

Philosophy of Science

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COURSE DESCRIPTION

A primary goal of this course is for students to develop deeply considered views about science and other kinds of knowledge. This goal will be achieved through examination of and reflection on philosophical problems and ideas about science, such as the nature, authority, and ownership of scientific knowledge. Students will develop the skills to think critically about science, its relation to the world and society, how it works and what it tells us.

The course material will be organized thematically. The main topics covered are: the relation between science and philosophy, what makes a theory scientific, the diversity of the sciences, progress in science, criticisms of science, and the relation between science and politics.

This course satisfies the upper-division General Education (GE) Humanities & Arts requirement in the Science, Technology and Values (STV) pathway. The following GE Student Learning Outcomes (SLOs) will be specially promoted in this course:

- *Active Enquiry* will be promoted through online discussions, quizzes, and short writing assignments that require students to show their understanding of complex philosophical arguments.
- *Written Communications* will be promoted through regular short written responses to the assigned reading and one longer essay.
- *Critical Thinking* will be promoted throughout the course through the introduction of a variety of philosophical views about science that often conflict with standard views as well as each other. Students will be asked to assess these views in both quizzes and written assignments.

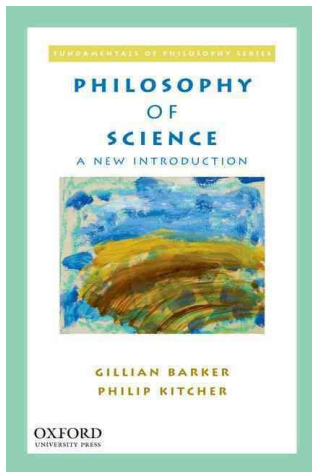
The STV pathway also has its own SLOs that serve to make the courses of the pathway coherent. This course will address the following distinctive STV SLOs:

- *Research Techniques* will be promoted through the longer essay assignment.

- *Scientific Process* will be promoted throughout the course, but there will be a special emphasis on this idea in the explanation of Popper's and Kuhn's views.
- *Responsible Use* will be promoted through criticisms of science.
- *Use of Science and Technology* will be promoted through discussion on the relation between science and politics.
- *Impact* will be promoted throughout the course, but especially in discussions of Popper, Kuhn, and feminist philosophy of science.

TEXTS

Gillian Barker & Philip Kitcher, *Philosophy of Science: A New Introduction* (Oxford University Press, 2014)



Additional articles posted on Blackboard Learn.

GRADING

Your course grade is based on the score you get out of a total of 200 points:

- 30 points for attendance: you may miss 3 classes with no penalty; after that, you lose 2 points for each class you miss.
- 80 points for 4 multiple-choice quizzes. Each quiz is 20 points and has 20 questions.
- 60 points for 3 short-question writing assignments. Each assignment is 20 points and has 5 questions.
- 30 points for a final paper of about 1,000 words.

** This class has no final exam.*

Grade conversion:

181-200 points : A	171-180 points : A-	161-170 points : B+
151-160 points : B	141-150 points : B-	131-140 points : C+

121-130 points : C 111-120 points : C- 101-110 points : D
 100 and below : F

UNIVERSITY POLICIES AND CAMPUS RESOURCES

Adding and Dropping: You are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. found at <http://www.csuchico.edu/catalog/>. You should be aware of the new deadlines and penalties for adding and dropping classes.

Academic Integrity: Students are expected to be familiar with the University's Academic Integrity Policy. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct for this course can be found at:
<http://www.csuchico.edu/sjd/integrity.shtml>.

Disability Services: Any student who feels s/he may need an accommodation based on the impact of a disability should contact me to discuss your specific needs. You can also contact the Disability Support Services office to coordinate reasonable accommodations for your needs. Disabilities Support Services online: <http://www.csuchico.edu/dss/studentServices/>.

SCHEDULE

1/20-1/23	Chapter 1 Science and Philosophy
	First short assignment due on 1/26
1/26-1/30	Naomi Oreskes, "The Scientific Consensus on Climate Change: How Do We Know We Aren't Wrong?"
	First quiz on 2/4 (Ch.1 & Oreskes article)
2/2-2/6	Chapter 2 The Analytic Project
2/9-2/13	Chapter 2 The Analytic Project (continued)
	Second short assignment due on 2/16
2/16-2/20	Karl Popper, "Science: Conjectures and Refutations"
2/23-2/27	Chapter 3 The View from the Sciences
3/2-3/6	Chapter 3 The View from the Sciences (continued)
	Second quiz on 3/11 (Ch. 2 & Ch.3)

3/9-3/13	Chapter 4	Science, History, and Society
3/16-3/20	Spring Break	
3/23-3/27	Chapter 4	Science, History, and Society (continued)
	Third short assignment due on 3/30	
3/30-4/3	Philip Kitcher, "Challenges for Secularism"	
	Third quiz on 4/8 (Kitcher article & Ch.4)	
4/6-4/10	Thomas Kuhn, "Objectivity, Judgment, and Theory Choice"	
4/13-4/17	Chapter 5	Critical Voices
4/20-4/24	Chapter 5	Critical Voices (continued)
	Fourth quiz on 4/29 (Kuhn article & Ch.5)	
4/27-5/1	Chapter 6	Science, Values, and Politics
5/4-5/8	Chapter 6	Science, Values, and Politics (continued)
	Final paper due on 5/11	