

**Philosophy 167A/267A – Philosophy of Biology
Autumn, 2008**

Joel Velasco

This course will examine a range of philosophical questions concerning the theory of evolution. We'll begin with the debate between evolutionary theory and creationism and intelligent design. Then we'll discuss questions concerning fitness, adaptationism, the units of selection, systematics, species, race, sociobiology, and evolutionary ethics.

Requirements:

Attendance in class and participation in discussion, are required and will affect your grade. There will be one in-class exam, one short paper (1000-1500 words on a topic to be assigned) and a final exam in the course. Students registered for 267A will have a research paper due at the end of class rather than taking the final exam.

Office Hours:

My office hours are Tue 2:30-4:30, or by appointment, in 92H in building 90 in the main quad.

Books available at the University Bookstore:

Elliott Sober, *Philosophy of Biology*, Westview Press, 2nd edition (= PB).
Elliott Sober (ed.), *Conceptual Issues in Evolutionary Biology*, MIT Press, 3rd edition. (= CI).

Other readings:

William Paley, *Natural Theology*, chapter 1.

Michael Behe, "Molecular Machines" *Cosmic Pursuit* 1998 1:27-35

Elliott Sober, "Introduction to Bayesian Epistemology" (IBE) unpublished (available at:

<http://philosophy.wisc.edu/sober/recent.html>)

Elliott Sober, "What's wrong with Intelligent Design", (WW) *Quarterly Review of Biology*, 2007
82:3-8

Zach Ernst and Andrew Ariew, "What Fitness Ain't" (unpublished) (available at

<http://web.missouri.edu/~ernstz/Zachary%20Ernst/Papers.html>)

Richard Lewontin, "The Units of Selection." *Annual Review of Ecology and Systematics*, 1970,
1: 1-18

Samir Okasha, "Recent Work on the Levels of Selection Problem" *Human Nature Review*, 2003,
3: 349-356

Muir and Craig, "Improving Animal Well-Being through Genetic Selection" *Poultry Science*
1998: 77: 1781-1788

David Sloan Wilson and E.O. Wilson "Rethinking the Foundations of Sociobiology" *Quarterly
Review of Biology* 2007 82: 327-348

Robert O'Hara – "Population thinking and Tree Thinking in sysematics", *Zoologica Scripta*
1997, 26: 323-329

Robert O'Hara - "Homage to Clio, or, toward an historical philosophy for evolutionary biology",
Systematic Zoology 1988, 37: 142-155

Kevin de Queiroz, "Systematics and the Darwinian Revolution", *Philosophy of Science* 1988
55:238-259

John Dupré, "Natural Kinds and Taxa", *Philosophical Review*, 1981, 90: 66-91

Marc Ereshefsky, "Eliminative Pluralism", *Philosophy of Science* 1992, 59: 671-690

Brent Mishler and Robert Brandon "Individuality, pluralism, and the phylogenetic species
concept", *Biology and Philosophy* 1987 2: 397-414

Jonathan Kaplan and Massimo Pigliucci "On the Concept of Biological Race and its
Applicability to Humans", *Philosophy of Science* 2003, 70: S1161-1172

Schedule of Readings and Assignments

Week	Dates	Topics	Readings and Assignments
1	9/23	Introduction	PB ch1
1-2	9/25, 9/30	Creationism and Intelligent Design	Paley, Sober IBE, PB ch2, Behe, Sober WW
2-3	10/2,10/7,	Fitness	PB ch 3, Mills and Beatty in CI, Sober in CI, Ernst and Ariew
3-4	10/9 10/14,16	Units of Selection	PB ch 4, Williams in CI, DS Wilson in CI, Lewontin, Okasha, Muir and Craig, Wilson and Wilson
5	10/21		In-Class Exam
5-6	10/23,28	Adaptationism	PB ch 5; Gould and Lewontin, Maynard Smith in CI
6-7	10/30, 11/4	Systematics	PB ch 6, de Quieroz, Dupré, O'hara, O'hara
7	11/6		NO CLASS
8	11/11	Population Thinking	Mayr in CI, Sober in CI
8	11/13		PAPER DUE
9	11/13, 18	Species	PB ch 6; Hull in CI, Ereshefsky, Mishler and Brandon, Baum and Donoghue in CI
9	11/20	Race	Appiah in CI, Andreasen in CI, Kaplan and Pigliucci
10	12/2,4	Sociobiology and Evolutionary Ethics	PB ch 7; Ruse and EO Wilson and Kitcher in CI