

PHIL 147: Philosophy of Biology

Professor: Karen Kovaka

Fall 2024

E-mail: kkovaka@ucsd.edu

Office Hours: Wed 3:00-5:00pm

Office: RWAC 0450

Web: karenkovaka.com

Class Hours: Mon/Wed 5:00-6:20pm

Class Room: RWAC 0426

Course Description & Learning Objectives

Philosophy of biology is where we assess the current scientific picture of what living things are like and how they (we!) got that way. This course will focus on the theory of evolution by natural selection and its implications for how we understand a range of topics, including species, genes, the microbiome, social behavior, and cognition.

Course Structure

We will meet for in-person class sessions twice a week (Mon/Wed). You need to complete the required reading before each class, as well as an online weekly reading reaction (10 total, on Canvas Discussions). There are three additional homework assignments due throughout the quarter. At the end of the quarter, there will be a final exam. The last component of the course is attendance and participation: there is no substitute for active engagement from everyone during class time. In class, I will assume you've done the assigned reading and then build on what you've read, rather than duplicating it.

Evaluation

1. Weekly Reading Reactions 15%
2. Homework Assignments: 60%
 - (a) Assignment 1 (due 10/11): 20%
 - (b) Assignment 2 (due 11/1): 20%
 - (c) Assignment 3 (due 11/22): 20%
3. Final Exam (Thurs, 12/12): 25%

Grading Scale

Letter grades in this course correspond to the following percentages (no rounding up):

- | | | | |
|--------------|-------------|-------------|-------------|
| • A+: 97-100 | • B+: 87-89 | • C+: 77-79 | • D+: 67-69 |
| • A: 93-96 | • B: 83-86 | • C: 73-76 | • D: 60-66 |
| • A-: 90-92 | • B-: 80-82 | • C-: 90-72 | • F: <60 |

Fine Print

- **Attendance:** I expect you to come to every class session except when illness or other personal circumstances prevent you. I will keep track of attendance each week and forgive up to two absences with no questions asked. This means you do not need to contact me to explain your first two absences. After two absences, I will start deducting points from your final grade for each additional absence. If circumstances require you to miss more than two classes, you and I need to speak in person about alternative ways for you to participate in the course.
- **Participation:** Even though this is a large course, I expect engagement and participation from everyone during class. Attendance is necessary but not sufficient: I encourage speaking up in class so that everyone else can benefit from what you have to say, as well as other forms of participation, such as visiting office hours or sending thoughts over email.
- **Late Work:** I can grant extensions on assignments *if you request them in advance*. If you turn in work late without requesting an extension, we may reduce the grade of an assignment by 5% per day late. In general, however, we are happy to adjust deadlines in response to your circumstances. If you are experiencing difficulties turning in work, please talk to us proactively, rather than waiting until things pile up.
- **Accessibility:** We all learn differently, and I am committed to making this course accessible to everyone. Please come talk to me if some aspect of the course isn't working for you: we can collaborate on alternatives that suit your needs, interests, and learning style. If you have a disability (or think you might), it's also a good idea to contact [Services for Students with Disabilities](#).
- **Technology:** Our phones, tablets, and laptops are crucial tools for learning, yet they are also notorious distractions. I will leave it to you to regulate your technology use. But my expectation is that during class and discussion sessions, you do not check your email, message people, or use the Internet for things that aren't course-related.
- **Academic Integrity:** I take academic integrity very seriously. It's important that all the assignments you complete are your own work and that you know how to credit and cite sources appropriately. **In particular, using chatGPT or other AI tools to help you complete coursework is not permitted.** If you have any questions about my expectations for a particular assignment, be sure to talk to me! I also recommend you read the [UCSD Policy on Integrity of Scholarship](#).

- **Changes to the syllabus:** There is a very good chance I will adjust the course readings and schedule as the quarter goes along. It is your responsibility to pay attention to Canvas and your email so that you are aware of any changes.

Texts

All of the required reading for the course will be posted on Canvas.

Reading Schedule

Date	Content
Mon. 9/30	<ul style="list-style-type: none"> • Topic: Introduction • Required Reading: <i>Sex and Death</i>, Kim Sterelny and Paul Griffiths, ch 1
Wed. 10/2	<ul style="list-style-type: none"> • Topic: Natural Selection • Required Reading: <i>The Blind Watchmaker</i>, Richard Dawkins, ch 2-3
Mon. 10/7	<ul style="list-style-type: none"> • Topic: Species • Required Reading: <i>Philosophy of Biology</i>, Peter Godfrey-Smith, ch 7
Wed. 10/9	<ul style="list-style-type: none"> • Topic: Organisms • Required Reading: "The Problem of Biological Individuality," Ellen Clarke
Mon. 10/14	<ul style="list-style-type: none"> • Topic: Adaptation • Required Reading: "The Spandrels of San Marco and the Panglossian Paradigm," Stephen Jay Gould and Richard Lewontin
Wed. 10/16	<ul style="list-style-type: none"> • Topic: Evolutionary Causes • Required Reading: "Adaptationism and the Logic of Research Questions," Elisabeth Lloyd
Mon. 10/21	<ul style="list-style-type: none"> • Topic: Drift • Required Reading: "Drift: A Historical and Conceptual Overview," Anya Plutynski
Wed. 10/23	<ul style="list-style-type: none"> • Topic: Molecular Evolution • Required Reading: <i>The Tangled Bank</i>, Carl Zimmer, ch 7
Mon. 10/28	<ul style="list-style-type: none"> • Topic: Genes 1 • Required Reading: <i>Genetics and Philosophy</i>, Paul Griffiths and Karola Stotz, selections
Wed. 10/30	<ul style="list-style-type: none"> • Topic: Genes 2 • Required Reading: <i>Genetics and Philosophy</i>, Paul Griffiths and Karola Stotz, selections
Mon. 11/4	<ul style="list-style-type: none"> • Topic: Macroevolution • Required Reading: <i>Sex and Death</i>, Kim Sterelny and Paul Griffiths, ch 12
Wed. 11/6	<ul style="list-style-type: none"> • Topic: Microbiology • Required Reading: <i>Philosophy of Microbiology</i>, Maureen O'Malley, ch 1

Date	Content
Mon. 11/11	<ul style="list-style-type: none"> • Topic: No Class. Veterans Day. • Required Reading: none.
Wed. 11/13	<ul style="list-style-type: none"> • Topic: The Microbiome • Required Reading: "Trivial, Interesting, or Overselling?" Emily Parke
Mon. 11/18	<ul style="list-style-type: none"> • Topic: Cooperation 1 • Required Reading: "The Evolution of Cooperation," Robert Axelrod and William Hamilton
Wed. 11/20	<ul style="list-style-type: none"> • Topic: Cooperation 2 • Required Reading: <i>Philosophy of Biology</i>, Peter Godfrey-Smith, ch 8
Mon. 11/25	<ul style="list-style-type: none"> • Topic: Class Choice • Required Reading: TBD
Wed. 11/27	<ul style="list-style-type: none"> • Topic: No Class. Thanksgiving. • Required Reading: None.
Mon. 12/2	<ul style="list-style-type: none"> • Topic: Class Choice. • Required Reading: TBD.
Wed. 12/4	<ul style="list-style-type: none"> • Topic: Class Choice. • Required Reading: TBD.