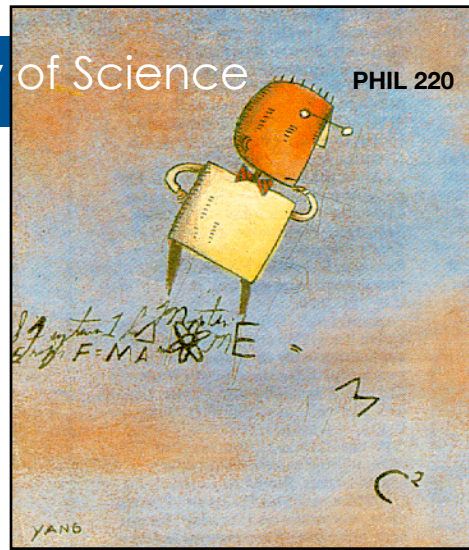


Instructor: Karen Brown
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Office: Clearihue B314
Office Hours: Wednesdays 2:30 - 3:30
and by appointment



Course Description

Science is widely revered as a seemingly endless source of reliable, objective knowledge about the world we live in. But philosophers have a lot of questions about the nature of science, its concepts, its methods, its goals and its role in our society. This course takes a philosophical look at science starting with the fundamental question, what exactly is science? What is the difference between science and pseudo science? Are scientific observations ever purely objective? What counts as a scientific explanation of a phenomenon? What does it take to confirm a theory? Does science succeed by giving us a true account of how the world really is or is it just a collection of useful ways of thinking about the world? What is a natural law; what is evidence; how are data and theories related? How does science change over time? What counts as scientific progress? How do the values and politics of scientists and the society at large influence scientific practice and results? What's the relationship between religion and science?

Throughout the course we will practice applying the accounts and critiques of science we're encountering to cases from the history of science. The aim of those case studies will be to develop a better understanding of scientific work and to evaluate the theories we have been exploring.

Texts

James Ladyman. **Understanding Philosophy of Science**. Routledge. 2002.
[UPS on the course schedule]

All the other course readings will be available on-line through the CourseSpaces page

CourseSpaces

To access the course materials on CourseSpaces go to coursespaces.uvic.ca and log in with your regular network ID. If you have difficulty accessing CourseSpaces or if a link to a particular reading is malfunctioning, please let me know by email right away so that I can take care of the problem.

The CourseSpaces page contains all sorts of information you will need for the course. It's where you will find many of the course readings along with, instructions for the case studies, a calendar of assignments, a class list with email links and your grades.

Please add a photo of yourself to your CourseSpaces profile.

Any changes that need to be made to the course schedule during the term will appear on the CourseSpaces page.

Introduction to Philosophy of Science

Course Work

Case Study I	10%
Exam One	25%
Case Study II	10%
Case Study III	15%
Exam Two	15%
Take Home Final Exam	25%

Exams One and Two will be in-class exams covering material from the readings, lectures and class discussion. Exam One will be a combination of short answer questions and essay questions. Exam Two will be all short answer questions. The take home Final Exam will consist of essay questions and one case study.

The Case Studies are group assignments that will give you an opportunity to apply and evaluate the theories of science that we have been reading about. Each one will focus on the case of one shift in our scientific understanding of the world. A large part of the work on these case studies will be done in class — so it is important to be in class on those days (see the calendar below) and to be prepared to work on those days. That means you should try to get through the relevant readings before those meetings. Each group will produce one short joint document using a wiki on the Coursespaces page. Detailed instructions can be found on Coursespaces.

Missed Exams

If you miss an exam due to an illness or exceptional circumstance contact me immediately to schedule a make-up.

Missed Group Case Study Days

If you miss one of the days when we are working on the case studies contact YOUR GROUP immediately to determine how you can still contribute. If possible, contact them during the class that you are missing.

Grading

Grades for the course will be assigned using the UVIC Undergraduate Grading Scale:

Percentage	Grade
90 - 100	A+
85 - 89	A
80 - 84	A-
77 - 79	B+
73 - 76	B
70 - 72	B-
65 - 69	C+
60 - 64	C
50 - 59	D
Below 50	N or F

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.

B+, B, or B- is earned by work that indicates **good** comprehension of the course material, good command of the skills needed to work with it, and full engagement with the course requirements and activities. A B+ represents a more complex understanding and/or application.

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.

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.

N indicates that the course requirements were not completed.

Introduction to Philosophy of Science

Academic Integrity

The University Policy on Academic Integrity (covering plagiarism, multiple submission, unauthorized use of an editor, falsifying materials, cheating and aiding others to cheat) will be enforced in this course. You are responsible for familiarizing yourself with the policy. You can find it online in the UVIC Calendar at <https://web.uvic.ca/calendar2018-09/undergrad/info/regulations/academic-integrity.html#>

If you have any doubts about what this policy requires or any questions about whether or not you are complying with it, please don't hesitate to ask me about it.

Course Schedule

September 4, 6	<i>Understanding Philosophy of Science</i> (UPS) Introduction Burke "Science Revises the Heavens"
September 10, 11, 13	Einstein "On the Method of Theoretical Physics" UPS Chapter 1: Induction and Inductivism
September 17, 18	UPS Chapter 2: The Problem of Induction and Other Problems with Inductivism
September 20, 24, 25	UPS Chapter 3: Falsificationism
Sept. 27, Oct. 1	Case Study — Spontaneous Generation
October 2	EXAM ONE
October 4, 8, 9	UPS Chapter 4: Revolutions and Rationality
October 11	Lakatos "The Methodology of Scientific Research Programmes"
October 15, 16	Laudan "Science at the Bar" Ruse "Pro Judice" Behe "Reply to My Critics"
October 18, 22	Case Study — Phlogiston
October 23	Feyerabend from <i>Against Method</i>
October 25	Engber "Daryl Bem proved ESP is real. Which means science is broken"
October 29, 30	Hubbard "Science and Feminism" Koertge "Wrestling with the Social Constructor" Barash "Monkeying with Evolution"
November 1	UPS Chapter 5: Scientific Realism
November 5, 6	UPS Chapter 6: Underdetermination
November 8	UPS Chapter 7: Explanation and Inference

Reading Break — 11 November through 13 November

Introduction to Philosophy of Science

C o u r s e S c h e d u l e continued

November 15, 19	UPS Chapter 7: Explanation and Inference <i>continued</i>
November 20, 22	Case Study — Plate Tectonics
November 26	UPS Chapter 8: Realism about What?
November 27, 29	Fodor "Special Sciences" Churchland and Churchland "Intertheoretic Reduction: A Neuroscientist's Field Guide"
December 3	Catch Up and Review
December 4	E X A M T W O
December 11	T a k e H o m e F I N A L E X A M due at 5 p.m.

Any changes to this schedule will be announced in class and posted on the Coursespaces page.