

**University of California, Davis**  
**Department of Philosophy**  
**PROSEMINAR (PHILOSOPHY OF BIOLOGY)**  
**PHI 200B (208), Winter 2019**  
**2275 SSH, Tues 3:10-6 PM**

## **Contact information**

**Instructor:** Professor Roberta Millstein

**Office:** 2287 Social Sciences and Humanities (aka SSH, Death Star: corner of 3rd and A)

**Office Hours:** Tues 2-3 PM and by appointment

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## **Required readings**

Required (and optional) readings available on course website on Canvas, [https://  
canvas.ucdavis.edu/](https://canvas.ucdavis.edu/)

## **Course description**

This graduate philosophy “proseminar” will focus on philosophy of biology. In a short time, philosophy of biology has become a very diverse field, lacking universal (or even general) agreement on canonical topics and canonical readings. Yet one useful thing that a proseminar can do is to give a sense of a field as a whole. That can only be done, in my opinion, by embracing the field’s diversity, with the understanding that important topics and authors cannot all be covered in 10 weeks.

As a way in, we will begin with Paul Griffiths’s SEP overview of philosophy of biology, which describes three types of philosophy of biology: 1) general theses in the philosophy of science that are addressed in the context of biology, 2) conceptual puzzles within biology that are subjected to philosophical analysis, and 3) appeals to biology that are made in discussions of traditional philosophical questions. (There are no doubt other types of philosophy of biology, such as articles that focus on contemporary issues of general importance and articles that focus on scientific practice, but Griffiths’s tripartite distinction will suffice for our purposes). Griffiths further points out that philosophy of biology covers various areas in biology, such as evolutionary biology, molecular biology, and ecology. Thus, to gain a sense of the field as a whole, we will explore exemplars of each of the three types, covering a variety of areas of biology. Topics include individuality, race, sex, models, mechanisms/reduction, integration, cancer, generality, and fields/communities and their connections.

## Course requirements

Your grade will be based on the following:

**10% - In-class participation**

**10% - Online participation**

**20% - Coordination of seminars**

**60% - Term paper** - Sketch due by **11 PM Sat, Mar. 9**

Final version due by **11 PM on Sat, Mar. 23**

**In-class participation** - You are expected to come to all classes having done the readings and you are expected to participate regularly in class discussions.

**Online participation** - Post to the Canvas Discussion area **by 1 PM before every seminar** concerning the readings for the day – ask questions, raise objections, give reflections, etc.

**Coordination of seminars:** You will coordinate 1.5 seminars (i.e., for three articles) using a visual aid such as handout or PowerPoint-type slides. Your job as coordinator is to stimulate and lead discussion; *this is not a presentation*. So, you should **1)** Give enough of a summary of the readings to stimulate discussion, but don't attempt a point-by-point summary (we can always turn to the article during discussion if necessary). Be sure to provide an overview of the overall argument. Seek out additional references if necessary. And, **2)** raise issues for discussion (not simply, "what did you think about that?"). As coordinator, it is OK if there are parts of the articles that you didn't understand; ask those questions for group discussion.

**Term paper sketch:** This is meant to be *informal*; the point is to give me enough of an idea of what you plan to write on so that I can approve, redirect, make suggestions, etc., before you spend a lot of time in a possibly unproductive direction. This can be done with an outline, talking to me in my office, etc.

**Term paper:** Your paper may analyze any of the readings discussed in class, any of the optional readings, or offshoots of those readings (follow the citations of class readings or look for papers that cite the class readings). Contact me if you wish to do something other than the above. Be sure to follow "General guidelines for writing and discussion" (see Files area of Canvas). Prepare your paper (more or less) in the style of a *Philosophy of Science* article. Your paper should be approximately 5000 words (the length of a Philosophy of Science Association conference paper).

**Important note on plagiarism/cheating:** It is a violation of the [UC Davis Code of Academic Conduct](#) to turn in work that is not your own. This includes: turning in the work of another student with your name on it, buying/copying a paper off the Internet, using the words *or* ideas of others without proper quotation and citation. The Code states "**if academic misconduct is admitted or is determined by adjudication to have occurred, instructors may assign a grade penalty no greater than 'F' for the course in question**"; *I will follow this, and all other policies outlined in the Code*. If you have trouble with the class material or have personal issues that prevent you from doing your work, come talk to me.

**Tentative Schedule** - All dates and readings are subject to change. I have tried to fit each reading into one or more of Griffiths's "types," using the numbering in the Course Description above, but these categorizations should be considered open for discussion and revision.

Date	Author(s)	Article title	Topic	Type(s)	Area(s) of biology	Coor
Jan 8	Paul Griffiths	Philosophy of Biology	Overview			RLM
Jan 15	Ellen Clarke	The multiple realizability of biological individuals	individuality/organisms	2, 3	evolution	
	Subrena Smith	Organisms as Persisters	individuality/organisms	2, 3	evolution, ecology, development	
Jan 22	Marie Kaiser	Individuating Part-Whole Relations in the Biological World	individuality	2, 3	various	
	Melinda Fagan	Cell and body: individuals in stem cell biology	individuality	2, 3	stem cell biology	
Jan 29	Lisa Gannett	Questions asked and unasked: how by worrying less about the 'really real' philosophers of science might better contribute to debates about genetics and race	race	2, 3	various	
	Catherine Kendig	Race as a physiosocial phenomenon	race	2, 3	various	
Feb 5	Elisabeth Lloyd	Kanzi, evolution and language	language	2, 3	evolution, animal cognition	
	Sandra Mitchell	Anthropomorphism and Cross-Species Modeling	anthropomorphism, animal ethics	2, 3	animal cognition	
Feb 12	Sarah Richardson	Sexes, species, and genomes: why males and females are not like humans and chimpanzees	biological sex	2, 3	genetics	
	Angela Potochnik	Feminist Implications of Model-Based Science	models	1	evolution	
Feb 19	Carla Fehr	Feminism and science: Mechanism without reductionism	mechanisms, reductionism, biological sex	1	various	
	Megan Delehanty	Emergent properties and the context objection to reduction	mechanisms, reductionism	1	molecular biology	
Feb 26	Anya Plutynski	Cancer Research and the Goals of Integration	unification & integration in science	1, 2	cancer biology	
	Katherine Liu, Alan Love, & Michael Trivisano	How cancer spreads: Reconceptualizing a disease	conceptualizing cancer	2	cancer biology	
Mar 5	Alkistis Elliott-Graves	Generality and Causal Interdependence in Ecology	generality	1, 2	ecology	
	Gillian Barker & John Odling-Smee	Integrating Ecology and Evolution: Niche Construction and Ecological Engineering	integration, generality	1, 2	ecology, evolution	
Mar 12	Lindley Darden & Nancy Maull	Interfield Theories	fields, interfield theories	1	cytology, genetics, biochemistry	
	Sarah Roe	The Journey from Discovery to Scientific Change: Scientific Communities, Shared Models, and Specialised Vocabulary	communities, communication	1	molecular biology	