

HPSC10002 Science and Pseudoscience

Credit Points:	12.5
Level:	1 (Undergraduate)
Dates & Locations:	2015, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 2 1-hour lectures each week and 1x 1-hour tutorial for 11 weeks Total Time Commitment: 170 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
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Subject Overview:	Is there a good way to decide which ideas, theories and practices belong to science and which do not? This so-called demarcation problem is a central issue in the philosophy of science. This issue is much more than an academic debate, as modern societies rely on science, in daily lives as well as in policy decisions: Which kind of evidence should we trust and which kind of research should we spend money on? Should we discard knowledge that does not fulfil the standards of science? Is it justified to call such knowledge fields 'pseudoscience'? Does a demarcation between scientific and non-scientific knowledge say anything about the truth of both kinds of knowledge? This subject will discuss which (if any) criteria we should use to distinguish between science and non-science. We will scrutinise the claims for a scientific basis of various ideas and fields of knowledge, among them acupuncture, Darwinian evolution, creationism, string theory, and climate change scepticism.
Learning Outcomes:	Students who have successfully completed the subject will: <ul style="list-style-type: none"> # demonstrate a deep understanding of the difference between scientific and non-scientific knowledge; # possess a good knowledge of central theories in philosophy and sociology of science; # develop and understanding of the role the demarcation problem has in modern society; # analyse and assess arguments made in the scholarly literature; # create well reasoned arguments about the scientific status of a field of knowledge; # develop high level research skills, including the ability to extend their knowledge-base beyond subject materials using web-based research tools; # develop effective communication and presentation skills (written and oral), and the ability to collaborate constructively within the classroom; # develop critical reading skills.

Assessment:	Two short written assignments total of 1600 words, 40% (to be submitted during the semester), two take home tests 400 words each, 20% (due week 6 and week 11) and an essay of 1600 words, 40% (due during the examination period), Hurdle requirement: students must attend a minimum of 75% of tutorials in order to pass this subject. Regular participation in tutorials is required. Assessment submitted late without an approved extension will be penalised at 10% per day. After five working days late assessment will not be marked. In-class tasks missed without approval will not be marked. All pieces of written work must be submitted in order to pass this subject.
Prescribed Texts:	Subject readings will be available online
Recommended Texts:	<ul style="list-style-type: none"> # Alan F. Chalmers, <i>What Is this Thing Called Science?</i> 3rd edition, St. Lucia: University of Queensland Press, 1999. # Harry Collins and Trevor Pinch, <i>The Golem: What You Should Know about Science</i>. 2nd edition. Cambridge: Cambridge University Press, 1998. # Massimo Pigliucci, <i>Nonsense on Stilts: How to Tell Science from Bunk</i>. Chicago: The University of Chicago Press, 2010.
Breadth Options:	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> # Bachelor of Biomedicine (https://handbook.unimelb.edu.au/view/2015/B-BMED) # Bachelor of Science (https://handbook.unimelb.edu.au/view/2015/B-SCI) # Bachelor of Engineering (https://handbook.unimelb.edu.au/view/2015/B-ENG) <p>You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Links to further information:	http://hps.unimelb.edu.au/
Related Majors/Minors/Specialisations:	<p>History and Philosophy of Science</p> <p>History and Philosophy of Science</p> <p>History and Philosophy of Science</p> <p>Knowledge and Learning</p>
Related Breadth Track(s):	<p>Science and its Margins</p> <p>Science, Technology and Society</p>