

Philosophy 228: Topics in the Philosophy of Science
Philosophy of Evolutionary Biology
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Office Hours T-Th 9:00-10:30, W 11:00-12:30 and by appointment

1. Course Description

Contemporary evolutionary biology poses certain urgent philosophical questions. If heritable variation is ubiquitous, as biologists now think, then why should we think a species is anything more than an arbitrary grouping of individual organisms? If we give the skeptical answer to this question, then we have reason to wonder whether there can be scientific laws about species. If not, what qualifies evolutionary theories as scientific?

This course explores such questions, as well as their broader implications both for the philosophy of science and for biological research.

2. Readings

Four books are currently available in the University Bookstore:

Darwin, The Origin of Species (Penguin)
Sober, Conceptual Issues in Evolutionary Biology (MIT)

All are required reading, and should be purchased at earliest opportunity. Other readings will be placed on reserve at Fairchild/Martindale library.

3. Course requirements

This is a low-enrollment, seminar-style course, so attendance is not only mandatory but very important. All students will be asked to write two papers, and *since this is an official writing intensive course*, special emphasis will be placed on the planning, drafting, and revision of the final paper. The first paper, due Feb. 29, will be a five-to-seven-page essay written on an assigned topic. It will be worth 25 points. Students will be required to choose their own topics for the second papers, which will be eight to twelve pages in length, and involve some original research. Topics must be cleared with me, and a preliminary two-page outline and bibliography submitted no later than March 16. Complete first drafts are due on April 18, and final revisions on May 4. Final papers are worth 40 points.

In addition, students will be required to keep journals, in which they comment on all assigned readings. These will be collected five times over the course of the semester, and are worth a combined total of 20 points. A take-home final, worth 10 points, will be assigned on May 4, to be turned in to my box no later than noon on May 11. Finally, up to an additional 10 points (for a theoretical maximum of 105) will be assigned for contributions to discussion. Course grades will be assigned on a 100-point scale.

4. Schedule of Readings:

Week of:

Readings:

Jan. 18	Ernst Mayr, "Darwin: Intellectual Revolutionary" (library reserve); <u>Origin</u> , Preface, Introduction, Ch. 1-3
Jan. 25	<u>Origin</u> , Ch. 4-6, 9
Feb. 1	David Hull, "Darwin and Nineteenth Century Philosophy of Science" (library reserve). Thursday: Journals due!
Feb. 8	John Beatty, "Speaking of Species: Darwin's Strategy;" David Stamos, "Darwin's Species Category Realism" (library reserve)
Feb. 15	David Hull, "The Effect of Essentialism on Taxonomy;" Michael Ghiselin, "On Psychologism in the Logic of Taxonomic Controversies" (library reserve).
Feb. 24	No class Tuesday (Pacing Break). Sober, Ch. 6, 7; Richard Dawkins, "Genes and Memes" (library reserve). Thursday: Journals due!
Feb. 29	Michael Ghiselin, "A Radical Solution to the Species Problem" (library reserve); Sober, Ch. 10. Tuesday, Feb. 29: First papers due!
March 7	David Hull, "On Human Nature" (library reserve); Sober, Ch. 11.
March 14	David Stamos, <i>Species Problem</i> , Ch. 3, 4 (library reserve) Thursday: Journals due! Last day for approving final paper topics and turning in outlines.
March 21	Spring Break
March 28	Sober, Ch. 2, 3; additional reading TBA.
April 4	Sober, Ch. 4, 5. Thursday: Journals due!
April 11	No class Monday (Easter Break). Sober, Ch. 14, 15.

April 18

Sober, Ch. 16, 17. **Tuesday, April 18: First drafts of final papers due!**

April 25

Sober, Ch. 18, 19. **Tuesday: Journals due!**

May 4

Sober, Ch. 20, 21. **Thursday, May 4: Final revisions of final papers due! Take-home final assigned, to be turned in to my box by noon on May 11.**

That's it. Have a great summer!