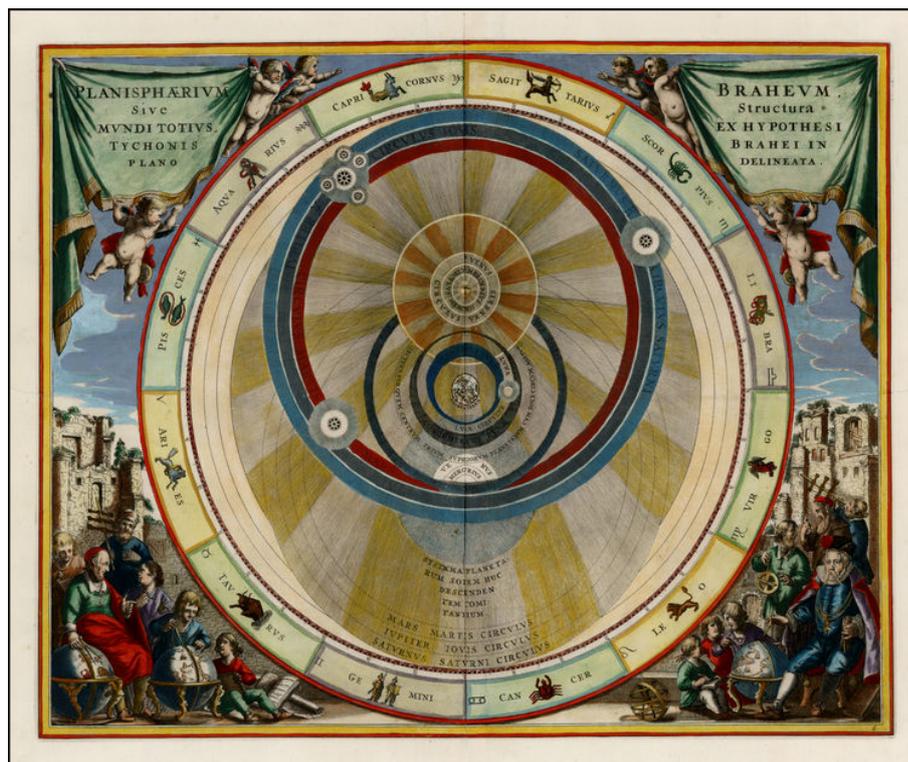


# PHIL 145

## PHILOSOPHY OF SCIENCE



**Winter 2017**

**Instructor:** Kerry McKenzie

kmckenzie@ucsd.edu

**Classes:** SOLIS 110, TuTh 12.30-1.50pm until February 6; thereafter SEQUO 147.

**Office: Office Hours:** Tues3-5pm, HSS 8088.

## SCHEDULE OF CLASSES

<i>Wk: Date</i>	<i>Topic</i>
1: 01/10	1. <i>Introduction and Overview</i> (Ladyman, Chap 1)
1: 01/12	2. <i>Introducing Induction</i> (Ladyman, Chap 1)
2: 01/17	3. The Problem of Induction (Lipton; Earman & Salmon 2.5 and 2.6. )
2: 04/07	4. <i>Introducing Unobservables</i> (Earman & Salmon, up to 2.3.)
3: 01/19	5. Underdetermination of Theory by Data (Earman and Salmon 2.3, Douven)
3: 01/24	6. Virtues of Theories (TBC)
4: 01/26	7. Justifying the HD-method (van Fraassen excerpt / Kitcher (optional))
4: 01/31	8. The Duhem-Quine problem (Gillies excerpt; Duhem excerpt (optional))
5: 02/02	9. Science and Values (Okruhlik)
5: 02/07	10. Science and Values cont'd.
6: 02/09	11. Essay Exchange / Discussion / Trouble shooting
6: 02/14	12. <i>Introducing Demarcation</i> (Johansson) <b>Midterm paper due</b>
7: 02/16	13. Defining Science I: Popper ('Science as Falsification' / Newton-Smith)
7: 02/21	14. Defining Science II: Kuhn ('Psychology of Research')
8: 02/23	15. Defining Science III: Lakatos ('Science and Pseudoscience')
8: 02/28	16. Defining Science IV: Laudan ('The Demise of the Demarcation Problem')
9: 03/07	17. <i>Introducing Laws of Nature</i> (Bird)
9: 03/09	18. Humean Best System Analyses (Beebee)
10: 03/14	19. Necessitarian Analyses (please ask if extra reading needed).
10: 03/16	20. Envoi
11: 03/21	<b>Exam.</b> 11.30-2.29.

# 1 Objectives, methods, requirements

## 1.1 What this course is about

This course concerns a topic of great social, philosophical, and personal significance: the nature and justification of scientific knowledge. Upon completion of the course, you should be in a position to critically discuss, and form an opinion on, a range of central topics in the philosophy of science including: how the nature and structure of scientific justification should be understood; whether the reasons for acceptance of scientific claims can be regarded as rational, or as value-free; whether science makes ‘progress’, and if so, in what progress consists; how ‘laws of nature’ ought to be conceived of metaphysically; and what makes a field ‘scientific’ in the first place.

## 1.2 Assessment

There are three parts to your assessment.

- Five surprise short in-class quizzes, each worth 3%.
- Tuesday 14th February: midterm paper of between 1,500 and 2,000 words (40%).
- Tuesday 21st March, 11.30am-2.30pm: exam (45%).

**Quizzes.** These will be easy tests on previously assigned reading and concepts and will not be announced ahead of time. **NB:** if 70% or more of you have submitted a review of the course via CAPE by the last week of term, everyone will score full marks on the final test.

**Exam.** You will write two essays on questions already seen. One of these essays may answer one of the questions from the midterm, provided that you did not already answer it (or a close relative) in the midterm. **You must clear it with me in advance if you wish to do this.**

**Midterm paper.** Your paper should be between 1,500 and 2,000 words long and should be submitted in class on **Tuesday 14th February**. In class we will discuss the sort of thing I’m looking for you in your term paper and mini exam essays. But in grading your essay I will be looking for three things, weighted roughly equally:

**Comprehension:** good understanding of the concepts and ideas employed in the essay.

**Argument:** strong support for the conclusion given the premises, and good defence of the premises themselves.

**Clarity:** presentation of the concepts and ideas, and the structure of the argument itself, in a clear and efficient manner.

**Engagement:** evidence of independent and original thinking about the ideas under discussion.

You must submit both a hard copy of your paper to me in class as well as submit it through Turnitin, via a link on TED. I reserve the right to ask you a few questions in person about your essay before administering a grade. **Note:** While I do not want to discourage you from reading, if you find yourself drawing heavily on readings other than the assigned material, I advise you to clear it with me before you submit your essay.

**Grading scale.** I will be assigning letter grades for your exam and term paper corresponding to these marks:

$97 - 100 = A^+$	$87 - 89 = B^+$	$77 - 79 = C^+$	$67 - 69 = D^+$
$93 - 96 = A$	$83 - 86 = B$	$73 - 76 = C$	$60 - 66 = D$
$90 - 92 = A^-$	$80 - 82 = B^-$	$70 - 72 = C^-$	$< 60 = F$

The final letter grade you receive however will be ‘graded to the curve’, so that the top 20-30% of students will get a grade in the A range, the next 25-35% a grade in the B range, the next 25-30% a grade in the C range, and the remaining 5-25% a D or an F. This is the minimum I guarantee; if the class has worked well and no-one deserves a D or an F, the curve will be adjusted accordingly.

### **Academic Integrity.**

UCSD is committed to academic integrity. According to their *Policy on Integrity of Scholarship*,<sup>1</sup>

“Integrity of scholarship is essential for an academic community. The University expects that both faculty and students will honor this principle and in so doing protect the validity of University intellectual work. For students, this means that all academic work will be done by the individual to whom it is assigned, without unauthorized aid of any kind.”

If you are unsure in any way of what acting with integrity demands of you in this context, I’ll be happy to discuss it with you.

**Set reading.** There is no set textbook for the course: instead readings will be issued week by week (see the schedule of classes.) Everything you need will be supplied via TED, but don’t hesitate to ask for additional reading or resources. Please do not hesitate to raise in class anything in the readings – such as logical or other technical terminology – that you found unclear. (It will be helpful for me too.)

**Office hours.** I run office hours in H&SS 8088, Tuesdays 3-5. Please view office hour as another resource available to you. If my scheduled OH time does not suit your schedule, don’t hesitate to get in touch and we will arrange a time that does.

**Phones etc.** Please put your phones away during class: they distract you and other people around you. I may ask you to leave if you fail to respect this.

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<sup>1</sup>For the full statement, go to <https://students.ucsd.edu/academics/academic-integrity/policy.html>