

EDUC90664 Effective Senior Mathematics Teaching

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 24 hours. Total Time Commitment: 120 hours.
Prerequisites:	Enrolling students must have a teaching qualification either: # an undergraduate degree and a fourth-year level education qualification, or equivalent, or # a four-year education degree, or equivalent.
Corequisites:	None.
Recommended Background Knowledge:	Good knowledge of mathematics to at least Year 11 level, and general knowledge of teaching practices in any subject.
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:	Ms Lynda Ball
Contact:	Education Student Centre
Subject Overview:	This subject focuses in a practical way on the key features of teacher effectiveness in senior secondary mathematics, supporting and consolidating the pedagogical focus in the other subjects. It draws on perspectives from systemic curriculum documents, along with a broad look at assessment and lesson, unit and year planning for senior mathematics subjects. Practical teaching tasks are given throughout the subject. Particular tasks during the subject will engage participants with a range of mathematics topics from across senior mathematics subjects, such as financial and business mathematics, geometry and networks, sequences and series and matrices. The pedagogical and functional role of technology in developing concepts and skills are a focus. The concept of mathematical literacy, as examined by the OECD PISA, is applied to examine the needs of all learners for effective citizenship and post-school options. Students will be expected to participate in intensive teaching, completion of weekly exercises to satisfactory standard and regularly contribute to the electronic forum.
Objectives:	On completion of this subject, participants will be able to # demonstrate knowledge of relevant mathematical content for senior secondary mathematics, and associated technology; # demonstrate knowledge of teaching students to apply mathematics, to model and investigate problems mathematically and to use technology appropriately, and of mathematical literacy for the workplace; # plan units of work and year long courses for senior mathematics classes taking into account research on student learning and principles of effective teaching; # practically implement working mathematically can be achieved in senior mathematics courses.
Assessment:	A report (2000 words equivalent) due early semester (40%) Pedagogical analysis of a unit plan (3000 words equivalent) due end of semester (60%) Hurdle Requirement. Students will be required to demonstrate an adequate level of mastery of mathematics knowledge at a Year 12 Mathematical Methods level through successful completion of a written test.

Prescribed Texts:	Goos, M., Stillman, G., & Vale, C. (2007). Teaching secondary school mathematics: Research and practice for the 21st century. Sydney: Allen & Unwin Further readings will be provided. Special requirement. Handheld calculator or computer software recommended for use in the VCE subject Mathematical Methods.
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:	<ul style="list-style-type: none"> # Be skilled communicators who can effectively articulate and justify their mathematics teaching practices; # Understand the significance of developing their mathematics teaching practice on the basis of research evidence # Demonstrate mastery of the subject matter for this area of teaching and of general principles of effective teaching and learning in a mathematics context, including with technology
Related Course(s):	Postgraduate Certificate in Mathematics Teaching (Years 11-12)