

## HPSC20022 Electricity: An Experimental History

<b>Credit Points:</b>	12.5
<b>Level:</b>	2 (Undergraduate)
<b>Dates &amp; Locations:</b>	2016, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: 36 hours - One 3 hour seminar each week for 12 weeks. Total Time Commitment: 170 hours
<b>Prerequisites:</b>	none
<b>Corequisites:</b>	none
<b>Recommended Background Knowledge:</b>	12.5 points of HPS subjects at level 1 or level 2 is recommended but not required.
<b>Non Allowed Subjects:</b>	none
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.&lt;/p&gt;         &lt;p&gt;It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p>
<b>Coordinator:</b>	Dr Gerhard Wiesenfeldt
<b>Contact:</b>	<b>Email: <a href="mailto:gerhardw@unimelb.edu.au">gerhardw@unimelb.edu.au</a> (mailto:gerhardw@unimelb.edu.au)</b>
<b>Subject Overview:</b>	<p>The subject will combine an introduction to electrical theory and its past with a cultural history of Europe from 1750 to 1850. Students will learn about this by studying and performing historical experiments from the eighteenth and early nineteenth century. Many of these experiments were designed as public spectacle for the entertainment of enlightened audiences. They also produced problems in understanding what electricity was and they became centres of debates about the role of science in enlightened societies.</p> <p>Around 1700, electrical phenomena were considered to be marginal curiosities hardly worth studying; by 1850 electricity stood at the centre of modern science and its industrial applications. In between electricity became closely associated with enlightenment ideas, American independence, the French Revolution, the romantic fantasies about Dr Frankenstein and the industrial revolution. The subject will use the historical experiments and their replication in the classroom as a means to trace these connections and to learn about electricity in an unconventional way.</p>
<b>Learning Outcomes:</b>	<p>Students who successfully complete this subject will:</p> <ul style="list-style-type: none"> <li># Possess a broad knowledge and understanding of the history of modern science;</li> <li># Possess a deep knowledge of the history of electricity;</li> <li># Create sustained and critical arguments using experimental data and implement the consequences of their arguments in the design of new experiments;</li> <li># Develop an awareness of the relationship between electrodynamics and its history;</li> <li># Understand the complex relationship between theory formation and its historical context;</li> </ul>

	<ul style="list-style-type: none"> <li># Possess effective communication and presentation skills (written and oral), and the ability to collaborate constructively within the classroom;</li> <li># Demonstrate ethical integrity in written work and classroom activities.</li> </ul>
<b>Assessment:</b>	<p>A 1000 word literature review, due Week 4, 8 or 12 (depending on the topic selected by the student)* (25%) A 1400 word written report on experiments, due Week 4, 8 or 12 (depending on the topic selected by the student)* (35%) A 1600 research essay, due during the end of semester examination period (40%) *Students will not be permitted to complete both assessments on the same topic. Hurdle Requirements: Students must attend a minimum of 75% of tutorials in order to pass this subject. Regular participation in the seminar is required. All pieces of written work must be submitted to pass this subject. Note: 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.</p>
<b>Prescribed Texts:</b>	Readings will be made available online
<b>Breadth Options:</b>	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> <li># <b>Bachelor of Biomedicine</b> (<a href="https://handbook.unimelb.edu.au/view/2016/B-BMED">https://handbook.unimelb.edu.au/view/2016/B-BMED</a>)</li> <li># <b>Bachelor of Commerce</b> (<a href="https://handbook.unimelb.edu.au/view/2016/B-COM">https://handbook.unimelb.edu.au/view/2016/B-COM</a>)</li> <li># <b>Bachelor of Environments</b> (<a href="https://handbook.unimelb.edu.au/view/2016/B-ENVS">https://handbook.unimelb.edu.au/view/2016/B-ENVS</a>)</li> <li># <b>Bachelor of Music</b> (<a href="https://handbook.unimelb.edu.au/view/2016/B-MUS">https://handbook.unimelb.edu.au/view/2016/B-MUS</a>)</li> <li># <b>Bachelor of Science</b> (<a href="https://handbook.unimelb.edu.au/view/2016/B-SCI">https://handbook.unimelb.edu.au/view/2016/B-SCI</a>)</li> </ul> <p>You should visit <b>learn more about breadth subjects</b> (<a href="http://breadth.unimelb.edu.au/breadth/info/index.html">http://breadth.unimelb.edu.au/breadth/info/index.html</a>) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Links to further information:</b>	<a href="http://shaps.unimelb.edu.au/history-philosophy-science">http://shaps.unimelb.edu.au/history-philosophy-science</a>
<b>Related Majors/Minors/Specialisations:</b>	History and Philosophy of Science