EDUC90473 Learning Area Science 1

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2014.
Time Commitment:	Contact Hours: 36 hours Total Time Commitment: 125 hours total commitment. Attendance at all classes (tutorial/seminars/practical classes/lectures/labs) is obligatory. Failure to attend 80% of classes will normally result in failure in the subject.
Prerequisites:	Teacher Candidates must meet the minimum academic study requirements for teaching in specialist areas, in accordance with the Victorian Institute of Teaching's **Specialist Area Guidelines (http://www.vit.vic.edu.au/finditfast/Teacher-education-programs/Pages/Assessmentofqualifications.aspx)** , for entry into this subject.
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 website: http://www.services.unimelb.edu.au/disability
Contact:	Education Student Centre 234 Queensberry Street Call: 13 MELB (13 6352)
Subject Overview:	This subject prepares teacher candidates for teaching secondary school general science in years 7-10. Teacher candidates will use, develop and critically evaluate resources for teaching secondary science within the contexts of the physical, chemical, biological, earth and space sciences. In particular, they will draw upon and elaborate science curricula including mandated science curriculum guidelines. Teacher candidates will analyse their own and others' use of classroom demonstrations, modelling techniques, production of scientific artefacts, use of Information and Communication Technology and practical work. They will also use the science education literature to inform their teaching practices and engage in debates about the nature and purpose of science and science education. 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. ICT is recognised and used as an essential component of contemporary science practice, as such it is used where appropriate to support conceptual understanding and to enhance student learning.
Learning Outcomes:	On completion of this subject, teacher candidates will be able to: # Be skilled teachers of science with the theoretical frameworks and practical ability to produce effective learning for a wide range of students, including in junior science; # Display a solid current knowledge of the sciences, educational contexts and how they interact in effective pedagogy; Understand the links between effective planning teaching and evaluation in science;

	# Use a variety of technologies in the classroom to assist learning in science classes; # Apply science understandings to familiar and new contexts; # 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. # Demonstrate the knowledge, skills and abilities to use ICT to support student learning and professional practice 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: 2.1 Content and teaching strategies of the teaching area 3.3 Use teaching strategies 3.4 Select and use resources 3.5 Use effective classroom communication 4.1 Support student participation 4.4 Maintain student safety 5.1 Assess student learning
Assessment:	There are 3 assessment tasks for this subject. An essay (1300 words) due mid-semester, 32% A reflective task incorporating peer-review (1400 words), due end of semester, 35 per cent Either a practice-based reflective task (equivalent 1300 words) OR project exploring pedagogical strategies (equivalent 1300 words), due end of semester, 33 per cent NOTE: Teacher candidates doing one 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. There is one hurdle requirement (a 10 minute in-class science demonstration). As scheduled throughout the semester
Prescribed Texts:	VCAA (2008) Victorian Essential Learning Standards (also available online)VCAA (2004) VCE Environmental Science Study Design (also available online)Australian Curriculum, Assessment and Reporting Authority (ACARA) websiteA collection of readings
Recommended Texts:	# VCAA (2006) Victorian Essential Learning Standards # Collection of readings
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	On completion of this subject, teacher candidates will have the knowledge, skills and understanding to enable them to: # Be skilled communicators who can effectively articulate and justify their practices as knowledgeable agents of change. # Be flexible and able to adapt to change through knowing how to learn. # Understand the significance of developing their practice on the basis of research evidence. # Work in teams with skills in cooperation, communication and negotiation. # Be independent of mind, responsible, resilient, self-regulating. # Have a conscious personal and social values base.
Related Course(s):	Master of Teaching (Secondary) Master of Teaching (Secondary)