

EDUC90794 Science and Mathematics in the Classroom

Credit Points:	12.5												
Level:	9 (Graduate/Postgraduate)												
Dates & Locations:	2015, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.												
Time Commitment:	Contact Hours: 36 hours Total Time Commitment: 170 hours												
Prerequisites:	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>EDUC90376 Science and Technology Education</td> <td>March</td> <td>12.50</td> </tr> <tr> <td>EDUC90778 Primary Mathematics Education 1</td> <td>March</td> <td>12.50</td> </tr> <tr> <td>EDUC90773 Primary Mathematics Education 2</td> <td>March, July</td> <td>6.25</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	EDUC90376 Science and Technology Education	March	12.50	EDUC90778 Primary Mathematics Education 1	March	12.50	EDUC90773 Primary Mathematics Education 2	March, July	6.25
Subject	Study Period Commencement:	Credit Points:											
EDUC90376 Science and Technology Education	March	12.50											
EDUC90778 Primary Mathematics Education 1	March	12.50											
EDUC90773 Primary Mathematics Education 2	March, July	6.25											
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 Overview, Learning Outcomes 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												
Coordinator:	Dr Christine Redman												
Contact:	Contact Us (https://enquiry.app.unimelb.edu.au/?cc=MGSE-ALL&fn=MGSE) Call: 13 MELB (13 6352)												
Subject Overview:	The subject focuses on supporting the effective integration of Science, Technology, Engineering and Maths (STEM) with a focus on clinical responsive interventionist teaching into Primary Classroom environments. Participants will work collaboratively with academics, school based staff, mentor teachers and clinical specialists to plan, prepare and present models for teaching STEM topics with a focus on Physics, Chemistry and embedded Mathematics/Numeracy, Engineering and Technology. Participants will implement their focus over five weeks in our partner schools, working with small student groups, in professional learning teams, to further refine their teaching model to respond to their student's needs. This elective builds on Science and Technology and Mathematics subjects already completed, and extends these skills in a school setting.												
Learning Outcomes:	On completion of this subject, teacher candidates will have the knowledge, skills and understanding to enable them to: <ul style="list-style-type: none"> # Demonstrate the ability to collaboratively design STEM topics that engage students with a range of learning styles; # Clearly define, and apply, the requirements for undertaking these topics, including technologies, resources, teacher content knowledge, teacher pedagogical knowledge and teacher technical knowledge; # Demonstrate an understanding of key models and approaches for STEM teaching in Primary Settings; and Apply this understanding in the design of the topic; # Purposefully use a range of technologies to support and extend student's in their learning; 												

	<ul style="list-style-type: none"> # Critically appraise and select technologies for use in the classroom to support and extend students' learning; # Critically reflect upon their own planning and teaching practice, evidenced through formative and summative assessment. <p>MTeach Primary Course objectives specifically met include:</p> <ul style="list-style-type: none"> # Use evidence to make sound clinical judgments about the nature and implementation of teaching interventions. # Generate and analyse diverse sources of data that can effectively inform and assess student learning and development. # Demonstrate an understanding of the ways in which theory and research informs practice. # Demonstrate strong subject and pedagogical content knowledge (STEM). # Utilise diverse pedagogical strategies to provide rich and creative learning environments that empower learners. # Utilise inclusive teaching practices that demonstrate an awareness of cultural diversity and its implications for society and education. # Utilise digital technologies to expand learning opportunities for students. # Develop in students the practices and attitudes required for critical thinking and the ability to work both independently and cooperatively. # Demonstrate a capacity for leadership and advocacy in education.
Assessment:	<p>There are three assessment tasks: Essay – Demonstrating understanding of the research literature on the topic, 1000 words. Due week 4, 20%. Group oral 20 minute presentation equivalent to 1000 words. Due before the end of semester, 20%. The Science Unit in review. Individual report, 2000 words. Due after the end of semester, 60%. Hurdle requirement: Collegiately collaborate throughout the semester, through a recommended digital platform, planning for teaching, researching and reviewing the teaching experiences on a weekly basis, using the principles of Professional Learning Teams (PLT). Attendance at all classes and fieldwork sites is required. Failure to attend 80% of classes will normally result in failure in the subject.</p>
Prescribed Texts:	Gregson, R, (2012). Connecting with Science Education, Oxford University Press, New Zealand
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:	<p>The goals of this subject align with the MTeach Primary Generic Skills:</p> <ul style="list-style-type: none"> # Develop in-depth knowledge of the complexity and diversity of primary students' learning and development. # Be knowledgeable and confident generalist teachers across the range of disciplines taught in primary classrooms. # Be able to intelligently and creatively plan, implement and critique mandated curriculum. # Be able to use data to identify and address the learning needs and capacities of individual students. # Be able to intentionally draw on a range of teaching practices to extend individual student's learning and development. # Shape and deliver responsive and inclusive curricula. # Be a self-reflective teacher who can work constructively and innovatively through relationships with parents, colleagues and the community across a range of contexts.
Related Course(s):	Master of Teaching (Primary)