

Biology 7: Fact or Fiction? Politicized Topics in Biology

Spring 2018

Location: LSC 105

Class Meeting times: MWF 8:50-9:55

Instructor: Brittny Calsbeek
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Office Hours: MF 10-11 AM
X-hours: TBD

Course Description

This course will explore the fact and fiction underlying politically hot topics that have biology at their core. The majority of the course will be focused on written and oral debates on topics including: climate change, genetic engineering, stem cell research, vaccine safety, and antibiotic resistance.

Course Goals

Students will hone their ability to think critically, construct well-written and effective arguments, and to separate fact from fiction when controversies relating to biology arise in public forums.

Learning Objectives

By the end of this course, students will be adept at writing and speaking critically about controversial issues in biology. In addition, students will identify appropriate literature for the support of scientific arguments, and distinguish scientific fact from opinion. Students will research, write, and debate about scientific issues while respecting the opinions and philosophies of their peers. You can also find the Institute for Writing and Rhetoric FYS outcomes [here](#).

Pre-Requisites

Writing 2 and 3, or Writing 5

In addition, students should 1) be prepared to learn how to research science based arguments and articulate them clearly and persuasively 2) have a curiosity for the natural world and the role of scientific research in politics.

Teaching Philosophy

We will spend four class periods exploring each scientific topic listed on the syllabus. For each topic, students will 1) discuss assigned readings from both sides of the debate 2) write short essays defending their view on the topic 3) peer-review their classmates essays and 4) feverishly debate the topic in groups. This format is intended to promote critical thinking through a continuous dialogue with the instructor and your peers. As there may be more interest in some

topics than others the syllabus is subject to change throughout the quarter. All discussion, ideas, and opinions will be welcome and up for debate!

Expectations

Attendance and Participation - Because this is a discussion intensive course attendance and participation are mandatory. Any unexcused absence will result in a loss of course points. Late arrival will count as an absence after the second offense. As students, you will drive the atmosphere and direction of the course. Your participation is essential to creating an exciting debate environment. Students are expected to show up prepared for class (i.e. having read and mentally digested assigned readings). Open computers will not be allowed in class unless they are being used for class work.

Conduct – Students are expected to adhere to the Dartmouth College Honor Code (more information on this topic can be found [here](#)). All writing assignments (and the opinions formed therein) will be composed independently and not contain plagiarized statements in any form. *All written arguments gleaned from primary or secondary literature should be summarized in the student's own words and appropriately cited* (find more information [here](#)).

Grading

60% - Short essays (including responses to peer-review)

25% - Final essay

10% - Group debates- debate preparation and literature citations

5% - Journal writing

Final essay- The final assignment for the class will be an approx. 5 page (double spaced) essay on a controversial biological topic of your choice.

Short essays- Students will write a short essay (approx. 2 pages double spaced) for each topic we cover in class. These persuasive scientific essays will be anchored by student research and include primary and secondary literature citations.

Group debates- Debate teams will be assigned at the beginning of each new topic. I will assign each team a side of the argument and you will have a portion of the class period to outline your debate in groups. You will then assign each student in your group a sub-topic from your debate outline to research. Each student will be responsible for bringing 3 literature citations from their research to class. 5% of your debate grade will be based on the literature citations and 5% will be based on your performance in the debate.

Journal writing- Students will be asked to respond to an instructor prompt through a short journal entry that will be collected at the end of the term. Please bring a notebook to use as your journal on assigned journal writing days.

Late policies- Late assignments received within 24 hours of due date will be eligible for 50% credit. Late assignments after 24 hours will not be accepted.

Student Needs

Students with disabilities who may need disability-related academic adjustments and

services for this course are encouraged to see me privately as early in the term as possible. Students requiring disability-related academic adjustments and services must consult the Student Accessibility Services office (205 Collis Student Center, 646-9900, Student.Accessibility.Services@Dartmouth.edu). Once SAS has authorized services, students must show the originally signed SAS Services and Consent Form and/or a letter on SAS letterhead to their professor. As a first step, if students have questions about whether they qualify to receive academic adjustments and services, they should contact the SAS office. All inquiries and discussions will remain confidential. If you need to miss class for a religious observance, please contact me in advance to make the appropriate accommodations.

Additional Support for your Learning

The Research Center for Writing, and Information Technology (RWiT)
 (<http://www.dartmouth.edu/~rwit/>)

The Student Center for Research, Writing, and Information Technology (RWiT) is a place where you can meet with an undergraduate tutor to discuss a paper, research project, or multi-media assignment. The RWiT tutors are trained to help you at any phase of your process. Whether you are brainstorming or planning, drafting or structuring, tweaking or polishing, the RWiT tutors can provide feedback that will help you to create final products of which you can be proud.

Tentative Course Schedule: *(May change to accommodate more or less interest in the different topics)*

Date	Day	Topic/Activity	Assignment Due
3-26	Mon	Course introduction	
3-28	Wed	Expectations for writing and discussion	
3-30	Fri	The scientific process	Readings 1-3 (See titles of papers and sources on Canvas. All papers for course provided as pdf on Canvas)
4-2	Mon	Climate Change Intro Journal Writing	
4-4	Wed	Discussion of assigned readings Assign debate teams	Read and print out Climate change papers
4-6	Fri	Group debate	3 literature citations

4-9	Mon	Peer-review	Essay 1 first draft
4-11	Wed	Genetic Modification Intro Journal writing	Essay 1 final draft
4-13	Fri	Discuss assigned readings	Genetic modification readings
4-16	Mon	Group debate	3 literature citations
4-18	Wed	Peer-review essay 2 Method: Group Peer Review	Essay 2 first draft
4-20	Fri	Stem Cell Research Intro Journal Writing	Essay 2 final draft
4-23	Mon	Discuss assigned readings	Stem cell readings
4-25	Wed	Group debate	3 literature citations
4-27	Fri	Peer review essay 3 Method: Group peer review	Essay 3 first draft
4-30	Mon	Vaccine Intro Journal Writing	Essay 3 final draft
5-2	Wed	Discuss assigned readings	Vaccine readings
5-4	Fri	Group debate	3 literature citations
5-7	Mon	Peer-review essay 4	Essay 4 first draft
5-9	Wed	Antibiotic resistance Intro Journal Writing	Essay 4 final draft
5-11	Fri	Discuss assigned readings	Antibiotic resistance readings
5-14	Mon	Group debate	3 literature citations
5-16	Wed	Peer review essay 5	Essay 5 first draft
5-18	Fri	Pick and discuss final paper topics- In class	Essay 5 final draft
5-21	Mon	Student presentations on chosen	5 min presentation (plus 5

		essay topic I	min Q&A) of background on the chosen topic and your side of argument
5-23	Wed	Student presentations on chosen essay topic II	5 min presentation (plus 5 min Q&A) of background on the chosen topic and your side of argument
5-25	Fri	Student presentations on chosen essay topic III	5 min presentation (plus 5 min Q&A) of background on the chosen topic and your side of argument
5-28		Memorial Day - No class	
5-30		Final paper introduction peer-review	Rough draft of final paper introduction