

# EDUC90426 Foundations of Mathematics Teaching

<b>Credit Points:</b>	12.50															
<b>Level:</b>	9 (Graduate/Postgraduate)															
<b>Dates &amp; Locations:</b>	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus. Parkville on campus															
<b>Time Commitment:</b>	Contact Hours: 36 hours Total Time Commitment: 125 hours total commitment															
<b>Prerequisites:</b>	A pass in a mathematics subject at Year 12.															
<b>Corequisites:</b>	None															
<b>Recommended Background Knowledge:</b>	None															
<b>Non Allowed Subjects:</b>	Teacher candidates may not enrol in Learning Area - Mathematics 1, Learning Area - Mathematics 2, Learning Area - Mathematics (Additional) 1 or Learning Area - Mathematics (Additional) 2 <table border="1" data-bbox="389 831 1485 1151"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>EDUC90457 Learning Area Mathematics 1</td> <td>February</td> <td>12.50</td> </tr> <tr> <td>EDUC90458 Learning Area Mathematics 2</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>EDUC90459 Learning Area Mathematics (Additional) 1</td> <td>February</td> <td>12.50</td> </tr> <tr> <td>EDUC90460 Learning Area Mathematics (Additional) 2</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	EDUC90457 Learning Area Mathematics 1	February	12.50	EDUC90458 Learning Area Mathematics 2	Semester 2	12.50	EDUC90459 Learning Area Mathematics (Additional) 1	February	12.50	EDUC90460 Learning Area Mathematics (Additional) 2	Semester 2	12.50
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<b>Core Participation Requirements:</b>	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.															
<b>Coordinator:</b>	Ms Lynda Ball															
<b>Contact:</b>	Education Student Centre															
<b>Subject Overview:</b>	This subject provides an introduction to teaching years 7 - 9 mathematics in Victorian schools. Teacher candidates will develop pedagogical content knowledge of the mathematics curriculum, especially related to beginning Algebra, Number, Chance and Data, Functions and Equations. Teacher candidates will consider Victorian curriculum documents, lesson planning, effective use of resources (textbooks, technology), assessment and the provision of a balanced curriculum incorporating concepts, skills, applications and problem solving. They will consider strategies for developing school students' understanding of place value, fractions, decimals and percentage which are essential for primary school transition. Teacher candidates will consider important pedagogical issues such as: questioning, selection of good examples, representations and models of mathematical ideas to widen their understanding of what good mathematics teaching should be at years 7-9.															
<b>Objectives:</b>	On completion of this subject teacher candidates will be able to: <ul style="list-style-type: none"> <li># demonstrate understanding of school students' learning in years 7-9 mathematics;</li> <li># demonstrate knowledge of the Victorian years 7-9 mathematics curriculum;</li> <li># demonstrate the ability to plan effective mathematics lessons incorporating good teacher questions and appropriate examples, explanations and tasks;</li> <li># critically analyse teaching resources;</li> <li># demonstrate a knowledge of how to assess mathematical understanding.</li> </ul>															
<b>Assessment:</b>	There are 3 assessment tasks: A report (1500 words equivalent) due early semester (37.5%) A Lesson plan and related pedagogical analysis (1000 words equivalent) due mid semester															

	(25%) A written assignment on diagnosis and remediation of school students' mathematical misconceptions (1500 words) due end of semester (37.5%) There is 1 hurdle requirement: Teacher candidates will be required to demonstrate mastery in a mathematics test at Year 10 standard (VELS Level 6). They should prepare beforehand by working through current secondary school texts.
<b>Prescribed Texts:</b>	Goos, M., Stillman, G., Vale, C. (2007) Teaching Secondary School Mathematics: Research and practice for the 21st century. Unwin & Allen.
<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 changes.</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)  Master of Teaching (Secondary)</p>