

# EDUC90469 Learning Area Physics 1

<b>Credit Points:</b>	12.5
<b>Level:</b>	9 (Graduate/Postgraduate)
<b>Dates &amp; Locations:</b>	2016, Parkville This subject commences in the following study period/s: February, Parkville - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: 36 Total Time Commitment: 170 hours
<b>Prerequisites:</b>	Teacher Candidates must meet the minimum academic study requirements for teaching in specialist areas, in accordance with the Victorian Institute of Teaching's <b>Specialist Area Guidelines</b> ( <a href="http://www.vit.vic.edu.au/finditfast/Teacher-education-programs/Pages/Assessmentofqualifications.aspx">http://www.vit.vic.edu.au/finditfast/Teacher-education-programs/Pages/Assessmentofqualifications.aspx</a> ), for entry into this subject.
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<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>	Father Gerard Healy
<b>Contact:</b>	<a href="mailto:gerard@unimelb.edu.au">gerard@unimelb.edu.au</a> ( <a href="mailto:gerard@unimelb.edu.au">mailto:gerard@unimelb.edu.au</a> )
<b>Subject Overview:</b>	<p>This subject prepares teacher candidates for the teaching of secondary school physics. Pedagogical methods approaches appropriate to physics are covered. These include classroom instruction and student discussion, practical laboratory work, and the use of Information and Communication Technology. The subject prepares teacher candidates to teach and assess VCE students' understandings as outlined in the Victorian Certificate of Education Physics (VCE) Study Design, particularly Units 1 and 3. In addition, some coverage is devoted to physics as outlined in the year 7-10 general science component of AusVELS, the framework for implementing the Australian Curriculum in Victoria, and specific areas of the VCE course unlikely to be familiar to teacher candidates.</p> <p>A combined science component, shared with the other science methods, has a focus on the design and management of the general science curriculum and teaching in years 7-10. Teacher candidates will explore pedagogical strategies to engage science learners in the middle years of secondary school. This is taught through practice with pupils in small groups in school classrooms, and through workshops and excursions delivered by Science education experts. Teacher candidates will be introduced to the use of research on student's naïve conceptions in various science topics, principles of constructivist teaching, socially situated and peer-based learning, lesson planning, laboratory and classroom management and laboratory safety.</p> <p>ICT is treated as an integral part of contemporary science teaching practice; where appropriate it is used to support and enhance conceptual understanding and teaching practice.</p>
<b>Learning Outcomes:</b>	<p>On completion of this subject, teacher candidates will be able to:</p> <ul style="list-style-type: none"> <li># Be skilled teachers of physics with the theoretical frameworks and practical ability to produce effective learning for a wide range of students;</li> </ul>

	<ul style="list-style-type: none"> <li># Display a solid current knowledge of the physical sciences, educational contexts and how they interact in effective pedagogy;</li> <li># Understand the links between effective planning teaching and evaluation in physics;</li> <li># Use a variety of technologies in the classroom to assist learning in physics classes;</li> <li># Apply physics understandings to familiar and new contexts;</li> <li># Analyse issues and implications relating to scientific and technological developments and analyse and evaluate the reliability of information and opinions presented in the public domain;</li> <li># Demonstrate the knowledge, skills and abilities to use ICT to support student learning and professional practice.</li> </ul> <p>The subject covers a range of the National Professional Standards for Teachers (for Graduate Teachers). In particular, the subject will contribute to students attaining the following standards:</p> <p>2.1 Content and teaching strategies of the teaching area</p> <p>3.3 Use teaching strategies</p> <p>3.4 Select and use resources</p> <p>3.5 Use effective classroom communication</p> <p>3.7 Engage parents/ carers in the educative process</p> <p>4.1 Support student participation</p> <p>4.4 Maintain student safety</p> <p>5.1 Assess student learning</p>
<b>Assessment:</b>	<p>Topic Plan for a topic in VCE Physics (1200 words), due mid-semester (33%) Physics prac or demonstration (equivalent to 1500 words), (34%) incorporating: A. Prepare and present/run a 30 min prac or demonstration (equivalent to 1000 words), in-class during semester B. A 500 word written reflection on prac/demonstration, plus a risk assessment and a hand-out, end of semester [If a prac is delivered in EDUC90469 Learning Area Physics 1, then a demonstration must be delivered in EDUC90470 Learning Area Physics 2.] Combined Science component task (33%): Either a practice-based reflective task (equivalent to 1300 words) due mid-semester OR a project exploring pedagogical strategies (equivalent 1300 words) due end of semester. NOTE: Teacher candidates doing one Learning Area (LA) science subject will submit the practice-based reflective task while those doing 2 LA science subjects will submit both assessment tasks listed in dot point 3, completing one for each of their LA science subjects. Hurdle requirement: This subject has a minimum hurdle requirement of 80% attendance at all tutorials, seminars and workshops.</p>
<b>Prescribed Texts:</b>	None
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<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>Generic Skills:</b>	<p>On completion of this subject, teacher candidates will have the knowledge, skills and understanding to enable them to:</p> <ul style="list-style-type: none"> <li># Be skilled communicators who can effectively articulate and justify their practices as knowledgeable agents of change.</li> <li># Be flexible and able to adapt to change through knowing how to learn.</li> <li># Understand the significance of developing their practice on the basis of research evidence.</li> <li># Work in teams with skills in cooperation, communication and negotiation.</li> <li># Be independent of mind, responsible, resilient, self-regulating.</li> <li># Have a conscious personal and social values base.</li> </ul>
<b>Related Course(s):</b>	<p>Master of Teaching (Secondary)</p> <p>Master of Teaching (Secondary)</p>