

**Philosophy 167A/267A**  
**Philosophy of Biology**  
**Winter, 2010**  
**GESB 134 M,W 11:00-12:15**

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**Course Description:**

This course focuses on evolutionary theory, and in particular, on natural selection and how it operates. We examine debates about fitness, whether selection is a cause or force, individuality in biology, the units and levels of selection, and extensions of evolutionary theory into the realm of culture.

**Requirements:**

Attendance in class and participation in discussion, are required and will affect your grade. There will be one short paper, one medium-length paper, and one longer final paper.

**Office hours:**

My office hours are Tues 11:00-12:00 and Wed 1:30-2:30, or by appointment, in 92B on the second floor of building 90 in the main quad.

**Books available at the university bookstore:**

Elliott Sober, *Philosophy of Biology*, Westview Press, 2nd edition (= Sober)  
Richard Dawkins, *The Blind Watchmaker*, Norton, 3rd edition (= Dawkins)  
Peter Godfrey-Smith, *Darwinian Populations and Natural Selection*, Oxford University Press (= PGS).

**\*\*Prospective Reading List:** You must come to class and look at the course webpage for the most updated information about the assignments

**Unit 1: Evolution and Creationism**

- Mon, Jan 4
  - Introductions
- Wed, Jan 6
  - Required Readings
    - Sober ch 1
    - PGS ch 1
- Mon, Jan 11
  - Required Readings
    - Paley, [pages 1-20 of \*Natural Theology\*](#) ([here](#) for printing)
    - Darwin, [pages 186-190 of \*The Origin\*](#) ([here](#) for printing)
    - Dawkins ch 1-4
- Wed, Jan 13
  - Required Readings
    - Sober ch 2
    - Behe, [Molecular Machines](#)
    - Sober, [What's wrong with ID](#)

\*\*Paper 1 will be assigned on the basis of the Unit 1 readings

## Unit 2: Characterizing Fitness and Natural Selection

- Mon, Jan 18 No Class (MLK day)
- Wed, Jan 20
  - Required Reading
    - Sober ch 3
    - PGS ch 2
    - Mills and Beatty, [The Propensity Interpretation of Fitness](#)
- Mon, Jan 25
  - Required Reading
    - Sober, [Two Faces of Fitness](#)
    - Ariew and Lewontin, [The Confusions of Fitness](#)
- Wed, Jan 27
  - Required Reading
    - Walsh, Ariew, and Lewens, [The Trials of Life](#)
    - Millstein, [Natural Selection as a Population Level Cause](#)
- Mon, Feb 1
  - Required Reading
    - PGS ch 3
    - Dawkins ch 7

## Unit 3: Individuality

- Wed, Feb 3
  - Required Reading
    - PGS ch 4
    - Janzen, [What are Daffodils and Aphids?](#)
- Mon, Feb 8
  - Required Reading
    - Hull, [A Matter of Individuality](#)
    - Mishler and Brandon, [Individuality, Pluralism, and the Phylogenetic Species Concept](#)
- Wed, Feb 10
  - Required Reading
    - PGS ch 5
    - Hull, [Individuality and selection](#)
    - Hamilton et al. [Social Insects and the Individuality Thesis: Cohesion and the Colony as a Selectable Individual](#)

#### Unit 4: The Units and Levels of Selection

- Mon, Feb 15 No Class (Presidents' Day)
- Wed, Feb 17
  - Required Readings
    - Williams, [Excerpts from Adaptation and Natural Selection](#)
    - Lewontin, [The Units of Selection](#)
    - Wilson, [Levels of Selection: An Alternative to individualism in biology and the human sciences](#)
- Mon, Feb 22
  - Required Readings
    - Sober ch 4
    - PGS ch 6
- Wed, Feb 24
  - Required Readings
    - Kitcher and Sterelny, [The Return of the Gene](#)
    - PGS ch 7
- Mon, Mar 1
  - Required Readings
    - Wilson and Wilson, [Rethinking the foundations of Sociobiology](#)
    - Okasha, [Recent work on units of selection](#)
    - Sober, section 5.2 of *Did Darwin Write the Origin Backwards?*
- Wed, Mar 3
  - Required Readings
    - To be determined

#### Unit 5: Expansions of Natural Selection

- Mon, Mar 8
  - Required Readings
    - Gould and Lewontin, The spandrels of San Marco and the Panglossian Paradigm: A critique of the Adaptationist programme
    - Jablonka and Lamb, *Precis of Evolution in Four Dimensions*
    - Dawkins, ch 11
- Wed, Mar 10
  - Required Readings
    - PGS ch 8
    - Sober ch 7