

HPS 0437: Darwinism & its Critics (Spring 2016)

Mo/We, 9:30 a.m. – 10:45 a.m., 306 CL

Instructor: Aaron Novick

Office hours: Th 10:00 a.m. – 12:00 p.m., and by appointment

Office location: 901-P CL (follow the winding hallway all the way to the back)

1. Course description. In this course, we will trace the origins and career of Darwin's theory of evolution by natural selection. For the first three quarters of the course, we will look at the scientific history of Darwinism, focusing on changing scientific attitudes to transmutationism generally, and its Darwinian form(s) more specifically. We will look at debates over transmutationism (and related topics) prior to Darwin, then Darwin's own work (and his contemporary critics), and finally at several key episodes in the subsequent development of Darwinian evolutionary theory, ending with contemporary disputes over the "extended synthesis." For the final quarter of the course, we will look at contemporary creationism in an attempt to understand and criticize (in that order) the objections creationists raise to contemporary Darwin. We will also be able to see, on the basis of the first part of the class, how these objections have their roots in earlier scientific objections to Darwinism.

2. Required texts. There are two required texts for this course, which may be found either in the bookstore or online.

1. Peter Bowler, *Evolution: The history of an idea* (25th anniversary edition)
2. Philip Kitcher, *Living with Darwin: Evolution, design, and the future of faith*

The Bowler text is a general history of evolutionary theory and will provide background for our study of the history of Darwinism. I will be assigning readings from it by page numbers, so I highly recommend getting the assigned edition. If you get an earlier edition, it is your responsibility to find the sections in that edition that correspond to the assigned sections in the new edition.

The Kitcher book is a brief philosophical survey of the contemporary "intelligent design" movement. It carefully distinguishes different types of creationist objections to evolutionary theory and examines the Darwinian response to these objections in a historical context. We will use this text as background for our discussion of creationism.

In addition to the two texts listed above, we will also be reading and discussing primary sources (see reading schedule). All primary source texts will be uploaded to Courseweb.

3. Grading. Each assignment for the class will be worth a certain number of points; the point total for all assignments will add up to 100. The grading breakdown is as follows:

- Attendance: 10 points
- Participation: 5 points
- Quizzes: 15 points
- Reading responses: 30 points
- Short paper: 20 points
- Final exam: 20 points

Attendance (10 points). Attendance is mandatory. There are 27 scheduled class meetings. For five of these, there will be quizzes (see below) and I will not take attendance (no need to penalize missing class twice), leaving 22 meetings. I will allow 2 unexcused absences. Each missed class beyond that will count for 0.5 points off.

Participation (5 points). In addition to completing specific assignments, I expect to see engagement with the course. In particular, many class meetings will primarily involve discussion of primary texts. You are expected to have done the readings and to come prepared to discuss them. Attending office hours to discuss topics that interested or puzzled you and asking questions in lecture also contribute to this portion of the grade.

Quizzes (15 points, 5 x 3 points each). In lieu of a midterm, there will be five short quizzes spread throughout the semester. Each quiz will be worth three points (3 short answer questions at 1 point each) and will take about 15 minutes. The dates of the quizzes are listed on the reading schedule. If you *must* miss a quiz for a legitimate reason, you need to let me know a week in advance so that we can work something out.

Reading responses (30 points, 3 x 10 points each). You will be required to submit at least **three** reading responses (to primary sources) over the course of the semester. For these assignments, I will provide a prompt for you to answer. I will be looking for evidence that you have read the text carefully and thought about it critically. The goal of these reading responses is to help you develop reading and thinking skills that you may not already possess. For this reason, I will allow you to submit as many reading responses as you want (there will be nine total opportunities), and **I will only count your top three scores**. The first reading response will be required (in order to give you a sense of what I expect and how I will grade them); all others will be optional.

Short paper (20 points). Each student will complete a short paper (appr. 1500 words) that will require research beyond the assigned texts. Topics will be assigned. The Wednesday before the paper is due (March 30; see reading schedule below), you will be required to bring a draft of the paper to class for peer critique.

Final exam (20 points). There will be a cumulative final exam, with a mix of short answer and essay questions.

4. Academic Integrity. Cheating and plagiarism will be handled according to the University's academic integrity policy (<http://www.provost.pitt.edu/info/ai1.html>). If you are not sure whether your use of another's words or ideas counts as plagiarism, check with me before submitting the assignment. If you use outside sources on your reading responses, I expect them to be cited. I do not care about which citation style you use, so long as it contains all the relevant bibliographic information.

5. Disability Services. If you have a disability, contact both your instructor and the Office of Disability Resources and Services (DRS), 216 William Pitt Union, 412-648-7890/412-383-7355 (TTY) as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

6. Statement on Classroom Recording. To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.

7. Reading Schedule

Week #	Monday	Wednesday	Assignments
Week 1 M: Jan 04 W: Jan 06	NO CLASS <i>No reading</i>	What is Darwinism? <i>No reading</i>	<i>None</i>
Week 2 M: Jan 11 W: Jan 13	Classification Bowler, 1-13, 27-31, 41-47, 62-71	Form and Function Bowler, 38-40, 108-115, 120-129	<i>None</i>
Week 3 M: Jan 18 W: Jan 20	NO CLASS, MLK DAY <i>No reading</i>	Discussion: Owen Owen, <i>On the Nature of Limbs</i>	Reading response #1 due
Week 4 M: Jan 25 W: Jan 27	Transmutation Bowler, 84-95, 134-140	Discussion: Lamarck Lamarck, <i>Zoological Philosophy</i>	Quiz #1 (Wed) Reading response optional
Week 5 M: Feb 01 W: Feb 03	Geology Bowler, 31-38, 57-62, 115-120, 129-134	Discussion: Lyell Lyell, <i>Principles of Geology</i>	Reading response optional
Week 6 M: Feb 08 W: Feb 10	Darwin's origins Bowler, 148-173	Discussion: Darwin Darwin, <i>1844 Essay</i>	Quiz #2 (Wed) Reading response optional
Week 7 M: Feb 15 W: Feb 17	Darwin's Origin Bowler, 173-187	Discussion: Darwin Darwin, <i>On the Origin of Species</i>	Reading response optional
Week 8 M: Feb 22 W: Feb 24	Darwin's critics Bowler, 188-216	Discussion: Jenkin Jenkin, <i>Origin review</i>	Quiz #3 (Wed) Reading response optional
Week 9 M: Feb 29 W: Mar 02	Mendelism Bowler, 224-226, 236-273 <i>(rest of ch. 7 optional)</i>	Discussion: Morgan Morgan et al., <i>The Mechanism of Mendelian Heredity</i>	Reading response optional

Week #	Monday	Wednesday	Assignments
Week 10 M: Mar 07 W: Mar 09	<u>NO CLASS; SPRING RECESS</u>		
Week 11 M: Mar 14 W: Mar 16	Modern Synthesis Bowler, 325-346	Discussion: Dobzhansky Dobzhansky, <i>Genetics and the Origin of Species</i>	Quiz #4 (Wed) Reading response optional
Week 12 M: Mar 21 W: Mar 23	Discussion: Goldschmidt Goldschmidt, <i>The Material Basis of Evolution</i>	After the synthesis Bowler, 347-361, 369-374	Reading response optional
Week 13 M: Mar 28 W: Mar 30	Discussion: Extended Synthesis Bowler, 361-369 <i>Nature</i> 2014	Paper peer critiques	Paper draft due (Wed)
Week 14 M: Apr 04 W: Apr 06	Creationism I Bowler, 375-381 Kitcher ch. 1	Creationism II Kitcher ch. 2	Short paper due (Mon)
Week 15 M: Apr 11 W: Apr 13	Creationism III Kitcher ch. 3	Creationism IV Kitcher ch. 4	Quiz #5 (Mon)
Week 16 M: Apr 18 W: Apr 20	Creationism V Kitcher ch. 5	Concluding lecture <i>No reading</i>	<i>None</i>
Week 17 M: Apr 25 W: Apr 27	<u>FINAL EXAM</u> <i>Date TBD</i>		