

**University of California, Davis**  
**Department of Philosophy**  
**PHILOSOPHY OF BIOLOGICAL SCIENCES**  
**PHI 108, FALL 2015**  
**166 CHEM, TR 1:40-3 PM**

## **Contact Information**

**Instructor:** Professor Roberta Millstein

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

**Office Hours:** TR 12:30-1:30 PM, and by appointment

**E-mail:** [RLMillstein@UCDavis.edu](mailto:RLMillstein@UCDavis.edu) (*the best way to reach me; please include Phi 108 in Subject*)

**Phone:** 530-554-1398 (Skype voicemail)

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

**TA:** Rick Morris [jemorr@ucdavis.edu](mailto:jemorr@ucdavis.edu)

Discussion sections in 184 Young. **A01: Thurs 6:10-7 PM, A02: Thurs 7:10-8 PM**

## **Required Text**

All required readings will be available on the 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; debates over concepts of “species”; debates over whether race biologically real; debates over how to characterize biological communities and ecosystems; 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. You might [learn more taking notes by hand](#) in any case.
- *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. Grade based on percentage of *on-time* postings that demonstrate you've read & thought about the readings.
- 5%** - Group work in your Discussion Section. Participation grade.
- 30%** - Two 2-page analytical essays submitted on SmartSite by **10 AM Mon: Oct 19 and Nov 9**
- 5%** - Term paper draft submitted on SmartSite by **10 AM Mon Nov 23** + two peer reviews submitted on SmartSite by **10 AM Wed Nov 25** (CR/NC; late=NC)
- 35%** - 5-7 page term paper submitted on SmartSite **by 11 PM Fri, Dec 4.**
- 20%** - Take-home final exam submitted on SmartSite by **8 PM Fri, Dec 11.**

**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)
Sep 24	Introduction	Syllabus
Sep 29	Natural selection	Darwin 1859 - Chs. 3 & 4 (excerpts)
Oct 1	Natural selection	Lennox and Wilson 1994
Oct 6	Population genetics/random drift	Millstein and Skipper 2007 (pp. 22-36 only)
Oct 8	What is "fitness"?	Mills and Beatty 1979
Oct 13	What is "fitness"?	Bouchard 2011
Oct 15	Adaptationism	Gould and Lewontin 1979
Oct 20	Adaptationism & female sexuality	Lloyd 1993
Oct 22	Adaptationism & female sexuality	Caton 2006, Puts and Dawood 2006
Oct 27	What is a "species"?	Mayr 1996
Oct 29	What is a "species"?	Avise and Ball 1990
Nov 3	What is a "species"?	Ereshefsky 1992
Nov 5	Movie - <i>Ordinary Extraordinary Junco</i>	<i>no reading</i>
Nov 10	Do "races" exist?	Gannett 2007
Nov 12	Do "races" exist?	Spencer 2014
Nov 17	Communities/Ecosystems	McCoy and Shrader-Frechette 1994
Nov 19	Communities/Ecosystems	Sterelny 2006
Nov 24	Communities/Ecosystems	Odenbaugh 2007
Nov 26	Thanksgiving - NO CLASS	<i>no reading</i>
Dec 1	Laws in biology?	Beatty 1995
Dec 3	Laws in biology?	Mitchell 2000