

University of California, Davis
Department of Philosophy
PHILOSOPHY OF BIOLOGICAL SCIENCES
PHI 108, WINTER 2014
176 Chemistry, TR 3:10-4:30 PM

Contact Information

Instructor: Professor Roberta Millstein

Office: 2287 Social Sciences and Humanities (aka SSH, Death Star: corner of 3rd and A)

Office Hours: Tues and Thurs, 2-3 PM, and by appointment

E-mail: RLMillstein@UCDavis.edu (*the best way to reach me*)

Phone: 530-554-1398 (Skype voicemail)

Philosophy Dept. Office, my mailbox: 1240 SSH **Philosophy Dept. Phone:** 530-752-0703

TA: Sarah Roe, sroe@ucdavis.edu

Discussion sections in H GYM 290. **A01: Tues 6:10-7 PM, A02: Tues 7:10-8 PM**

Required Text

All required readings will be available on course website on SmartSite, <https://smartsite.ucdavis.edu/>

Course Description

This class will consider the following conceptual and methodological issues in biology: the proper definition of “natural selection” and “fitness”; adaptationism and explanations of female sexuality; epigenetic challenges to neo-Darwinism; the concepts of “species,” “community,” and “ecosystem”; the debate over whether race is a social construction or biological reality; and the question of whether there are any scientific laws in biology.

The goals of this course are: 1) to introduce you to some of the major issues within the philosophy of biology; 2) to encourage you to critically examine your own beliefs as well as the beliefs of others; 3) to provide the opportunity to discuss, both in class and in a more sustained written form, your ideas and arguments concerning important issues in the philosophy of biology.

Class Policies

- If you have a documented disability and wish to discuss academic accommodations, please come *to my office* (during office hours, or make an appointment) to discuss as soon as possible.
- You are responsible for *all* material covered in class, including announcements, discussions, etc. – whether you are in class or not. *Take notes on discussions as well as lecture.* Be aware that the topics in this class build on one another, so you will need to keep up.
- Since we will be discussing the readings in class, you should bring the reading for the day to each class.
- Announcements are usually made at the beginning of class, so *please be on time.* Comings and goings are disruptive and distracting, so please keep them to an absolute minimum.
- Do not use laptops, tablets, or cell/smart phones in class for activities unrelated to the class (texting, Twitter, Facebook, etc). A [recent study](#) shows that it hinders learning both for the user and those nearby.
- *Silence* your cell/smart phone or anything else that might make noise.
- Please do not bring guests (friends, children, etc.) without my permission.
- Eating in class is ok if it is done quietly and unobtrusively.

Class Requirements

Your grade will be based on the following (all dates subject to change):

5% - Comments/questions on each day's readings, posted to the Forums on SmartSite *before* class. CR/NC.

5% - Group work in your Discussion Section. CR/NC.

30% - Two 2-page analytical essays submitted on SmartSite by **6 PM Mon: Feb 3 and Feb 24**

5% - Term paper draft submitted on SmartSite by **6 PM Fri Mar 7** + two peer reviews submitted on SmartSite by **6 PM Sat Mar 8** (CR/NC; late=NC)

35% - 5-7 page term paper submitted on SmartSite by **11 PM Fri, Mar 14.**

20% - Comprehensive take-home final exam submitted on SmartSite by **12:30 PM** (afternoon) **Sat, Mar 22**

You must complete the two analytical essays, the term paper, and the final exam in order to pass the class. In the case of a borderline grade, **class participation** will be given serious consideration.

Important note on plagiarism/cheating:

It is a violation of the Code of Academic Conduct to turn in work that is not your own. This includes: turning in the work of another student with your name on it, buying/copying a paper off the Internet, using the words *or* ideas of others without proper quotation and citation. In accordance with Regulation 550 of the Davis Division of the Academic Senate, **a grade of "0" will be assigned to examinations or assignments on which cheating, plagiarism or any other form of academic dishonesty is admitted or determined to have occurred by proper adjudication.** If you have trouble with the class material or have personal issues that prevent you from doing your work, come talk to me.

Tentative Schedule - All dates and readings are subject to change. All readings will be available on the course website on SmartSite, <https://smartsite.ucdavis.edu/>

Date	Topic	Reading (by author)
Jan 7	Introduction	Syllabus
Jan 9	Natural selection	Darwin 1859 - Chs. 3 & 4 (excerpts)
Jan 14	Natural selection	Lennox and Wilson 1994
Jan 16	Population genetics/random drift	Millstein and Skipper 2007 (pp. 22-36 only)
Jan 21	What is "fitness"?	Mills and Beatty 1979
Jan 23	What is "fitness"?	Sober 2013
Jan 28	Adaptationism	Gould and Lewontin 1979
Jan 30	Adaptationism & female sexuality	Lloyd 1993
Feb 4	Adaptationism & female sexuality	Caton 2006, Puts and Dawood 2006
Feb 6	Challenges to neo-Darwinism	Jablonka 2011
Feb 11	Neo-Darwinian response	Haig 2011
Feb 13	What is a "species"?	Mayr 1996
Feb 18	What is a "species"?	Andersson 1990
Feb 20	What is a "species"?	Ereshefsky 1992
Feb 25	Do "races" exist?	Appiah 1996
Feb 27	Do "races" exist?	Gannett 2007
Mar 4	Communities/Ecosystems	Odenbaugh 2007
Mar 6	Communities/Ecosystems	Peck 2009
Mar 11	Laws in biology?	Beatty 1995
Mar 13	Laws in biology?	Mitchell 2000