

HPSC10001 From Plato to Einstein

Credit Points:	12.5
Level:	1 (Undergraduate)
Dates & Locations:	2015, Parkville This subject commences in the following study period/s: Semester 2, 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/
Coordinator:	Dr Kristian Camilleri
Contact:	Dr Kristian Camilleri (http://hps.unimelb.edu.au/about/staff/camilleri/) kcam@unimelb.edu.au (mailto:kcam@unimelb.edu.au)
Subject Overview:	In this subject, we embark on a fascinating journey through the history of science, exploring changing ideas about the physical world from antiquity to the present day. Beginning with the birth of natural philosophy in Greece in the 6th century BC, this subject traces the central place of Aristotle's earth-centred cosmology and Greek astronomy in ancient and medieval thought, before examining new conceptions of matter and the cosmos that arose during the Renaissance and Early Modern period. We then turn our attention to the mathematization of nature and the use of experiment in the study of electricity, magnetism, light and heat from the eighteenth century onwards, and the subsequent quest to uncover an underlying unity of forces in nature. Finally, we explore the rise of mathematical physics, the discovery of the periodic table of elements and the implications of Einstein's revolutionary new theory of gravity. Students will be introduced to the writings of major historical figures such as Plato, Aristotle, Kepler, Galileo, Descartes, Newton, Faraday and Einstein. This subject offers a wide-ranging introduction to the history of science and a deeper appreciation of the way in which it has been shaped by wider cultural and intellectual movements.
Learning Outcomes:	Students who successfully complete this subject will: <ul style="list-style-type: none"> # develop a broad understanding of the major conceptual shifts that occurred in the history of physical thought; # develop an appreciation of the way in which wider intellectual and cultural movements shaped knowledge of the physical world in different historical eras; # acquire an understanding of the different forms of explanation and modes of inquiry in the physical sciences; # develop and awareness of the difficulties in understanding the thoughts and attitudes of people historically remote from us; # acquire skills in writing clear, coherent and persuasive analyses of ambiguous and difficult issues; # acquire skills in comprehending the meaning and historical significance of texts.

Assessment:	A 600 word written assignment, 15% (due in week 5), an 800 word assignment, 20% (due in week 9), a 600 word assignment, 15% (due in week 12) and a 2000 word essay, 50% (due in 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
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 Commerce (https://handbook.unimelb.edu.au/view/2015/B-COM) # Bachelor of Environments (https://handbook.unimelb.edu.au/view/2015/B-ENVS) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2015/B-MUS) # 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:	History and Philosophy of Science History and Philosophy of Science History and Philosophy of Science
Related Breadth Track(s):	Understanding the Development of Science