

## 460-587 Learning Area Mathematics 1

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| <b>Credit Points:</b>                    | 12.50   |
| <b>Level:</b>                            | 9 (Graduate/Postgraduate)   |
| <b>Dates &amp; Locations:</b>            | 2009,<br>This subject commences in the following study period/s:<br>Semester 1, - Taught on campus.<br>Parkville, On Campus   |
| <b>Time Commitment:</b>                  | Contact Hours: 36 hours Total Time Commitment: 125 hours total commitment   |
| <b>Prerequisites:</b>                    | None  |
| <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>                      | Ms Lynda Maree Ball   |
| <b>Subject Overview:</b>                 | <p>This subject provides an orientation to the profession of mathematics teaching, to teaching mathematics in Victorian schools, and to Australian mathematics curricula. Teacher candidates will develop teaching skills and the pedagogical content knowledge for the effective teaching and learning of years 7-10 mathematics. They will consider the importance of numeracy to school students' further study and life chances, and explore the connections between numeracy and mathematics.</p> <p>Teacher candidates will consider Victorian curriculum documents, lesson planning, classroom assessment of and for learning, effective use of resources (e.g. technology, textbooks), and the provision of a balanced curriculum incorporating concepts, skills, applications and problem solving.</p> <p>A research-informed analysis of school students' mathematical understanding in selected topics will provide insight into teaching strategies to cater for school students' individual differences and personalise their learning.</p> <p>T eacher candidates will consider important pedagogical issues such as: questioning, selection of good examples, representations and models of mathematical ideas. Teacher candidates will form an appreciation of exemplary mathematics teaching, and develop reflective mathematics teaching practices.</p> |
| <b>Objectives:</b>                       | <p>On completion of this subject, teacher candidates will be able to:</p> <ul style="list-style-type: none"> <li># Demonstrate pedagogical content knowledge for teaching years 7-10 mathematics;</li> <li># Demonstrate knowledge of the Victorian years 7-10 mathematics curriculum;</li> <li># Use research to inform teaching strategies to cater for school students' individual differences;</li> <li># Reflect on and evaluate teaching practices to improve their own mathematics teaching;</li> <li># Demonstrate the ability to plan effective mathematics lessons incorporating good teacher questions and appropriate examples, explanations and tasks;</li> <li># Use resources, including technology, effectively in mathematics teaching;</li> </ul>   |

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|                           | <ul style="list-style-type: none"> <li># Understand the components of a balanced curriculum;</li> <li># Demonstrate a knowledge of how to assess mathematical understanding.</li> </ul>  |
| <b>Assessment:</b>        | There are 3 assessment tasks: Lesson plan with pedagogical analysis (1000 words equivalent) due early semester (25%) A report critiquing resources for a given topic (1500 words equivalent) due mid semester (37.5%). Report on pedagogical issues associated with the teaching of a mathematical topic (1500 words) due end of semester (37.5%) There is one hurdle requirement: Weekly tasks completed satisfactorily.  |
| <b>Prescribed Texts:</b>  | CAS calculator Goos, M., Stillman, G., Vale, C. (2007) Teaching Secondary Mathematics: Research and Practice for the 21st Century. Crows Nest NSW: Allen & Unwin.  |
| <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> | Master of Teaching (Secondary)   |