

**San José State University**  
**Philosophy Department**  
**Philosophy 160: Philosophy of Science**  
**Section 3, Fall 2015**

**Instructor:** Kyle Yrigoyen

**Office Location:** FOB 233

**Telephone:** 408.924.4474

**Email:** kyle.yrigoyen@sjsu.edu

**Office Hours:** M W 12-1pm or by appt.

**Class Days/Time:** T R 1:30-2:45pm

**Classroom:** DMH 149B

**GE/SJSU Studies Category:** Area R: Earth and Environment

**Course Description**

Scientific methodology, explanation and verification; science and society. Varying topics from physical, biological and social sciences.

**Course Goals and Student Learning Objectives**

This is an introductory course in philosophy of science. Therefore, we will cover basic concepts of philosophical argumentation and reasoning, both formal and informal, and their relationship to science. The first few weeks we will devote to the history of modern philosophy, leading into the 20<sup>th</sup> century and the logical positivist movement. We will then continue in synoptic fashion, exploring and evaluating philosophy of science in the mid to late 20<sup>th</sup> century, until the present.

**A word from the Academic Senate:**

“Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five hours over the length of the course (normally three hours per unit per week with one of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.”

Upon successful completion of this course, students will be able to:

1. Offer an articulate idea of what science is, what it does or attempts to do, and how to distinguish science from pseudoscience.
2. Critically examine various perspectives about science, its methods, and the limits of scientific investigation.
3. Identify different perspectives about the nature of scientific theories, theory change, and the progress of science, with consideration to theories of rationality and truth.
4. Practically apply scientific methodology in answering questions about the earth, environment, and the role of scientific knowledge and expertise in civic life.

### **Required Texts/Readings**

#### **Textbook**

P. Godfrey-Smith, *Theory and Reality*

Additional resources are available upon request.

### **Classroom Protocol**

Regular attendance and class participation is expected and encouraged. Please arrive early if possible: it is your responsibility to make it to class on time. Please come to class prepared with the right materials. From time to time we will discuss controversial subjects, so I expect everyone to treat one another with respect and courtesy. If you have a question, please do not speak out of turn, but raise your hand. I do not allow audio or video recording devices in class. And please, do not send or read text messages during lecture. Be sure to set your phone to silent or, preferably, just turn it off.

### **Dropping and Adding**

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's [Catalog Policies](http://info.sjsu.edu/static/catalog/policies.html) section at <http://info.sjsu.edu/static/catalog/policies.html>. Add/drop deadlines can be found on the [current academic calendar](http://www.sjsu.edu/academic_programs/calendars/academic_calendar/) web page located at [www.sjsu.edu/academic\\_programs/calendars/academic\\_calendar/](http://www.sjsu.edu/academic_programs/calendars/academic_calendar/). The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/policy/) is available at [www.sjsu.edu/aars/policies/latedrops/policy/](http://www.sjsu.edu/aars/policies/latedrops/policy/). Students should be aware of the current deadlines and penalties for dropping classes. Information about the latest changes and news is available at the [Advising Hub](http://www.sjsu.edu/advising/) at <http://www.sjsu.edu/advising/>.

## Assignments and Grading Policy

Normal Grade Rules apply. Here are the grade-scales:

Class participation:	10%	
Short essays:	15%	
Paper 1:	15%	
Midterm:	20%	
Paper 2:	15%	
Final exam:	25%	take home, due Dec. 15th before 5pm in FOB 201/233.
Total:	100%	

A+	98-100%	B+	87-89%	C+	77-79%	D+	67-69%
A	93-97%	B	83-86%	C	73-76%	D	60-66%
A-	90-92%	B-	80-82%	C-	70-72%	F	0-59%

## University Policies

### Academic integrity

Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The [University's Academic Integrity policy](http://www.sjsu.edu/senate/S07-2.htm), located at <http://www.sjsu.edu/senate/S07-2.htm>, requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at <http://www.sjsu.edu/studentconduct/>.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU's Academic Policy S07-2 requires approval of instructors.

### Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at <http://www.sjsu.edu/aec/> to establish a record of their disability.

## Phil. 160: Philosophy of Science, Sec. 3 Fall 2015 Course Schedule

(Note: the schedule is subject to change with fair notice, as given during lecture. Readings TBA in class.)

Week	Date	Topics, Readings, Assignments, Deadlines
1	Aug. 20	Introductory remarks, etc.
2	Aug. 25, 27	Intellectual origins of science; History of 17 <sup>th</sup> and 18 <sup>th</sup> century philosophy
3	Sept. 1, 3	Logical Positivism. Read Ch. 1 TR
4	Sept. 8, 10	Logical Positivism cont'd. Ch. 2 TR; begin Ch. 3 TR
5	Sept. 15, 17	What's a Theory?; Problem of Induction; begin Popper; Ch. 3 TR cont'd; begin Ch. 4 TR
6	Sept. 22, 24	Induction and Confirmation; Popper; Falsificationism; Ch. 4 TR
7	Sept. 29, Oct. 1	What's pseudoscience? The Demarcation Problem; Models of Scientific Change; Kuhn; "Paradigms"; Ch. 4 TR; begin Ch. 5 TR <b>Paper 1 due, Thurs. Oct. 1</b>
8	Oct. 6, 8	Kuhn; "Paradigms"; Scientific Revolutions; Ch. 5 TR
9	Oct. 13, 15	Kuhn; responses to Kuhn; relativism; "incommensurability"; Ch. 6 TR
10	Oct. 20, 22	After Kuhn; Lakatos; Laudan; rationalism; Research Programs; Ch. 7 TR
11	Oct. 27, 29	Feyerabend; Sociology of Science; Merton and the Old School; Ch. 8 TR <b>Midterm, Thurs. Oct. 29</b>
12	Nov. 3, 5	Sociology of Science; Merton and the Old School; Ch. 8 TR SSK and the Strong Programme; Barnes & Bloor; Latour; Ch. 8 TR
13	Nov. 10, 12	Rationalism & Relativism in structures; Realism & Anti-realism; Ch. 12 TR
14	Nov. 17, 19	What is Scientific Knowledge? Science Studies; Feminist and Social Epistemology; Anderson; Solomon; Kourany; Ch. 9 TR
15	Nov. 24, 26	Values in Science; the Value-Free Ideal; Solomon; Ch. 9 TR cont'd. <b>Nov. 26, 27 - Thanksgiving Holiday - Campus Closed - No Lecture</b>
16	Dec. 1, 3	Douglas; Science and Society; Environmental and Social Impact of Scientifically Informed Policy; the Scientific Advisor <b>Paper 2 due, Thurs. Dec. 3</b>
17	Dec. 8	Last day of class; review for final exam. Final exam distributed.
Final Exam	Dec. 15	<b>Tuesday, Dec. 15, due before 5pm in FOB 201/233.</b>

### Important Dates: Fall 2015

Found at: <http://www.sjsu.edu/registrar/calendar/2154/>

**Tuesday, September 1**

Last day to drop a class without a "W" grade

**Wednesday, September 9**

Last day to add Last day to submit Audit option

Last day to submit Credit/No Credit grading option

Last day to submit Instructor Drops

**Friday, November 13**

Last Day to withdraw - Withdrawal from the Semester Request on AARS website

**Tuesday, December 8**

Last day of instruction

**Thursday-Friday, December 10-11 & Monday-Wednesday, December 14-16**

Final Exams (Exam Schedule)

**Tuesday, December 22**

Fall 2015 grades viewable on MySJSU