PHIL 356 A01 - Spring 2019
Philosophy of Science
Understanding Science as a Human Practice

Instructor: Eric Hochstein
CRN: 22373
Time: Tuesday/Wednesday/Friday 12:30 PM – 1:20 PM
Place: Clearihue Building A212
Office Hours (in Clearihue B330) Tuesday, 2:30-4:30 pm; and by appointment
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Description: People often talk about science in the abstract, as a single unified enterprise that operates independently of the scientists that engage it (e.g. "Science is true whether you believe it or not" or "science proves that smoking kills cancer"). This tendency can make it easy for people to overlook the fact that science is, at its core, a human practice. Science is a set of methodologies, practices, and tools developed by humans to understand and make sense of the world (these include: setting up experimental protocols, engaging in the peer review process, carrying out replications, applying for grants, etc). In this course, we will examine the human and social dimension of science. If science is developed by humans, for human ends, then how do physiological and social facts about us influence, limit and structure the development of science? What sorts of problems do they create, and how can we overcome them?

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Policy on assignments, tests, and term papers: The term papers are due in class, in hard copy, on the announced deadline. Late papers will receive a deduction of 5% per day until handed in. Any exam missed without proof/documentation of illness or family emergency will receive a 0.

Important to Note: It is expected that students will prepare for and attend class regularly. Students are encouraged to consult the instructor with any problems or concerns about the course early in the semester.

Grading System:

Percentages	Letter Grade	Grade Point

90 – 100	A+	9
85 – 89	A	8
80 – 84	A-	7

An A+, A, or A- is earned by work which is technically superior, shows mastery of the subject matter, and in the case of an A+ offers original insight and/or goes beyond course expectations. Normally achieved by a minority of students

77 – 79	B+	6
73 – 76	B	5
70 – 72	B-	4

A B+, B, or B- is earned by work that indicates good comprehension of the course material, a good command of the skills needed to work with the course material, and the student's full engagement with the course requirements and activities. A B represents a more complex understanding and/or application of the course material. Normally achieved by the largest number of students.

| 65 – 69 | C+ | 3 |
| 60 – 64 | C | 2 |

A C+ or C is earned by work that indicates an adequate comprehension of the course material and the skills needed to work with the course material and that indicates the student has met the basic requirements for completing assigned work and/or participating in class activities

| 50 – 59 | D | 1 |

A D is earned by work that indicates minimal command of the course materials and/or minimal participation in class activities that is worthy of course credit toward the degree.

0 – 49	F	0

F is earned by work, which at the completion of course requirements, is inadequate and unworthy of course credit towards the degree.

Interpretation of these grade definitions is up to the discretion of the instructor. If you receive a grade during the course that you believe is unfair please begin by discussing the matter with the instructor (or TA) in a respectful, open-ended manner. Rest assured that if you still believe the grade you received is unfair you can appeal the matter to the chair of the department.

For additional information regarding grades, please see pp. 53-51 the most recent (September 2018) edition of the Uvic Undergraduate C -1.1bl i4 (n)]chvi4/1 (t0 Td ( )T6 EMC /P <

<u>Week 4 (Jan 29, Jan 30, Feb 1): Conceptualizing and Receptualizing Phenomena</u>
<u>Readings</u>:
- x Churchland, P. S. (1988). Reduction and the neurobiological basis of consciousness. In A. J. Marcel & E. Bisiach (Eds.), Consciousness in contemporary science (pp. 273-304). New York, NY, US: Clarendon Press/ Oxford University Press.
- x <u>Colaço, D. (2018) "Rip it up and start again: The rejection of a characterization of a phenomenon." Studies in History and Philosophy of Science.</u>

<u>Week 5 (Feb 5, Feb 6 & Feb 8): Science from Different Perspectives</u>
First Term Paper Feb 8th
<u>Readings</u>:
- x Mitchell, S. (2002). "Integrative Pluralism" Biology and Philosophy 17: 55-70.
- x Fehr, C., 2011. "What is in it for me? The benefits of diversity in scientific communities," in Feminist Epistemology and Philosophy of Science: Power in Knowledge, ed. Heidi Grasswick, Dordrecht: Springer.

<u>Week 6 (Feb 12, Feb 13 & Feb 15): Disagreement in Science</u>
Mid Term 1 Feb 15
<u>Readings</u>:
- x De Cruz, Helen & De Smedt, Johan (2013). The value of epistemic disak3bohan(Mi)jT4ohac

<u>Week 11 (Mar 12, Mar 13 & Mar 15): The Reward System of Science & The Replication Crisis</u>
<u>Readings:</u>

- x Romero, F. (2017). "Novelty versus Replicability: Virtues and Vices in the Reward System of Science." Philosophy of Science 84 (5).

<u>Week 12 (Mar 19, Mar 20, Mar 22): Possible Solutions to The Replication Crisis</u>
Second Term Paper Due Mar 19th
<u>Readings:</u>

- x Everett, J. & Earp, B. (2015). A tragedy of the (academic) commons: interpreting the replication crisis in psychology as a social dilemma for early-career researchers. Frontiers in Psychology

<u>Week 13 (Mar 26, Mar 27 & Mar 29): Practical Worries with Experimental Protocols</u>

- x Datteri, E., & Laudisa, F. (2012). Model Testing, Prediction, and Experimental Protocols in Neuroscience: A Case Study. Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences 43(3), 602-610.
- x Sullivan, J. (2009). The Multiplicity of Experimental Protocols: A Challenge to Reductionist and Non-Reductionist Models of the Unity of Neuroscience.

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The use of an editor, whether paid or unpaid, is prohibited unless the instructor grants explicit written authorization. The instructor should specify the extent of editing that is being authorized.