English 296: Critical Literacy in the Natural Sciences

Course Information

Spring 2021 - Remote course
Scheduled class meeting times: 1:30-3:20, TTh
A few notes about the class meeting time:

● This class will not meet for all of this time each week. Much of the course will be asynchronous (which means that you can complete the work on your own time by the assigned deadlines).

● There *will be two* required full-class discussions and several optional discussions, which will always take place during the time slot above.

● **Additional course meetings:** Three small-group conferences will be held synchronously in Zoom with the instructor and classmates will be held over the course of the quarter, and will be scheduled based on groups' availability.

Course Canvas site: https://canvas.uw.edu/courses/1417560 (Need to be registered for the course and logged in to Canvas to access)

Course Zoom link: https://washington.zoom.us/j/93074785558

Instructor Information

Megan Callow, PhD
Associate Teaching Professor, Program for Writing Across Campus
Drop-in office hours (at course Zoom link above): Tuesdays 1:30pm-3:30pm, and by appointment

Course Description & Goals

This writing seminar seeks to develop students' critical literacy in the diffuse but interlocking disciplines of the natural sciences. Through analysis and composition of a variety of texts, students will learn to become authoritative participants in scientific discourse while at the same time becoming familiar with the ways that Western values are embedded and centered (often invisibly) in the sciences and its related institutions. Through course content and culturally responsive, anti-oppressive pedagogies, this course will help students to interrogate these values as they enter advanced study in the sciences.

In this course students will work with a variety of texts, including their own and their peers' writing, as they move through cycles of reading, discussion, reflective and formal writing, peer review, conferencing, revision, and intensive instructor interaction and feedback. The course is organized around three broad learning goals, listed below with narrower, orienting questions following each goal. In this course students will work toward:

Understanding the nature of science as contingent, contested, and situated.

- What purpose does science serve? Does it have social or moral responsibility?
- How are questions formulated and answered in the sciences? What kinds of questions can science answer? Why do people choose particular questions in science, and how do they develop hypotheses? What sociopolitical and ethical values underlie scientific assumptions, questions, and hypotheses?

Engaging a diversity of ways of knowing and doing in science across cultures and nations, including identifying strengths and limitations of different approaches.

- What are essentialist vs. holistic ways of knowing in science?
- How do scientists situate the self in relation to various communities (academic, professional, disciplinary, cultural, national, indigenous, etc.) and ecologies (environmental, institutional, research contexts, topics/objects of inquiry)?
- By what means can students locate themselves within scientific practice and discourse? What kinds of cultural and intellectual capital do they bring to the course, and might they bring to scientific inquiry?
- How can students deploy a critical lens as they navigate scientific fields first as apprentices and then as professionals?

Tracing the genealogies of ideas in circulation, as information moves through pipelines and networks.

- How do scientific concepts and "discoveries" get reified as they are communicated across various platforms? How do reified concepts privilege or harm certain groups? How does "reality" differ across those groups?
- In what ways can novice scientists use transformative communication practices within a realm where the language of Western mainstream science is dominant?
- How can inquiry into scientific content provide occasions for writing to learn as a form of reflection and engagement? Equally important, how can communicating scientific content provide occasions for learning to write in order to share that knowledge with particular audiences?
- How can intertextual connections across time and space provide greater insights into particular "facts"?
- In what ways can scientific communication practices (both traditional and transformative) serve as a vehicle for responding to all of the above questions?

Course Materials:

We will read a variety of texts in this course, including a selection of scientific research, commentary, memoir, and journalism. All web links and PDFs will be provided in Canvas.

Many of our course documents are in Google docs. This syllabus is set to be publicly available to all, but for privacy reasons all future docs will be set to be visible only to those from UW who have the link. That means you will *only* be able to access them from your UW Google account, and only if your G Suite account is set up (this ties your NetID to Google so that you can use all the Google apps that UW subscribes to). To set it up if you haven't already, please go to this UW IT page on Activating your G Suite Account and follow the instructions. I will be following up with you about this!

Lastly, for a couple of our first assignments you will need an account with Adobe Spark. You can create a free account-- don't sign up for a version that costs money! Also, don't try to log in with a school account-- just sign up with your own email account.

Course Policies, Expectations, & Resources:

Student Wellbeing:

We are living in unprecedented times. Converging crises of public health, social justice, the economy, and the environment are making living a normal day-to-day life a struggle for many, many people. You are NOT alone. Please take advantage of the resources that your membership in the UW community affords you. The Husky Health & Wellbeing web site (URL: https://wellbeing.uw.edu/) compiles all its resources for physical, mental, and emotional health in one spot. Please take advantage of this support. If you are not sure what you need please get in touch with me and I will help you find the resources you need: hollism@uw.edu. It is my mission to create a class community where we take care of each other and see each other through.

Religious Accommodation:

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at Religious Accommodations Policy . Accommodations must be requested within the first two weeks of this course using the Religious Accommodations Request form.

Disability Accommodation:

Your experience in this class is important to me. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course. If you have not yet established

services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu or disability.uw.edu. DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

Canvas Course Site:

Check the course site in Canvas and your UW email regularly for announcements and assignments. You will submit the vast majority of your assignments in Canvas. Additional instructions for each assignment will be provided by the instructor. If you need technical help, please be aware of online assistance available from IT Connect: Canvas Help for Students. You can also reach them at help@uw.edu or 206-221-5000

Student Technology Loan Program:

This quarter all of us will rely heavily on our devices. While I plan to minimize our reliance on high-bandwidth activities (such as Zoom calls), there will be occasions when you will need a laptop or tablet. If you think there is even a chance that your technology will be insufficient, I strongly recommend you check out the Student Technology Loan Program. They have laptops and tablets available to borrow for the duration of the quarter. Of course, resources are limited, so it's important to make your reservations as early as possible.

Collaboration & Participation:

Scientific writing is often collaborative, and it is always a process (as opposed to just being a final product). When you enter the workplace, you will be expected to work as a team with others. Your learning in this course will be determined not by how you perform on exams, but by your willingness to engage with others. Also, this is a seminar style course, not a lecture. I will rarely deliver "content" to you. Rather your progress will be driven by your reading, your writing, and your *discussion* of reading and writing (yours and others'). We won't be meeting synchronously often, so your success in this course depends on your self-direction and willingness to work independently outside of class. **The way to become a better writer is to read… and write… every… day.**

Communication:

I will respond to your emails within 48 hours. Please use the kind of formatting, language, and respectful forms of address with me and your class peers that you would use in any professional context. In this online class environment, I encourage all students to do what they can to help instructors get to know them personally: be descriptive in your self-introduction forum, include a signature line in your emails,

upload a profile picture in Canvas, come to office hours to introduce yourself, etc. This will make the quarter more enjoyable for everyone!

Revision & Late Work:

This course emphasizes continual revision, and there are many opportunities built into the course to start your assignments early and revise them. *Take advantage of these opportunities, and of the feedback you will receive from your peers and instructor along the way!* Because it is disruptive to my own work flow, I may not be able to provide feedback on late assignments. If you are not able to turn in an assignment, please make every effort to get in touch with me in advance of its due date so we can discuss a contingency plan (and bring conference group mates into the discussion if necessary). I would like to be as flexible as possible in the face of the many stressors we all face. If your circumstances cause you to become chronically late with assignments such a way that interferes with your chances of receiving the course grade you would like, please contact me sooner rather than later (see section below on our course grading system).

Overview of Assignments

We will do lots of informal and collaborative writing in this course, but the three major assignments are as follows. More detailed prompts are available in Canvas.

Project 1: Tracing the life of a scientific fact[1]

In this project, which will take the final form of a presentation in Adobe Spark, students will conduct a rhetorical analysis of a piece of scientific research and the various ways it gets communicated (from a research article to a social media post), demonstrating how exigence, convention, and audience expectations all shape the ways that the "facts" get represented. *Rough draft due April 14; final draft due April 21.*

Project 2: Generating a scientific question.

This assignment sequence asks students to consider the scientific hypothesis and research question, pulling back the curtain on the ideological dimensions that are presumed to be objective and neutral. In the first part of this project, students will describe their own informal questions about the natural world; then, you will convert these questions into a formal research design proposal. Students will examine real-life proposals and consider how their inquiries must be (re)framed for formal, institutional contexts. *Rough draft due May 5; final draft due May 12.*

---

[1] This assignment name draws its inspiration from Jeanne Fahnestock's article, "Accommodating Science: The Rhetorical Life of Scientific Facts."

Project 3: Science Literacy narrative

All scientists have intellectual, cultural, and linguistic histories. For the sake of neutrality and objectivity, apprentices are trained to divorce themselves from these histories, especially when they are doing and communicating research. This assignment asks students to read examples of scientists' memoirs, such as Hope Jahren's *Lab Girl*, in which the author describes her development as a lab researcher, mediated by her experience as a woman with bipolar disorder; Nobel Prize winner Youyou Tu's (2011) narrative about how her cultural grounding in Traditional Chinese Medicine enabled her to develop the anti-malaria drug that has saved millions of lives; or James Watson's *Double Helix: A personal account of the discovery of the structure of DNA*. Students will compose their own narratives, exploring how their identities, investments, and intellectual interests have shaped their training. This assignment is a form of reflection, orientation to/within scientific fields, and self-advocacy. *Rough draft due May 26; final draft due June 5.*

Grading & Logistics

In part because we are living through difficult times, in this class we will use a contract grading system. The system is explained in greater detail in this [Grade Contract document](#) (which is also posted in Canvas), but in short, your grade in the course will be determined not by the quality of your work but your good faith completion of it and by your participation in the class. If you complete all the criteria on time, you will get a 4.0. There are no exams in this course and it is not graded on a curve.

Peer Conferences

For each of our major projects we will conduct a synchronous peer conference. You will sign up for each conference, based on your availability**.** You will read, assess, and offer extensive written feedback on your group mates' drafts *in advance* of your meeting. After your meeting you will incorporate your peers' feedback into your own draft revision, and you are asked to submit a Peer Review & Revision Memo.

Note on peer conferences: If your work schedule or time zone precludes you from meeting during weekday hours in Pacific Standard Time, please let me know as soon as possible. If it is agreeable to your group mates you can schedule your conference at a mutually agreeable time during Drafting & Peer Review week. If you opt to miss your conference meeting altogether you may, though it will have ramifications for your course grade.

Assignment Criteria

In this class I will provide criteria (in the form of a rubric) for each major assignment. Think of these criteria as a kind of checklist that describes the important traits of successful writing in the field. The criteria will help you see specific strengths as well as areas to focus on in peer review, and in revising your writing. These criteria will refer to "higher order" issues such as argument, organization, and audience expectations-- not "lower order" things like mechanics (grammar, punctuation, spelling, etc.).

We will function as a scholarly community in this class, and you will assess your peers' writing based on our communal norms. Each of your rough drafts will be read/heard/viewed by some or all of your peers and by the instructor, and those readers will provide written feedback (see above section on Peer Conferences). I will provide feedback on your final drafts as well, upon request.