Syllabus for Philosophy 321G: Philosophy of Science
T/R: 11:30 – 1:00, Psychology 249
Instructor: Shannon Spaulding

Contact Information

Office: 101 Wilson Hall
Office Phone: (314) 935-9531
Office Hours: Tuesday 2:00 – 4:00 pm, or by appointment

Email: sspauld@artsci.wustl.edu

Course Description

This course will be a semester long discussion of the philosophy of science. As a group, we will try to come to the most reasonable answers that we can to the following questions: What are scientific theories, and what distinguishes them from pseudo-scientific theories? How should we understand scientific revolutions, like the shift from the earth-centered Ptolemaic model of the universe to the sun-centered Copernican model of the universe? Is science objective? If it’s not, does that undermine its legitimacy? How should the Problem of Induction inform scientific theorizing? What are scientific laws, and how do they explain phenomena? Does all science ultimately reduce to quantum physics (or some lower level)? Does science aim to make true claims about the world? Do electrons and quarks really exist, or are they merely convenient fictions?

Each member of this class is expected to come to his or her own conclusions and defend them as best s/he can. You are not graded on what your opinion is. You are graded on your ability to reason through, argue for, defend, and express your ideas clearly and cogently. Consequently, a primary goal of this course is to teach you how to analyze arguments – to dissect and evaluate them – and to learn the tools and methods of reasoning needed for such an analysis.

Required Texts (available at the University Bookstore)

* Godfrey-Smith, P. Theory and Reality: An Introduction to the Philosophy of Science University of Chicago Press. (GS below)
* T = Telesis

Graded Assignments

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<tr>
<th>Assignment</th>
<th>Percentage</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Paper 1 (5-7 pp.)</td>
<td>25%</td>
<td>Tuesday, February 7</td>
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<tr>
<td>Take-home exam 1</td>
<td>25%</td>
<td>Tuesday, March 28</td>
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<tr>
<td>Take-home exam 2</td>
<td>25%</td>
<td>Tuesday, April 3</td>
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<tr>
<td>Paper 2 (5-7 pp.)</td>
<td>25%</td>
<td>Monday, April 27</td>
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For the two papers, I will provide a list of possible topics to you, but you are welcome to select a topic that is not on the list. You MUST receive approval from me if you choose to do this.

The two mid-term exams will be take-home exams consisting of several short essays (2 – 3 paragraphs each). I will give you the take-home exam approximately a week before it is due. You may work together with your classmates on the take-home exam, but I expect your answers to be your own. Answers that are identical or even very similar will be severely penalized.

**A Few Guidelines**

Turn off your cell phones when you come to class.
Do not read the newspaper, do Sudokus or crosswords in class.
Do not play on facebook, check email or otherwise surf the internet during class.
Try your best not to be late. If you have trouble getting here on time because you are walking here from across campus, then please talk to me about it. Otherwise, chronic lateness will affect your final grade.
If you fall asleep once in this class, I will embarrass you in front of the class. If you fall asleep twice, we will need to have a talk about appropriate behavior in class. If you fall asleep three times or more, then I will deduct points off your final grade. If you need sleep, there are far better places to get it than in my classroom, both in terms of comfort and of your final grade.

**Late Work Policy**

Late work will be accepted with a penalty of five (5) points per day. Work that is turned in later than one week from the due date will receive a zero (0). Extensions will be granted on a case-by-case basis and only for a sufficiently good reason (I reserve the right to judge whether a given reason is sufficiently good). Work must be turned in in class. I do not accept written work over email.

**Attendance Policy**

As you have noticed, in this class you do not get points for attending and participating in class. Attendance and participation are basic requirements for succeeding in this class. Attendance and participation are both expected and required. Your grade will suffer should you choose not to attend and participate in class. Your participation in class benefits you, other students and makes class interesting. For reasons of personal health and/or sanity, it may be necessary to take a day or two off during the semester. Of course, too many absences will affect your final grade (missing more than four classes is “too many,” except in cases of health or family emergencies).

**Disabilities**

I urge any student who has physical or learning disabilities that will affect class attendance or performance to speak with me during the first week of class. I will work with the Cornerstone to accommodate your needs.
Contact Policy

My office hours are for your benefit, so please use them. I am always willing to make appointments to meet if my office hours are not conducive to your schedule. E-mail is the best way to contact me. Usually, you can expect a speedy response. As a rule, however, you should always allow 24 hours for a response to an email. If I have not responded within 24 hours, feel free to send me a “friendly” reminder.

Should you feel uncomfortable discussing the content or the teaching of this course with me, please feel free to contact Kit Wellman, the chair of the Philosophy department. His email address is kwellman@artsci.wustl.edu.

Policy on Written Work

All written work must be typed and double-spaced with one-inch margins on all sides using either Times New Roman, 12 point font or a similar font and type size. All typed assignments must be stapled. I am not responsible for lost pages of unstapled papers. Seeing that your work is complete and well organized is your responsibility and is part of handing in a finished product. Unstapled papers will automatically be lowered by ½ of a letter grade (five points).

Plagiarism

Plagiarism is a very serious offense and will not be tolerated. If I catch you plagiarizing, you will receive a zero on the assignment and an F in the course. Furthermore, for any case of plagiarism, I will push for the severest penalty allowed by the university (namely, expulsion). Please consult the “Academic Integrity Policy” that is published by the Dean of Students Office for guidelines on how to avoid plagiarism.

Reading Schedule

1/19 Introduction                          GS 1

Topic 1: Positivism and Demarcation

1/24 Positivism                       GS 2, Ayer CC
1/26 Demarcation                    Thagard CC 27, Lakatos CC 20
1/31 Demarcation: Evolution         Ruse CC 38, Laudan CC 48, Ruse CC 54
2/2 Demarcation: Intelligent Design  Behe T, Sober T

2/7 First paper due

Topic 2: Induction and Evidence

2/7 Problem of induction             Lipton CC 412
2/9 Positivist approaches to confirmation GS 3
2/14 Popper                          Popper CC 3 and 427
2/16 Class canceled                  GS 4
2/21 Discussion
2/23 Underdetermination CC 355-401

2/28 First take-home exam due

Topic 3: History and the Advance of Relativism

2/28 Kuhn and normal science Kuhn CC 86
3/1 Discussion GS 5
3/6 Kuhn and revolution Kuhn CC 102
3/8 Discussion GS 6
3/13 No class – Spring break
3/15 No class – Spring break
3/20 Feminist philosophy of science Longino CC 170
3/22 Class canceled
3/27 Feminist philosophy of science Okruhlik CC 192
3/29 Discussion GS 9

4/3 Second take-home exam due

Topic 4: Philosophy and the Tenability of Realism

4/3 Arguments about realism van Fraassen CC 1064
4/5 Discussion GS 12
4/10 Intervention and realism Hacking CC 1153
4/12 Discussion Resnick CC 1169
4/17 Fist pounding Fine 1186
4/24 Class wrap-up and paper workshop

4/27 Second paper due