



HistSci 133: Biology and Society, 1950-Today

Credits: 3 credits.

Course Designations and Attributes: Breadth: Either Humanities or Social Science; Level: Elementary; L&S Credit: Counts as Liberal Arts and Science credit in L&S

Requisites: None.

Meeting Time and Location: Ingraham 16, MW 11:00-11:50am, plus discussion section

Instructional Modality: In-person

Course Description

From medical advancements to environmental crises and global food shortages, the life sciences are implicated in some of the most pressing social issues of our time. This course explores events in the history of biology from the mid-twentieth century to today, and examines how developments in this science have shaped and are shaped by society. In the first unit, we investigate the origins of the institutions, technologies, and styles of practice that characterize contemporary biology, such as the use of mice as "model organisms" for understanding human diseases. The second unit examines biological controversies such as the introduction of genetically modified plants into the food supply. The final unit asks how biological facts and theories have been and continue to be used as a source for understanding ourselves

Instructors & Teaching Assistants

Instructor: Nicole Nelson

Email: nicole.nelson@wisc.edu

Office: 1426 Medical Sciences Center

Preferred Method of Communication: [Course Questions forum](#), office hours

Expected Response Time: 24 hours

Office Hours: Mondays from 2-3pm, Wednesdays from 3:30-4:30pm

Teaching Assistants:

Name: Haley Galloway

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Office: 4260 Humanities

Preferred Method of Communication: Course Questions forum, office hours

Office Hours: Tuesdays 12-2pm

Name: Lydia Larson

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Office Hours: Mondays 12:30-2:30pm

Name: Zhe Yu Lee

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Office: 4260 Humanities

Preferred Method of Communication: Course Questions forum, office hours

Office Hours: Wednesdays 12:30-2:30pm

Course Learning Outcomes

- Develop an appreciation for the ways in which the institutions, practices, and ways of thinking associated with contemporary biology are specific to a particular place and time, and have changed over time.
- Identify and state the significance of key people and events in the recent history of biology.
- Understand key theoretical frameworks for describing interactions between biology and society, and be able to apply these frameworks to new empirical cases.
- Identify and evaluate the strength of the arguments and evidence used in an academic paper.
- Extrapolate complex arguments to new contexts and assess how new information would change the argument.

How Credit Hours are Met by the Course

This class meets for three, 50-minute class periods each week over the fall/spring semester and carries the expectation that students will work on course learning activities (reading, writing, problem sets, studying, etc) for about 2 hours out of the classroom for every class period. The syllabus includes additional information about meeting times and expectations for student work.

Regular and Substantive Student-Instructor Interaction

Student-instructor interaction will take place through biweekly lectures from Prof Nelson with interactive components, weekly discussions of course materials moderated by the TAs, weekly office hours held by the Instructor and TAs, and comments provided by the TAs on writing assignments.

Course overview

Component	Grade weight	Estimated time	Due date
Lecture	0%	2 hours/week	
Readings	0%	2.5 hours/week	
Studying	0%	2 hours/week	
Discussion section participation	15%	1 hour/week	No due date
Quizzes (lowest score dropped)	15%	1 hour	Feb 10, Feb 24, March 24, April 21
Reading summary assignment	15%	5 hours	February 15-24, as assigned in section
Midterm exam	15%	1 hour	March 12
Critical thinking assignment	20%	15 hours	April 7
Final exam	20%	2 hours	May 12

Course Website and Digital Instructional Tools

You can access the course website through Canvas [here](#). More details on the digital tools and platforms used in this course is available [here](#).

Discussion Sessions

Arrive to your discussion section with your readings and notes somewhere handy. If there is anything other than doing the readings that you need to do to prepare for section, we'll make a note of it in the week's module on Canvas. For more detail on expectations for discussion section preparation and participation, you can consult the grading rubric provided on Canvas.

Required Textbook, Software and Other Course Materials

There are no required textbooks for this course. All readings are available as pdfs the Files/Readings folder and the appropriate reading is linked in each week's module on Canvas.

Exams, Quizzes, & Written Assignments

Quizzes: These are intended to help you keep up with the lecture and reading material throughout the semester. They are open book, are not cumulative, and you will have an opportunity to suggest questions to be included in these quizzes. Quizzes will be administered through Canvas. On the weeks where quizzes are assigned, they will open Wednesday morning and must be completed by Friday at midnight. Only your best three scores will count towards your grade.

Reading summary assignment: This assignment focuses on your ability to identify the most important elements of a complex argument. You will have the opportunity to choose the reading you will work with for this assignment (a list of eligible course readings will be distributed in section), and the assignment will be due on the day that the reading you selected is due in section. The assignment will be submitted through Canvas, and a detailed description of the assignment and a grading rubric is available on Canvas.

Critical thinking assignment: This assignment focuses on your ability extend or revise an argument using new evidence. Starting with one of the course readings on biology and the public, you will demonstrate your understanding of one of the author's arguments and develop a research question about how the argument might change given new evidence. You will have an opportunity to discuss your research question and brainstorm potential sources of evidence in section prior to completing the written assignment. The assignment will be submitted through Canvas, and a detailed description of the assignment and a grading rubric is available on Canvas.

Midterm and final exams: Exams contain a combination of multiple-choice questions, short answer questions, and essay questions. Each lecture and set of readings starts with a set of three guiding questions, and seeing if you can answer those questions is a good way to test your understanding of the material. We will also provide examples in discussion section of questions from past exams. The final exam will be cumulative.

Grading

All assignments will receive a numeric score (e.g., 29/30), and your total numeric score will be converted into a final letter grade using the conversion table below. Final grades will not be curved or rounded up.

A	AB	B	BC	C	D	F
93.0–100%	88.0–92.99%	83.0–87.99%	78.0–82.99%	70.0–77.99%	60.0–69.99%	0–59.99%

Course policies

Attendance: Attendance in discussion section counts towards the discussion section participation component of your grade. You have one no-questions-asked absence from discussion section, but we recognize that life circumstances may mean that you'll need more flexibility than that. Please email your TA if you anticipate missing more than one section (if possible before the missed section), and we will work with you to figure something out.

Grading errors: If there are straightforward errors in your assignment grade (e.g., your score was added incorrectly) or you would like additional clarification on how your work was graded, please see your TA. If you would like to request a regrade of your assignment, please contact Prof Nelson. TAs are not authorized to change grades once they are assigned. Prof Nelson will regrade the entire assignment, and the score she assigns will become your new grade. All regrade requests must be submitted within two weeks of day that the assignment grades are posted.

Late assignments: We aim to provide you with some flexibility in this course that will allow you to manage your deadlines to best suit your schedule. You have choice in which week you complete your reading summary assignment, but the assignment must be handed in before your section on the day that reading will be discussed (because we can't properly assess your own understanding of a reading's argument after attending a discussion designed to clarify the reading). If you hand in your RSA late, you will need to choose a different reading and redo the RSA. Quizzes can be taken any time within a 48-hour window. After this time quiz answers will be released and so you cannot make a missed quiz up, but you can drop your lowest quiz score. The critical thinking assignment has a fixed deadline, but if you are facing circumstances are making it difficult for you to meet that deadline, we are happy to discuss extensions or other accommodations. Please get in touch with your TA or Prof Nelson in advance of this assignment deadline whenever possible. If you do not communicate with your TA or Prof Nelson, late CTAs will lose 1% of the total assignment points per day late.

Make-up assignments for low grades: We recognize that it can take some time to adjust to an individual professor's assignment/test style, and that grades matter for the many students in this class interested in pursuing graduate or professional programs after undergrad. With this in mind, we offer a make-up option for the first writing assignment (RSA) and first exam (midterm) if your score on one or both of those assignments is below 83%. If you successfully complete the make-up assignment, we will raise your grade for the RSA and/or midterm to 83%. We don't offer this option for quizzes (but your lowest score will automatically be dropped) or for the second writing assignment (CSA) or exam (final). We also don't offer this option to students whose grades on the RSA or midterm are above 83% but want to improve their grade. Unfortunately don't have the person power to grade that many makeup assignments, but we want to make sure that even if you're caught off guard by the first assignments and get a low grade, you'll still be in position to recover your grade and finish strong. Qualifying students who want to complete a make-up assignment should email Prof Nelson directly within two weeks of the day that your low grade was posted.

Campus policies

- [Teaching and Learning Data Transparency Statement](#)
- [Privacy of Student Records and the Use of Audio Recorded Lectures Statement](#)
- [Campus Resources for Academic Success](#)
- [Course Evaluations](#) and [Digital Course Evaluations](#)
- [Students' Rules, Rights and Responsibilities](#)
- [Diversity and Inclusion Statement](#)
- [Academic Integrity Statement](#)
- [Accommodations for Students with Disabilities](#)
- [Academic Calendar and Religious Observances](#)

Course Topic and Reading Schedule

Week 1 (Jan 25): Course Introduction

- Heloise Dufour and Sean Carroll, "Great myths die hard," *Nature* 502 (2013): 32–33.

Unit One: Institutions and social practices

Week 2 (Jan 30): Telling the history of biology

- Leslie Roberts, "Controversial from the start," *Science* 291.5507 (2001): 1182-1188.

Week 3 (Feb 6): From big physics to big biology

- David Kaiser, "From blackboards to bombs," *Nature* 523 (2015): 523–525.
- R.J. Havighurst and K. Lark-Horovitz, "The schools in a physicists' war," *American Journal of Physics* 103(1943): 103-108.

Week 4 (Feb 13): Model organisms

- Daniel Engber, "The trouble with black six," *Slate*, 17 November 2011.
- Susan Lederer, "Political animals: the shaping of biomedical research literature in twentieth century America," *Isis* 83 (1992): 61-79.

Week 5 (Feb 20): University-industry relations

- Steven Shapin, "Who is the industrial scientist?" in *The Science-Industry Nexus*, eds. Karl Grandin, Nina Wormbs, and Sven Widmalm. Science History Publications, 2004, 337-363.
- Adriane Fugh-Berman, "The haunting of medical journals," *PLOS Medicine* 7.9 (2010): e1000335.

Unit Two: Governance and participation

Week 6 (Feb 27): The ethics of genetics

- Dorothy Nelkin and M. Susan Lindee. "The DNA mystique: the gene as a cultural icon," in *Perspectives in Medical Sociology*, ed. Phil Brown. Waveland Press, 2000, 406-424.

Week 7 (March 6): Regulating biotechnology

** No assigned readings this week.

** No sections this week.

Week 8 (March 20): Public understanding and lay expertise

- Harry Collins and Trevor Pinch, "The science of the lambs: Chernobyl and the Cumbrian sheepfarmers," in *The Golem at Large: What You Should Know About Technology*, Cambridge University Press, 1998, 113-125.

Week 9 (March 27): Citizen science and environmental politics

- Robert Bullard, "Environmental racism and 'invisible' communities," *West Virginia Law Review* 96 (1994): 1037-1050.

Unit 3: Biology and the Self

Week 10 (April 3): Seeing humanity through biology

- Nathaniel Comfort, "How science has shifted our sense of identity," *Nature* 574 (2019): 167-170.
- Sarah Richardson et al, "Don't blame the mothers," *Nature* 512 (2014): 131-132.

Week 11 (April 10): Race and reproduction

- Charis Thompson, "Strategic naturalization: kinship in an infertility clinic," in *Relative Values: Reconfiguring Kinship Studies*, eds. Sarah Franklin and Susan McKinnon, Duke University Press, 2001, 175–202.

Week 12 (April 17): Neuroscience and the authentic self

- Ilina Singh, "Will the 'real boy' please behave: dosing dilemmas for parents of boys with ADHD," *American Journal of Bioethics* 5.3 (2005): 34-47.

Week 13 (April 24): Globalizing biology

- Margaret Lock and Christina Honde, "Reaching consensus about death: heart transplants and cultural identity in Japan," in *Social Science Perspectives on Medical Ethics* 16 (1990): 99-119.

Week 14 (May 1): Conclusion

- **No assigned readings this week.
- **No sections this week.