

Introduction to Philosophy of Science, Spring 2019 (Bard Prison Initiative - Coxsackie)

Professor: Dr. Mike Thicke

In our society, science is a model of objectivity, rationality, trustworthiness, and progress. But is this image of science justified? In this course we will examine the nature of scientific inquiry, asking questions such as, “Is there a scientific method, and if so, how does it work?”, “How can we tell good science from bad science?”, “Does science make progress?”, and “Is science objective or does it inevitably reflect of our social values?” We will explore arguments about these questions from philosophers including Francis Bacon, Karl Popper, Thomas Kuhn, and Heather Douglas. At the end of the course we will apply what we’ve learned to current issues in medicine through Jacob Stegenga’s 2018 book, *Medical Nihilism*.

Introduction to Philosophy of Science is a writing intensive course. The writing component will center on three essays, each with an initial paper and a revision. Additionally, there will be small assignments designed to prepare you for writing the essays. A core principle of writing instruction at Bard is that there is a fundamental link between writing and thinking: writing is not an endpoint of our thought process, but integral to it. Therefore, revision is essential to the writing process. Each essay will need to be revised, and those revisions should reflect changes in your thinking, as you discuss your topic with classmates, me, your writing fellows, and others.

Grade Breakdown

Small Assignments	15%
Essay #1	25%
paper	10%
revision	15%
Essay #2	25%
paper	10%
revision	15%
Essay #3	25%
paper	10%
revision	15%
Participation	10%

Grading Scale

A	90-100%	B-	70-75%	D	50-60%
A-	85-90%	C+	67-70%	F	< 50%
B+	80-85%	C	63-67%		
B	75-80%	C-	60-63%		

Essays

- You are responsible for three 4-5 page papers during the term. For each paper, you will write a paper and revision. Each component is due in class on the day indicated by the schedule.
- Each paper will be graded by me according to the assignment requirements I set out. When I assign each paper, I will explain the requirements and we will discuss the grading rubric together.
- When you submit your paper and revision, you should include a short (~1 page) explanation of your writing process: how you went from your initial idea to your essay and how you have revised that essay in consultation with me, other students, and your writing fellow. Submitting this will count towards your essay grade.
- Your initial paper must be a full paper. It is not a draft, or a partial beginning. It will be graded as a final product.
- Your revision should demonstrate significant *rethinking* of your argument, not just editing. Revisions that are merely edited or corrected versions of your initial paper will receive a lower grade.
- It is important to submit your work by the assigned due dates, as it can be very difficult to catch up once you have fallen behind. If circumstances prevent you from submitting your work on time, please talk with me so that we can determine the best course of action. Late work may incur a penalty to your grade.

Short Assignments

- There will be several short assignments throughout the course. These assignments are designed to build essential writing skills that will help you to draft and revise your essays. Short assignments are due on the date indicated by the course schedule and will normally be assigned the class before they are due. Short assignments can be handwritten, though you are welcome to type them if you wish.

Writing Fellows

- Writing fellows are trained to assist you in all stages of writing your paper, from conception to final editing. You are required to meet with a Bard writing fellow at least twice for each paper (once for the paper and once for the revision). Sharing your work with fellow students can also be very helpful, but this is not a substitute for consulting with the Bard writing fellows.

Class Participation

- Class participation is essential to succeeding in the course. During class, you will frequently be writing in your notebooks, discussing questions with the entire class or in smaller groups, and working on exercises with a partner. Your participation grade depends on participating fully in all of these areas. You aren't required to say something in each discussion, but to be attentive when other people are speaking and to make considered contributions when you can.
- **Always bring the assigned texts to class as well as your notebook;** a considerable amount of each session will be spent in close textual analysis and nearly every class will involve writing.
- This class depends on all of us working together and trusting each other. Each member of the class has the responsibility to help each other member of the class understand the texts and produce the best work they can. You will be frequently be asked to read and comment on each

other’s work. This class isn’t a competition; if we all work together there is no reason that every student cannot get a top grade.

BPI Attendance Policy

- The classroom is the essential site of the academic work of the college, and any student enrolled in Bard is expected to attend each and every class. This is particularly important in a context where office hours and other opportunities for supplementary time with faculty are limited.
- Twice-a-week courses: If a student misses four classes, he or she may fail or be withdrawn from the course by the BPI administration.

Academic Honesty

- Academic honesty means giving credit to others when you borrow their ideas or work. Failing to give proper credit is called “plagiarism” and is one of the worst offenses in the academic world. In class we will be learning when and how to give credit, and I will expect you to apply those lessons to your own work. If you are ever unsure about whether you need to give credit, or how to do so, you can ask me or your writing fellow.

Schedule

You are responsible for having read the assigned reading before each class and for submitting assignments on time. I will try to remind you about readings and assignments, but ultimately it is your responsibility to follow the schedule.

Date	Readings	Assignment
2-4		
2-7	<ul style="list-style-type: none"> • Snow, John. <i>On the Mode of Communication of Cholera</i>. John Churchill, 1855. Print. (excerpts) • Evans, Alfred S. “Two Errors in Enteric Epidemiology.” <i>Reviews of Infectious Diseases</i> 7.3 (1985): 434–440. 	Analysis #1
2-11	<ul style="list-style-type: none"> • McCarthy, Shawn. “Darwin v. Intelligent Design; Eighty Years After the Scopes Monkey Trial, Teaching Evolution Is Back in a U.S. Court.” <i>The Globe and Mail</i> 28 Sept. 2005. • Kauffman, Christina. “Scientists Urge Judge to Deny Parents' Claim.” <i>The York Dispatch</i> 6 Oct. 2005. • Kauffman, Christina. “‘Worst Thing’ in Science Education.” <i>The York Dispatch</i> 13 Oct. 2005. 	Analysis #2
2-14	<ul style="list-style-type: none"> • Fine, Cordelia, and Joe Herbert. “Is Testosterone the Key to Sex Differences in Human Behaviour?.” <i>The Psychologist</i> (2017). 	Analysis #3
2-18	<ul style="list-style-type: none"> • Lipton, Peter. “The Medawar Lecture 2004: The Truth About Science.” <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> 360.1458 (2005): 1259–1269. 	
2-21	<ul style="list-style-type: none"> • Weston, Anthony. <i>A Rulebook for Arguments</i>. Hackett Publishing Company, 2017. (Chapters 1, 2, 3, 6) 	Essay #1 assigned

2-25	<ul style="list-style-type: none"> Bacon, Francis. <i>The New Organon</i>. Ed. Lisa Jardine and Michael Silverthorne. Cambridge: Cambridge University Press, 2000. (excerpts) 	Close reading
2-28	<ul style="list-style-type: none"> Hume, David. <i>An Enquiry Concerning Human Understanding</i>. 2008. (excerpts) 	
3-4	<ul style="list-style-type: none"> Carnap, Rudolf. <i>The Elimination of Metaphysics Through Logical Analysis of Language</i>. 2007. 	Essay #1
3-7	<ul style="list-style-type: none"> Ayer, A J. <i>Language, Truth and Logic</i>. Penguin Books, 1936. (Chapters 1 & 2) 	Essay #1 returned
3-11	<ul style="list-style-type: none"> Popper, Karl Raimund. "The Problem of Induction." <i>Philosophy of Science: The Central Issues</i>. Ed. Martin Curd and J A Cover. W. W. Norton & Company, 1998. 426–432. 	
3-14	<ul style="list-style-type: none"> Koertge, Noretta. "The Moral Underpinnings of Popper's Philosophy." <i>Rethinking Popper</i>. Springer, 2009. 323–338. 	
3-18	<ul style="list-style-type: none"> Duhem, Pierre. "Physical Theory and Experiment." <i>Philosophy of Science: The Central Issues</i>. Ed. Martin Curd and J A Cover. W. W. Norton & Company, 1998. 257–279. 	Essay #1 revision
Spring Recess		
3-28	<ul style="list-style-type: none"> Quine, W V O. "Two Dogmas of Empiricism." <i>Philosophy of Science: The Central Issues</i>. Ed. Martin Curd and J A Cover. W. W. Norton & Company, 1998. 280–302. 	Explanation
4-1	<ul style="list-style-type: none"> Popper, Karl Raimund. "Science: Conjectures and Refutations." <i>Philosophy of Science: The Central Issues</i>. Ed. Martin Curd and J A Cover. W. W. Norton & Company, 1998. 3–10. 	
4-4	<ul style="list-style-type: none"> Laudan, Larry. "The Demise of the Demarcation Problem." <i>Physics, Philosophy, and Psychoanalysis</i>. Ed. R S Cohen and L Laudan. Vol. 76. Dordrecht: Springer Netherlands, 1983. 111–127. Boston Studies in the Philosophy of Science. 	Reverse outline
4-8	<ul style="list-style-type: none"> Kuhn, Thomas S. <i>The Structure of Scientific Revolutions</i>. University of Chicago Press, 1996. (Chapters 1-3) 	
4-11	<ul style="list-style-type: none"> Weston, Anthony. <i>A Rulebook for Arguments</i>. (Chapters 7-8) 	Essay #2 assigned
4-15	<ul style="list-style-type: none"> Kuhn, Thomas S. <i>The Structure of Scientific Revolutions</i>. (Chapters 4, 6) 	
4-18	<ul style="list-style-type: none"> Kuhn, Thomas S. <i>The Structure of Scientific Revolutions</i>. (Chapters 9-10) 	
4-22	<ul style="list-style-type: none"> Mayo, Deborah G. "Ducks, Rabbits, and Normal Science: Recasting the Kuhn'S-Eye View of Popper'S Demarcation of Science." <i>British Journal for Philosophy of Science</i> 47.2 (1996): 271–290. 	Essay #2
4-25	<ul style="list-style-type: none"> Levi, Isaac. "Must the Scientist Make Value Judgments?." <i>The Journal of Philosophy</i> 57.11 (1960): 345–357. 	Essay #2 returned
4-29	<ul style="list-style-type: none"> Douglas, Heather. "The Moral Responsibilities of Scientists (Tensions Between Autonomy and Responsibility)." <i>American Philosophical Quarterly</i> 40.1 (2003): 59–68. 	
5-2	<ul style="list-style-type: none"> Longino, Helen E. "Multiplying Subjects and the Diffusion of Power." <i>The Journal of Philosophy</i> 88.11 (1991): 666–674. 	Essay #2 revision
5-6	<ul style="list-style-type: none"> Stegenga, Jacob. <i>Medical Nihilism</i>. Oxford University Press, 2018. (Chapter 1) 	Essay #3 assigned

5-9	<ul style="list-style-type: none"> Stegenga, Jacob. <i>Medical Nihilism</i>. (Chapters 2-4) 	
5-13	<ul style="list-style-type: none"> Stegenga, Jacob. <i>Medical Nihilism</i>. (Chapters 5-9) 	Essay #3
5-16	<ul style="list-style-type: none"> Stegenga, Jacob. <i>Medical Nihilism</i>. (Chapters 10-12) 	Essay #3 returned
5-20		
5-23		Essay #3 revision