

PHIL 3370-001

Philosophy of Biology

INSTRUCTOR: Carlos Santana
OFFICE HOURS: TBA, 429 CTIHB
EMAIL: c.santana@utah.edu

GC 2675
T, Th / 10:45-12:05

Course Description

In this course we tackle conceptual, ethical, and methodological issues in the biological sciences, as well as ways in which modern biology can help address traditional philosophical issues.

No previous coursework in philosophy or biology is expected, but if you have expertise in either field, we'll draw on it in this discussion- and participation-heavy class.

Topics covered in this section include:

What counts as an individual organism? How should we define species?
What is biodiversity and why is it important? How can ecology account for human modified ecosystems? Can concepts like "health" and "function" be made scientifically respectable? Are human races real biological categories? How could altruism and cooperation have evolved?

Objectives

This course will familiarize you with many of the methods and topics central to contemporary philosophy of biology.
In particular, you'll learn the interdisciplinary skill of bringing philosophical tools and insights to bear on scientific questions, and vice versa.

You'll also leave better equipped to discuss and research important contemporary issues like environmental conservation and global change, race, and healthcare.

Texts

All course texts will be available on the course Canvas webpage

Graded work:

20% Assignment 1

20% Assignment 2

30% Assignment 3 (take-home final)

20% Quizzes

10% Participation

Grades will be roughly curved, with most grades falling in between A- and B-.

Assignment 1: Evolution and species

This assignment will have two options.

One is to give a critical analysis of a news story discussing evolution in light of the adaptationism debates.

The other is to propose a species concept, then find an example of a species that problematizes it.

Assignment 2: Public philosophy of science

For this assignment, you'll write a short popular (e.g. blog post or magazine article) piece bringing one of the philosophical topics discussed in the course to bear on an issue of public concern.

Assignment 3: Take-home final

You'll pick 5 of 10 short (~1 pg.) essays to write.

Quizzes:

3 short answer question quizzes on the day's reading.

Honesty:

You are encouraged to use any available resources, including your peers, to understand readings and prepare for assignments, but submitted work must be your own, and follow appropriate citation practices.

It is your responsibility to be familiar with university policy on academic honesty: <http://regulations.utah.edu/academics/6-400.php>

Environment:

I aim to make our classroom a safe, welcoming environment for you, and require that you do the same for your peers. While disagreement and debate is encouraged, hostility and aggression will not be tolerated.

Student life can be challenging and stressful, and for some of you that will include participating in this course. I encourage you to chat with me if you begin to feel overwhelmed by this course.

Support:

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services

Title IX makes it clear that violence and harassment based on sex and gender (which Includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801- 581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585- 2677(COPS)

Syllabus: This syllabus isn't a contract, and is subject to change. If there's a change you'd like to see, feel free to suggest it.

Schedule

Jan 7

Course intro, no readings

Unit 1: Evolution

Jan 9

Dawkins—The Blind Watchmaker chs 2-3

Jan 14

Gould and Lewontin—The Spandrels of San Marco and the Panglossian Paradigm

Jan 16

Mayr— How to Carry Out the Adaptationist Program

Jan 21

Lloyd— Adaptationism and the Logic of Research Questions

Schedule

Unit 2: Species

Jan 23

Mayr—Typological versus population thinking

Jan 28

Hull— A Matter of Individuality

Jan 30

Wilson et al.— When Traditional Essentialism Fails: Biological Natural Kinds

Feb 4

Ereshefsky— Species Pluralism and Anti-Realism

Unit 3: Conservation Biology

Feb 6

Santana—Save the Planet: Eliminate Biodiversity

Schedule

Feb 11

Burch-Brown and Archer—In defence of biodiversity

Unit 4: Ecology

Feb 13

Justus— Philosophical Issues in Ecology

Feb 18

Hobbs et al.— Novel ecosystems: theoretical and management aspects of the new ecological world order

Feb 20

Heger et al.— Towards an integrative, eco-evolutionary understanding of ecological novelty

Feb 25

Santana—Untitled novel ecosystems paper

Schedule

Unit 5: Race and Human Biology

Feb 27

Appiah— Why There Are No Human Races

Mar 3

Mallon— ‘Race’: Normative, Not Metaphysical or Semantic

Mar 5

Spencer— A racial classification for medical genetics

Mar 17

Garcia—1) Laboratory Life of the Mexican Mestizo

2) In Sickness and in Myth: Genetic Avatars of Indigenous Alterity and the Mexican Nation

Mar 19

Stegner Center Conference. Readings TBD

Schedule

Mar 24

Roberts— What's Wrong with Race-Based Medicine

Unit 6: Human Nature

Mar 26

Hull—On Human Nature

Mar 31

Machery— A Plea for Human Nature

Unit 7: Evolution and morality

Apr 2

Axelrod and Hamilton—The evolution of cooperation

Apr 7

De Waal—Primates and Philosophers (excerpt).

[Long reading warning—start early]

Schedule

Apr 9

Sober and Wilson—Unto Others, ch. 1

Apr 14

Reserve day

Apr 16

Reserve day

Apr 21

Reserve day