Description

This class explores the ways that individuals, businesses, governments, and non-profit organizations increasingly use big data to form arguments about society, make decisions, and generate profits. We will pay particular attention to the ways in which the self and society shape and are shaped by our changing understanding and use of big data by examining topics such as data visualization, social network sentiment analysis, and privacy. Throughout this course we will work to understand the function and limits of rhetoric in the age of big data.

Required Course Materials

Tableau's [data visualization software](#) is provided through the Tableau for Teaching program.

No books are required for purchase, however excerpts from the following books will be made available electronically:

Terms of Service by Michael Keller and Josh Neufeld

Selections from *Uncharted: Big Data as a Lens on Human Culture* by Erez Aiden and Jean-Baptiste Michel.

Other readings will be selected by students and available through Moodle and the library.

Learning Objectives

Upon taking this course, students will be able to

1. Understand basic practical and theoretical definitions of the terms *rhetoric*, *digital media*, *information*, and *big data*.

2. Trace basic trends in the development of big data in the digital age and explain how arguments based on big data analysis are rhetorically constructed.
3. Create data driven projects based on an informed understanding of contemporary rhetorical theories of big data analysis and visualization.

Because ENG 395 fulfills the HUM requirement in the GEP, this section of the course also achieves the following HUM objectives:

1. *Interpret human experience through the lenses of rhetorical and digital media theories.*
Students will be able to interpret big data through the lens of relevant rhetorical and digital media theories.
2. *Explain theories of rhetoric and digital media as frameworks for interpretation.*
Students will understand rhetorical and digital media theories as frameworks for interpreting the political, social, and interpersonal impact of big data.
3. *Construct academic arguments grounded in rhetorical ways of knowing and support those arguments with evidence appropriate to their rhetorical situations.*
Students will compose academic arguments in oral, textual, and multimodal formats, in the process of creating data driven projects.

This course will feature Student-Centered Learning. What is student-centered learning? Student-centered learning is any form of learning that sets the student's success as its goal. As your instructor, I will also be your co-learner.

Learn by Doing, Making, Teaching (Adapted from Cathy Davidson)

This isn't just a content course. In this course, you will be in a leadership and maker role, and will be communicating your new insights to a general public. Teaching is one of the best ways to learn yourself, and you will work in project teams to "produce" one online public segment about each of the main topics of the course.

You will also learn about the challenges and opportunities of collaboration, of producing a great end-product not just for your teacher, but for the entire watching world—and you will work to make sure the world is watching. Besides being an important workplace skill, working together to make ideas public prompts what John Seely Brown calls “**metacognition**,” an ability to think about our thinking. In literary and cultural criticism, this has been described as “defamiliarization” (being introspective about our own habits and reflexes).

Assignments and Grading

Attendance and Participation

This includes reading/viewing/listening to all assignments, participating in guest lectures and field trips.

Class attendance is required. If you have more than two unexcused absences (see course policy for definition), your grade for the entire class automatically will drop by half of a letter grade. If you miss four classes, it will drop one letter grade, and so on.

Excused absences require a doctor's note. Or, in the case of other official absences, you must submit a request in advance and I will return a written acceptance or decline of the request. If you are missing for a non-medical/emergency reason, you have to have approval in advance and, at that time, state your plan for making up the missed work. You are still responsible for the readings and filing the weekly blog.

Weekly Blog Posts and Comments or other Writing/Media Equivalent - 30%

400-500 words. Think of this as an evolving research paper. It has the same importance and weight and seriousness. It will be on our class WordPress site, (<http://go.ncsu.edu/bigdatacourse>), visible to all the other students and the general public. You may choose to use a pseudonym to protect your privacy if you so choose – however, you must let your instructor know what pseudonym you have selected. For a discussion of privacy issues related to public blogging for a course, please see: <https://www.hastac.org/blogs/cathy-davidson/2010/12/15/should-class-blogs-be-private-or-public>

Blogs must be completed by midnight the night before the class session. All students are required to read the blogs by their classmates before class and are encouraged to comment in writing as well as in class discussion. Blogs are substantive, should use secondary sources where appropriate, and can use video, sound, images, animation as well as text. Although you will be creating most of the blog prompts (more on this below), some examples of potential activity-based blog prompts include (adapted from Rettberg, 2014):

- Tracking some kind of data about yourself for a time and writing about the significance of that experience
- Coming up with and carrying out a small experiment using Google's n-gram viewer
- Googling yourself and thinking about how the Internet version of you compares to the real you
- Analyzing material from your Facebook Newsfeed or Twitter feed
- Create a visualization of data using Many Eyes
- Finding and analyzing an infographic or short informative web video

Data Visualization – 20%

Work with 2-3 classmates to create a data visualization that makes a complex topic digestible in visual and written form. These will be created following the guidelines of the NSCU Library Code+Art completion: <https://www.lib.ncsu.edu/codeart>. Actual submission to the competition is not required for the course, but is highly encouraged.

Social Network Analysis – 20%

Work with a group of 3-4 classmates to design and facilitate a social network sentiment analysis project as a way of understanding how different organizations use such data.

Collaborative, Peer-led Unit on a Selected Topic – 20%

You will work in teams of two (or, in some cases, three) and will be responsible for a literacy, a unit of work that will occupy us for two class sessions. Typically, a team will make a presentation, guide a reading, or conduct a field trip one class and then will do follow up, with the help of the instructor, on the second class. NO TALKING HEADS, PLEASE! The presentation should move beyond your explaining or lecturing on the readings. Think of ways to make your presentation as interactive, engaged, thoughtful, and inspiring as possible. I will lead the first unit as an example.

For peer-led sessions:

- Begin by settling on a reading assignment for the class. You may order books or decide on articles, websites, or other readings. All readings must be assigned in class and then posted on the class blog a week in advance of your class. Please check in with the instructor about readings, assignments, reserve, movies to reserve, field trips, and other details.
- You will make arrangements, with the help of the instructor, for any trips or screenings.
- You will construct a class presentation that is as interactive as you can make it.
- You will also make some kind of writing/other media assignment, a 400-500 word blog or some equivalent.
- You will be responsible for reading all of the blogs (or the alternative assignments) by your peers and writing substantive feedback on each one, viewable by all in the class.
- You will file the S or U grade for each student's work with instructor. If a student receives a U, it is your responsibility to offer constructive feedback and an opportunity for the student to turn that into a Satisfactory piece of work.
- After or before your session, post your lesson plan on our class blog as a page to document what you did as a peer leader and to serve as a model to others learning from what we learn, as we learn.

Final Project: Revise a Blog for HASTAC – 10%

[HASTAC](#) (Humanities, Arts, Science, and Technology Alliance and Collaboratory) is an interdisciplinary community of humanists, artists, social scientists, scientists, and technologists that are changing the way we teach and learn. For your final project you will revise one or more of the blog posts you wrote during the semester into a 1200-1500 multimodal blog post that will be shared on the HASTAC website.

Assignment	Grade
Blog Posts	30%
Data Visualization	20%
Social Network Analysis	20%
Peer-led Unit	20%
Revised HASTAC blog post	10%

Weekly Schedule – subject to revision

Date	Discussion Topics	Homework – Read before class
January 6	Introduction and Overview	
January 11	History of Information & Data	Peters, “ <i>Information: Notes Toward a Critical History</i> ”
January 13	Big data and human culture	Terms of Service
January 18	MLK Holiday	
January 20	Big data and human culture	Aiden and Michel, Ch. 1; Six Provocations of Big Data
January 25	Rhetorical Understanding	
January 27	Visual Rhetoric and Data Visualizations	
February 1	Visual Rhetoric and Data Visualizations	
February 3	Creating visualizations and data art	https://www.lib.ncsu.edu/codeart
February 8	Creating visualizations and data art	http://guides.library.duke.edu/datavis
February 10	Creating visualizations and data art	
February 15	Creating visualizations and data art	
February 17	Quantified Self	
February 22	Quantified Self	
February 24	Personal digital footprint analyses	What Are You Revealing Online?
February 29	Social networking analysis	
March 2	Social networking analysis	
March 7-11	SPRING BREAK	
March 14	Creating social network analyses	Code+Art Student Visualization submission due
March 16	Creating social network analyses	NO IN PERSON MEETING
March 21	Creating social network analyses	
March 23	Creating social network analyses	
March 28	Algorithms and Predictive Analytics	
March 30	Algorithms and Predictive Analytics	
April 4	Privacy and ethics	
April 6	Privacy and ethics	
April 11	Commodification – Can information be owned?	
April 13	Commodification – Can information be owned?	
April 18	Public good	
April 20	Public good	
April 25	Flex Day	
April 27	Final Exam, 1-4pm	

Course Policies

ELECTRONICALLY HOSTED COURSE

This course will be electronically hosted at <http://www.jjsylvia.com/bigdatacourse> and complies with NCSU regulations for electronically hosted courses:

<http://www.ncsu.edu/policies/informationtechnology/REG08.00.11.php>

ATTENDANCE POLICY

Class participation and attendance are essential to the learning process. Attendance for this class is mandatory. Investment in this class is expected. In order to do well in this course you must show up to class with your reading and assignments completed and ready to fully engage with the material and your peers. By joining this class you are making an **ethical commitment** to participate in a semester-long learning community that will help each of us learn and grow.

Excused absences will not negatively impact your grade while unexcused absences may. **You will only be able to make up a missed assignment at the discretion of the instructor.** If a situation emerges that might impact your attendance please contact me ASAP to discuss possible solutions.

Per University regulations, excused absences must fall into one of two categories: sanctioned anticipated situations and documented emergency situations. Anticipated situations (e.g., participation in official University functions, court attendance, religious observances, or military duty) *must be submitted in writing at the beginning of the semester or one week prior to the anticipated absence.* Emergency absences (e.g., student illness, injury or death of immediate family member, *must be documented by the Student Organization Resource Center 515-3323*) within one week following the emergency. Make-up work will be allowed only in situations where absences were excused. Please consult the following website for further information on University attendance regulations: <http://policies.ncsu.edu/regulation/reg-02-20-03>

ACADEMIC INTEGRITY

Strict standards of academic honesty will be enforced according to the University policy on academic integrity found in the code of student conduct. NC State Students are bound to an honor code, which states: "I have neither given nor received unauthorized aid on this test or assignment." It is my understanding and expectation that a student's signature on any test or assignment means that you have neither given nor received unauthorized aid. Please consult the following website for further details on student conduct: <http://studentconduct.ncsu.edu/>

Plagiarism includes, but is not limited to:

- Using papers or speeches from another class.
- Using another student's paper or speech from any class.
- Copying a speech or a paper from the Internet.
- The egregious lack of citing sources or documenting research.

If you're not clear on what is or is not plagiarism, ASK. The BEST case scenario if caught is a zero on that assignment, and ignorance of what does or does not count is not an excuse. That being said, I'm a strong supporter of [Fair Use](#) doctrine. Just attribute what you use--and, again, ASK if there's any doubt.

AMERICANS WITH DISABILITIES ACT (ADA)

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage

of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 515-7653. For more information on NC State's policy on working with students with disabilities, please see <http://policies.ncsu.edu/regulation/reg-02-20-01>

INCOMPLETE AND LATE ASSIGNMENTS

Points earned for incomplete assignments will be reduced in proportion to the degree to which the assignment was completed. For example, an exam requiring three essays, with only one essay completed, will earn one third of the essay point total. Points earned for late assignments will be reduced by 50% if received within 24 hours of due date and time due. Assignments received later will not be accepted unless in accordance with the excused absence policy as referenced above.

INCOMPLETE GRADE POLICY

Students will not be given a temporary grade of IN (incomplete) unless they have attended classes regularly for most of the semester, have completed at least 60% of required work, have missed required work as a result of factors beyond their control, and have submitted satisfactory documentary evidence. An IN grade not removed by the end of the next semester in which the student is enrolled or by the end of twelve months, whichever is earlier, will automatically become an F (unless the student can present a compelling, well-documented case for the extension). For the NC State policy on grading and IN grades, see <http://policies.ncsu.edu/regulation/reg-02-50-03>

CREDIT ONLY POLICY

Requirements for Credit-Only: In order to receive a grade of S, students are required to take all exams and quizzes, complete all assignments, and earn a grade of C- or better. Credit-Only courses can only be included under the Free Elective category of the student's curriculum. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to: <http://policies.ncsu.edu/regulation/reg-02-20-15>

AUDIT POLICY

Requirements for Auditors: Auditors must consult with the instructor. For details refer to: <http://policies.ncsu.edu/regulation/reg-02-20-04>

ANTI-DISCRIMINATION STATEMENT

NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at <http://policies.ncsu.edu/policy/pol-04-25-05>.

GRADES AND GRADE POINT AVERAGE

Grade	Grade Points
A+	4.333
A	4
A-	3.667
B+	3.333
B	3
B-	2.667
C+	2.333
C	2
C-	1.667
D+	1.333
D	1
D-	0.667
F	0

STUDENT RESOURCES

Writing and Speaking Tutorial Services: <http://tutorial.ncsu.edu/wsts>

Academic Policies: www.ncsu.edu/policies/sitemap.php#acad-pols_regs

University Career Center: <http://www.ncsu.edu/career/>

Disability Services Office (DSO): <http://www.ncsu.edu/dso/>

Adverse Weather: Complete information about adverse weather policies is available at

http://www.ncsu.edu/human_resources/benefits/leave/adverseweather.php

Check email, news, the NCSU home page, or call 513-8888 for the latest information.

CODE OF CONDUCT

All students at North Carolina State University (NC State) are responsible for conducting themselves in a manner that helps enhance an environment of learning in which the rights, dignity, worth, and freedom of each member of the academic community are respected. Violations of campus or University policies, rules or regulations, or federal, state, or local law may result in a violation of the Code of Student Conduct and imposition of sanctions. For more information please view <http://policies.ncsu.edu/policy/pol-11-35-01>.