***Please Note: This is a tentative syllabus that may change between now and the start of the January 2027 semester.**

Phil 420/Phil 521:
Realism & Antirealism in Science

Instructor: Eric Hochstein
CRN: 22711 / 22714
Time: Wednesdays, 2:30-5:20 pm
Location: CLE B315
Office Hours: (in Clearihue B330)**:** Tuesday, 1:00-2:30 pm; and by appointment
Email: ehochstein@uvic.ca

We acknowledge and respect the Lək̓ʷəŋən (Songhees and Xʷsepsəm/Esquimalt) Peoples on whose territory the university stands, and the Lək̓ʷəŋən and W̱SÁNEĆ Peoples whose historical relationships with the land continue to this day.

Description: Is the success of our scientific theories evidence that they are telling us the way the world really is? Are unobservable theoretical entitles like dark matter, or the Higgs Boson, *real* or are they just theoretical posits we invoke as part of scientific theories that are useful for making predictions and building tools? This course explores the question of if/when we should take the unobserved theoretical entities posited by successful scientific theories as real and when we should not. It will also explore more general questions surrounding whether the structure of the world is neatly divided into types of things that our scientific theories discover and label, or whether our classificatory practices in science force us draw boundaries that may not track divisions in nature.

The purpose of this course is to provide skills in evaluating primary sources in philosophy and science, and to provide high-level analysis of the philosophical arguments or the philosophical implications of these readings. It is also to provide training in writing article length philosophy papers that students can use as the foundation for writing samples, or conference presentations, in the future.

Structure: The course comprises 1 seminar per week, the contents of which will be based on the assigned external sources. The course will proceed primarily through discussions and presentations. Class participation in discussions is essential for this course.

Evaluation: The course will be graded as follows:

- 2 papers, one worth 25% the second 35%.
- 10% Class participation and attendance. This includes a brief (one page max) summary of each course reading, **due at the start of class** the day that reading is being covered, **<u>as well as</u>** frequent engagement in class discussion.
- **FOR GRAD STUDENTS:** A presentation of their final paper as a conference talk (worth 20%), and 1 in-class presentation (worth 10%; this will involve a summary and explanation of the key points of the reading for that day, how they tie into philosophical themes and topics we are discussing, and leading class discussion).

- **FOR UNDERGRAD STUDENTS:** Early draft and oral defence of first paper (worth 15%), early draft and oral defence of second paper 15% (final paper will be graded on how you respond to comments and suggested revisions on this draft).

Policy on assignments, tests, and term papers: Late papers will receive a deduction of 5% per day until handed in. Summaries that are not handed in during class time will not be accepted.

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. Also, **constantly checking and using your cell phone during class is extremely distracting. Please refrain from doing so.**

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 a **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 after 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-minded 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 the most recent (September 2021) edition of the Uvic Undergraduate Calendar.

All evaluations of tests and assignments will be calculated according to percentage scores. Letter grades and grade point scores are listed purely for reference.

Final examinations are the property of Uvic and are not returned. They are available for viewing at the Records Office according to Uvic procedures and regulations.

Uvic is committed to providing a safe, supportive learning environment for all members. Further information regarding Uvic policies on human rights, equity, discrimination and harassment are located in the Uvic calendar, but if you have any particular concerns in our course please do not hesitate to contact me.

Academic Integrity and Professional Conduct:

Chat GPT and similar technologies are not permitted for this course. Plagiarism and other forms of cheating will not be tolerated. It is each student's responsibility to know the University's regulations in this regard. The Policy on Academic Integrity is published in the University Calendar. You can also consult the Libraries' plagiarism guide or the Tri-Faculty Standards for Professional Behavior for Students, which draws together a number of existing UVic policies in one place for ease of reference. Professionalism is expected from all students enrolled in courses in the Faculty of Humanities. As part of professionalism, students, faculty and staff are expected to be familiar with University policies, including the Tri-Faculty Standards.

Tentative Schedule of Readings:

Week 1: Logical Positivism, Thomas Kuhn, and Theory-Ladenness of Observation
Readings:

- No Required Readings

Week 2: Naturalism
Readings:

- Maddy, P. (2000). Naturalism and the A Priori. New essays on the a priori, 92-116.

- Flanagan, O. (2006). Varieties of naturalism. In P. Clayton & Z. Simpson (Eds.), The oxford handbook of religion and science (pp. 430–452). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199543656.003.0027

Week 3: The Traditional Debate: No Miracles Argument versus The Pessimistic Meta-Induction
Reading:

- Psillos, 1999, Scientific Realism: How Science Tracks Truth, London: Routledge. (Chap 4, p.68-93)
- Laudan, L. (1981) 'A Confutation of Convergent Realism', Philosophy of Science, vol. 48(1): 19-49.

Week 4: Theory Realism versus Entity Realism
Readings:

- Hacking, I. (1982) 'Experimentation and Scientific Realism', reprinted in Curd, M. and Cover, J.A. (eds.) Philosophy of Science: The Central Issues, New York: W.V. Norton & Company, 1998, pp. 1153-68.
- Morrison, M. (1990). Theory, intervention and realism. Synthese, 82(1), 1-22.

Week 5: Natural Kinds & Scientific Classification (Part 1)
Reading:

- Koslicki, K. (2008). Natural kinds and natural kind terms. *Philosophy compass*, *3*(4), 789-802.
- Boyd, R. (1999). Homeostasis, species, and higher taxa. *Species: New interdisciplinary essays*, *141*, 185.

Optional Readings:

- Bird, Alexander and Emma Tobin, "Natural Kinds", The Stanford Encyclopedia of Philosophy (Winter 2025 Edition)

Week 6: Natural Kinds & Scientific Classification (Part 2)
Readings:

- Hacking, I. (1991). A tradition of natural kinds. *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition*, *61*(1/2), 109-126.
- Havstad, J. C. (2018). Messy chemical kinds. *The British Journal for the Philosophy of Science*, *69*(3), 719-743.

Week 7: Reading Week
No Classes

Week 8: Constructive Empiricism
Readings:

- Van Fraassen, B. (2012). Arguments concerning scientific realism. In Arguing About Science (pp. 727-752). Routledge.
- Contessa, G. (2006). Constructive empiricism, observability and three kinds of ontological commitment. Studies in History and Philosophy of Science Part A, 37(3), 454-468.

Week 9: Structural Realism

Readings:

- Worrall, J. (1989) 'Structural Realism: The Best of Both Worlds?' in Papineau, D. (ed.) The Philosophy of Science, Oxford: Oxford University Press, 1996.
- Psillos, S. (1999) 'Worrall's Structural Realism' in Scientific Realism: How Science Tracks Truth, London: Routledge, ch. 7.

Week 10: Perspectival Realism
Readings:

- Dennett, D. C. (1991). Real patterns. *The journal of Philosophy*, *88*(1), 27-51.
- Massimi, M. (2022). Perspectival Realism, Oxford University Press. Fully Open Access monograph available here: https://global.oup.com/academic/product/perspectival-realism-9780197555620?cc=us&lang=en

Week 11: Pragmatic Realism
Readings:

- Chang, H. (2016). Pragmatic realism. Revista de Humanidades de Valparaíso, (8), 107-122.
- Chang, H. (2022). Realism for realistic people. Cambridge University Press.

Week 12: Final Paper Presentations
Readings:

- No Required Readings

Note on Avoidance of Academic Offenses:

All students registered in the course are expected to know what constitutes an academic offence, to avoid committing academic offenses, and to take responsibility for their academic actions. When the commission of an offense is established, it will be acknowledged by disciplinary penalties. If you need help in learning how to avoid academic offenses such as plagiarism, cheating, and double submission, or if you need clarification of aspects of the discipline policy, ask your course instructor for guidance. You can find the university's Policy on Academic Integrity here:

https://www.uvic.ca/calendar/undergrad/index.php#/policy/Sk_0xsM_V

If you are seeking editing help, please note that the university has recently adopted a strict view about seeking the help of others for editing. They say (this can be found in the link above):

> An editor is an individual or service, other than the instructor or supervisory committee, who manipulates, revises, corrects or alters a student's written or non-written work.
>
> 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. Review by fellow students and tutoring that do not include editing are normally permitted.

Note for students with disabilities:

The Centre for Accessible Learning (http://www.uvic.ca/services/rcsd/) is a fantastic resource that collaborates with all academic departments to help arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with them at the beginning of each academic term.

Other Resources

Student Resources

a. UVic Learn Anywhere. UVic Learn Anywhere is the primary learning resource for students. It offers many learning workshops and resources to help students with academics and learning strategies.
b. Library resources. Information for students wishing to use the UVic library.
c. Indigenous student services
d. Centre for Academic Communication
e. Learning Strategist Program
f. Academic Concession Regulations
g. Academic Concessions and Accommodations
h. Academic accommodation & access for students with disabilities – Policy AC1205 https://www.uvic.ca/universitysecretary/assets/docs/policies/AC1205_2340.pdf
i. Student wellness resources.
j. Ombudsperson. A resource to help resolve disputes or complaints.
k. Other student groups and resources.

University Statements and Policies

a. University Calendar – "Information for all students"
b. Creating a respectful, inclusive and productive learning environment
c. Accommodation of Religious Observance
d. Student Conduct and Non-Academic Student Misconduct
e. Accessibility
f. Equity, Diversity, and Inclusion
g. Equity and Human Rights
h. Sexualized Violence Prevention and Response
i. Discrimination and Harassment Policy