# Writing with Data

# ENGL 303-50: Scientific and Technical Writing

ASYNCHRONOUS ONLINE SUMMER TERM III JULY 7-AUG. 8 COURSE PREREQUISITES: ENGL 102 OR 105 INSTRUCTOR INFO Marie Pruitt

OFFICE HOURS: MONDAYS 2:30-5:30 PM EST VIA MS TEAMS OR BY APPOINTMENT

#### COURSE DESCRIPTION

We are persuaded by and persuade with data every day. Today, we live in what's known as the Zettabyte era, a period of human and technological history characterized by our collective *wealth of information*. In 2016, global internet traffic surpassed one zettabyte (the equivalent of about 1 trillion gigabytes);<sup>1</sup> In 2023, we produced 120 zettabytes of data globally.<sup>2</sup> Unfortunately, we also live in a post-truth era, characterized by our *wealth of mis- and dis-information*. Truth cannot be found withing data itself; truth is instead discovered by collecting, investigating, interpreting, interrogating, representing, and contextualizing data. As Hans Rosling writes, "The world cannot be understood without numbers. And it cannot be understood with numbers alone" (p. 128).<sup>3</sup>

In this class, we will learn how to compose effective arguments using the data that makes up our world. By examining how data is created and collected, how it's interpreted and sometimes misrepresented, and how writers wield the power of data to craft effective writing, we will explore the ways data can be used to influence individuals, groups, institutions, and even entire populations. We will also further interrogate the concept of data in general, exploring the material effects that the creation and existence of data has on people and the planet. Throughout the class, we'll look at scholarly articles, popular press articles, books, videos, images, podcasts, and more to develop a deeper understanding of the reciprocal relationship between writing and data in a variety of contexts.



Figure 1. Word cloud of course description.

# LEARNING OUTCOMES

The learning outcomes for each student in ENGL 303 are:

**Rhetorical Knowledge**: Students will produce writing that responds appropriately to a variety of rhetorical situations. Their writing should:

- Demonstrate knowledge of audience, which includes the ability to determine appropriate scope, genre, technical vocabulary and detail, and tone when writing for both technical and non-technical audiences
- Demonstrate knowledge of context, which includes analyzing professional cultures, social contexts, and audiences to determine how they shape the various purposes and forms of writing
- Demonstrate an ability to use, explain and integrate quantitative information with verbal prose to achieve particular rhetorical purposes
- Demonstrate knowledge of research methods that produce professional documents, including analyzing professional contexts and assessing and summarizing information resources

<sup>2</sup> Emirler, S. (2023, December 29). World Tour of Data in 2023–120 Zettabytes and Counting! *Medium*.
 <u>https://medium.com/@senaemirler/world-tour-of-data-in-2023-120-zettabytes-and-counting-e0865bb4b1cd</u>
 <sup>3</sup> Rosling, H. (with Rosling, O., & Rönnlund, A. R.). (2018). *Factfulness: Ten Reasons We're Wrong About the World -- and*

<sup>&</sup>lt;sup>1</sup> Barnett, Jr., T. (2016, September 9). The Zettabyte Era Officially Begins (How Much is That?). *Cisco Blogs*. <u>https://blogs.cisco.com/sp/the-zettabyte-era-officially-begins-how-much-is-that</u>

<sup>&</sup>lt;sup>3</sup> Rosling, H. (with Rosling, O., & Rönnlund, A. R.). (2018). *Factfulness: Ten Reasons We're Wrong About the World -- and Why Things are Better Than You Think*. Flatiron Books.

**Processes**: Students will produce writing reflective of a multi-stage composing and revising process. Their writing should:

- Demonstrates knowledge of the writing process, which means engaging various strategies for planning, researching, drafting, revising, and editing documents that respond effectively and ethically to scientific and technical situations and audiences
- Demonstrates knowledge of collaborative strategies, such as writing in a team setting, working and communicating on-line, setting and achieving project goals, and responding constructively to peers' work

**Conventions**: Students will produce writing that strategically employs appropriate conventions in different writing situations. Their writing should:

- Demonstrates knowledge of document design, including the implementation of various principles of format, layout, and design of professional visual/verbal documents that meet multiple needs and integrate a variety of written, visual, and oral elements of design
- Demonstrates control of the editing process, including the production of documents which exhibit concise language, appropriate technical vocabulary, appropriate format, proper sentence structure, and standardized grammar

# OVERVIEW OF COURSE REQUIREMENTS

# Major Assignments:

There are **several major assignments** for this class:

- Literacy and Numeracy Narrative: Short narrative reflecting on the sponsors and inhibitors of your data literacy.
- Data Infrastructure Field Notes: An exploration of data infrastructures in your local community.
- **Rhetorical Analysis of Data Visualization**: Rhetorical analysis essay of a data visualization related to your field.
- **Popular Science/Tech Article**: An article written for a specific popular press that offers a datadriven argument.
- Data Writing Portfolio: A collection of revised versions of three of the four major assignments.

# Minor Assignments:

Additionally, there are several other small, **minor writing assignments** for this course:

- **Research & Reading Journals**: Short weekly written reflections on your research practices and assigned readings.
- **Running Annotated Bibliography**: Scaffolded annotated bibliography assignment to help prepare you for the Popular Science/Tech Article assignment.
- Misc. Smaller Assignments: Smaller, unit-specific assignments (see schedule).
- Writing Center Appointment & Reflection (Optional/Extra Credit): A brief reflection on a writing center appointment for any major assignment.

# TEXTS

There is no official textbook for this course. All readings will be available as PDFs in the course drive.

#### GRADING

In this class, you will be graded using a labor-based grading contract. This means you will be graded based on the amount of work you complete. In other words, you have complete control over the grade you will receive for this class.

To earn an A in this class, you must:

- Meet all the requirements to earn a B.
- Complete the Data Writing Portfolio Assignment.

To earn a B in this class, you must:

- Meet all the requirements to earn a C.
- Complete all the minor assignments.

# To earn a C in this class, you must:

 Complete the first four major assignments (Literacy & Numeracy Narrative, Data Infrastructure Field Notes, Rhetorical Analysis of Data Visualization, and Popular Science/Tech Article)

All assignments will be graded on a complete/incomplete basis. "Complete" assignments meet the requirements outlined in the prompt and are completed in food faith.

# POLICIES & EXPECTATIONS

# Al Policy<sup>4</sup>

The use of any artificial intelligence (AI) platform or tool to generate either ideas, content, or materials is *prohibited* in this course. I have this policy for many reasons:

- This class is designed to improve your writing skills; if you're not writing, you're not improving.
- Using AI brings up several academic honesty issues, both because it raises questions about whether your work is "yours" and because most AI tools take uncredited material from other scholars and writers.
- <u>AI does not produce reliably accurate results</u> and often hallucinates sources and ideas.
- All Al models have serious negative environmental impacts, particularly in relation to <u>water usage</u> and <u>CO2 emissions</u>.
- Many AI models exploit workers from the <u>global south</u>, <u>prisons</u>, and <u>refugee camps</u>.

Additionally, please remember that many of the materials included in this class, including this syllabus and assignment prompts, are my intellectual property and should never be processed through any AI tool. Likewise, I will also extend the same courtesy to any work you produce for this class.

# Accommodations Policy

I am personally committed to making this course as accessible as possible for every student, and I am willing to try whatever works — experimenting, negotiating, and facilitating accommodations to any aspect of the course. Even if you decide not to disclose to the Disability Resource Center, I encourage you to communicate with me regarding needs, questions, or concerns at any point in this course. If we



<sup>&</sup>lt;sup>4</sup> Adapted from policy created by Olivia Stowell.

try out an accommodation, I will likely check in with you throughout the term to see how things are working for you and reassess efficacy. Please reach out to me if you are unable to access any of the materials in this course for whatever reason.

# Language Varieties Policy

The ability to communicate in multiple languages and/or use varieties of English is a valuable asset. In this course, you are encouraged to use or draw on your varied linguistic and cultural resources. Although we will generally employ English(es) and Standard Written English (SWE) in the classroom, you may resort to other languages and rhetorical practices for particular assignments. To ensure effective communication, we need to consider audience, purpose, and rhetorical strategies on the premise that not all rhetors have the exact same understanding of rhetorical principles. Hence, whenever you deem necessary, supplement information, resources, and experiences that would enhance the communication practice. For instance, if most of your audience does not speak Spanish(es), you may need to provide translation or captioning; if you discuss writing in international sites or cite authors unknown in Anglophone spaces, offer additional commentary or footnotes to facilitate your audience's understanding of your rhetorical context; or, if you use a particular image in your multimedia project that carries certain cultural connotations, you need to provide supplementary information so that your message effectively attains the intended purpose. Remember that words, accents, and discourses have power. In this class, you're invited to explore, reflect on, and interrogate power dynamics manifested in personal, home, professional, and academic discourses.<sup>5</sup>

# Attendance Statement

As this is a fully online asynchronous class, "attending" looks a little different. While there is no official "attendance" portion of your final grade, you are expected to virtually engage with the materials of this course, including readings, assignments, and other activities; this might look like leaving a question about an assignment in the margins of the prompt or attending office hours. To get the most out of this class, do your best to maintain clear lines of communication with me (your instructor) and the other students in the class.

# Late Work Policy

This course is self-paced, meaning you can submit the work whenever you want, provided all materials by the final deadline. However, remember that this course is only five weeks and therefore very fast-paced, so I highly recommend you adhere to the deadlines recommended in the course schedule. This also means that students who submit their work by the deadline will receive more detailed feedback on their work. Please also be sure to complete assignments in the order presented in the schedule.

# **Revision Policy**

Revision is built into this course; to increase your grade from a "B" to an "A," you'll need to revise three out of the four major assignments for the Data Writing Portfolio. However, if you'd like to revise and get new feedback on any of the major assignments before the Data Writing Portfolio is due, just send my a request for feedback and the new version via email.

<sup>&</sup>lt;sup>5</sup> Mihut, Ligia. "Linguistic Pluralism: A Statement and a Call to Advocacy." *Reflections: A Journal of Public Rhetoric, Civic Writing, and Service Learning*, vol. 18, no. 2, 2018.

#### Continuity of Learning and Instruction

As this is a fully online asynchronous class, it's unlikely that there will be a discontinuity of learning and instruction due to illness. However, if you are unable to complete the work for this class for whatever reason, reach out to me via email ASAP so we can find a solution.

#### Written Communication Statement

Approved for the Arts and Sciences upper-level requirement in written communication (WR).

#### Title IX/Clery Act Notification

Sexual misconduct (including sexual harassment, sexual assault, and any other nonconsensual behavior of a sexual nature) and sex discrimination violate University policies. Students experiencing such behavior may obtain confidential support from the PEACC Program (852-2663), Counseling Center (852-6585), and Campus Health Services (852-6479). To report sexual misconduct or sex discrimination, contact the Dean of Students (852-5787) or University of Louisville Police (852-6111).

Disclosure to University faculty or instructors of sexual misconduct, domestic violence, dating violence, or sex discrimination occurring on campus, in a University-sponsored program, or involving a campus visitor or University student or employee (whether current or former) is not confidential under Title IX. Faculty and instructors must forward such reports, including names and circumstances, to the University's Title IX officer.

For more information, see the Sexual Misconduct Resource Guide (http://louisville.edu/hr/employeerelations/sexual-misconduct-brochure).

#### Right to Make Changes Statement

The instructor has the right to make changes to the course schedule/syllabus if necessary.

#### Plagiarism Statement

The University defines plagiarism as "representing the words or ideas of someone else as one's own in any academic exercise." Thus, all writing you do for this course must be your own and must be exclusively for this course, unless the instructor stipulates differently. Please pay special attention to the quotes, paraphrases, and documentation practices you use in your papers. If you have any questions about plagiarism, please ask your instructor. If you plagiarize, your instructor reserves the right to assign you a failing grade for the course and your case will be reported to the College of Arts and Sciences.

#### Statement on Behalf of Students with Disabilities

Students who have a disability or condition which may impair their ability to complete assignments or otherwise satisfy course criteria are encouraged to meet with the instructor to identify, discuss and document any feasible instructional modifications or accommodations. Please inform instructor about circumstances no later than the second week of the semester or as soon as possible after a disability or condition is diagnosed, whichever occurs earliest. For information and assistance, contact the Disabilities Resource Center.

#### **Grievance Procedure Statement**

Students who have questions or concerns about their grades, the class, or an assignment are encouraged to see their instructor as soon as possible. If not satisfied with that discussion, students may contact an Assistant Director of Composition in Hum LL04D. Their contact information and office hours can be found at https://louisville.edu/english/composition/contact

SCHEDULE						
Week	Day	Read/Watch/Listen:	Assignments Due:			
1	M July 7	<ul> <li>Watch: Getting Around/Week 1 Overview</li> <li>Read: Carr, A. (2017). "Failure is Not an Option." In Bad Ideas about Writing.</li> </ul>	Introduce Yourself: Add Slide to the Collaborative Class Roster			
	T July 8	<ul> <li>Watch: Reading &amp; Annotating Long Scholarly Articles</li> <li>Read: Literacy and Numeracy Narrative Assignment Prompt</li> <li>Read &amp; Annotate: Webb- Sunderhaus. (2007). A Family Affair: Competing Sponsors of Literacy in Appalachian Students' Lives. Community Literacy Journal.</li> </ul>				
	W July 9	Read & Annotate: Kitchin, R. (2024). "Data." Critical Data Studies. ***If you're new to data and data literacy, I recommend watching these episodes from the Crash Course series on Data Literacy (optional): What are Data and Data Literacy? Visualizing Data How to Collect Data	Add Journal Entry: Research Journal #1			
	Th July 10	<b>Read &amp; Annotate</b> : D'Ignazio and Klein. (2020). Introduction: Why Data Science Needs Feminism. In Data Feminism.	Add Journal Entry: Reading Reflection #1			
	F July 11		Submit: Literacy and Numeracy Narrative			
2	M July 14	Watch: Week 2 Overview	Add Journal Entry: Research Journal			

#2

#### SCHEDULE

	1		8
		Read & Annotate: Data Infrastructure Field Notes Prompt	
	T July 15	<b>Read &amp; Annotate:</b> D'Ignazio and Klein. (2020). The Power Chapter. In Data Feminism.	
		<b>Optional Reading</b> : The Center for Land Use Interpretation. (2014). Networked Nation: The Landscape of the Internet in America.	
	W July 16	<b>Listen</b> : Marx, P. (2024). Data Vampires: Opposing Data Centers. Tech Won't Save Us.	Add Journal Entry: Reading Reflection #2
	Th July 17		<b>Complete</b> : Course Survey (we'll use the data collected from this survey to learn about data visualizations next week)
	F July 18		Submit: Data Infrastructure Field Notes & Reflection
3	M July 21	Watch: Week 3 Overview	<b>Submit</b> : Data Visualization Mini- Project
	T July 22	<b>Read</b> : Downs, D. (2020). "Rhetoric: Making Sense of Human Interaction and Meaning- Making." Writing about Writing.	Add Journal Entry: Research Journal #3
	W July 23	<b>Read &amp; Annotate</b> : Cohn, J. (2020). Understanding Visual Rhetoric. Writing Spaces.	Add Journal Entry: Reading Reflection #3
	Th July 24		
	F July 25		<b>Submit</b> : Rhetorical Analysis of Data Visualization
4	M July 28	Watch: Weeks 4 & 5 Overview Read & Annotate: Popular Science/Technical Article Prompt	<b>Add Journal Entry</b> : Research Journal #4
	T July 29	<b>Read &amp; Annotate</b> : D'Ignazio and Klein. (2020). The Numbers Don't Speak for Themselves. In Data Feminism.	Add Journal Entry: Reading Reflection #4

	W July 30	<b>Read</b> : Text of Your Choice for Annotated Bibliography	Submit: Running Annotated Bibliography Entry		
	Th July 31	<b>Read</b> : Text of Your Choice for Annotated Bibliography	Submit: Running Annotated Bibliography Entry		
	F August 1		Submit: Popular Science/Tech Article Complete Draft		
5	M August 4	Watch: Week 5 Overview/Peer Response	Submit: Peer Response		
	T August 5	<b>Read</b> : Text of Your Choice for Annotated Bibliography	Submit: Running Annotated Bibliography Entry		
	W August 6	<b>Optional Reading</b> : Matthews & Matthews. (2008). Visual Support for the Written Word. Successful Scientific Writing.	Add Journal Entry: Research Journal #5		
	Th August 7				
	F August 8		Submit: Popular Science/Tech Article		
Data Writing Portfolio Due: Tuesday, August 12 <sup>th</sup> at 10pm EST					

# ADDITIONAL RESOURCES

# Basic Needs Support

Doing well in classes (and in life, for that matter) means getting a good night's sleep, having enough to eat, and being able to get to where you need to go. If you are having any difficulties with these necessities, remember that UofL has resources to assist you. Please reach out to me or to one of these great resources if you find yourself in need at any time during this course or after.

- Food (fresh and non-perishable), household and toiletry items: Cardinal Cupboard (SAC W312)
- Clothing, shoes, household items and office/art supplies: UofL Free Store (SAC W303C)
- If you're experiencing any academic, financial, or personal difficulties, a Student Success Coordinator in our Student Success Center can work with you individually to provide guidance and support and connect you to resources.
- The UofL Concern Center can help you find and connect with relevant resources: https://louisville.concerncenter.com/.

# **Counseling Center**

If you are having a difficult time or generally feel stuck, it may be helpful to work with a trained therapist at the Counseling Center in an individual or group setting. People come into the Counseling Center to discuss a range of topics, including relationships, family, identities, grief and loss, depression, stress, and many more experiences and concerns. The Counseling Center provides short term individual, group, and couples counseling, crisis intervention, and psychological testing. Clients seek services for a variety of areas of concern, including psychological, personal/social, academic, and career issues. To schedule an appointment, please contact the Counseling Center at 502-852-6585 or stop by the office in the Student Activities Center Room W-204. More info: http://louisville.edu/counseling/

Additional Counseling Resources:

- 24/7 Adult Crisis Line: 502-589-4313 or 800-221-0446 (available 24/7)
- The National Suicide Prevention Lifeline: 1-800-273-TALK (8255) (available 24/7)
- Crisis Text Line: Text HOME to 741741 (available 24/7)
- The Trevor Project: 1-866-488-7386 (available 24/7 for individuals ages 13-24 who identify as LGBTQ)

# Services for Veterans

There is a range of resources for UofL veterans, including the Office of Military and Veteran Student Services (Houchens LL08). This office serves as a resource for any issues you may be encountering. I recognize that calls to active duty, problems with GI Bill disbursements, and other issues might affect your ability to complete assignments. If any problems arise, feel free to keep me in the loop, and I will do what I can to help.

# Gender-Inclusive Bathrooms

A list of gender-inclusive bathrooms on campus is available at uofl.me/inclusivebathrooms.

# **Preferred Name**

You have the right to be addressed by the name you prefer. Please feel free to communicate this to me directly. In addition, if the name you use is not currently what's in Blackboard when you log in, I encourage you to officially update that information in our system. For details on how to update your name in UofL systems, visit https://louisville.edu/lgbt/trans-uofl/preferred-name-option.