

460-527 Science and Mathematics in EC

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| Credit Points: | 12.50 |
| Level: | 9 (Graduate/Postgraduate) |
| Dates & Locations: | 2009, This subject commences in the following study period/s: Semester 2, - Taught on campus. Parkville, On Campus |
| Time Commitment: | Contact Hours: 36 hours Total Time Commitment: 125 hours total commitment |
| Prerequisites: | 460-520 Children's Early Development |
| Corequisites: | None |
| Recommended Background Knowledge: | None |
| Non Allowed Subjects: | None |
| Core Participation Requirements: | <p><p>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.</p> <p>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: http://services.unimelb.edu.au/disability</p></p> |
| Coordinator: | Mrs Catherine Anne Pearn |
| Subject Overview: | <p>The focus of this subject is how to develop children's awareness of science and mathematics concepts in the world around them. Topics are centred on children's everyday lives and the natural world, and draw on research on children's learning. This subject refines student's content knowledge in science and mathematics, and introduces pedagogical knowledge for these two domains.</p> <p>Topics in the science domain include living things and their diversity and properties of water, air, magnetism, light and sound. There will be a strong focus on sustainability and the environment and this strand will be integrated throughout the program. Toys and objects familiar to young children will be used to introduce appropriate aspects of technology. Topics for the mathematics domain will focus on the mathematics encountered by young children prior to school. In particular, they will focus on: the development of number concepts including counting; the early ideas of measurement attributes, space and location; and the development of mathematical language appropriate for young children.</p> <p>Teacher candidates will design, implement, review and refine sequences of experiences for mathematics and science.</p> |
| Objectives: | <p>On completion of this subject teacher candidates will be able to:</p> <ul style="list-style-type: none"> # Demonstrate an understanding of how children construct mathematical and scientific knowledge; # Demonstrate pedagogical content knowledge for developing mathematical and scientific understanding in children; # Interpret observations of children in terms of research findings about mathematical and scientific development; # Design experiences to develop mathematical and scientific understanding; # Design experiences to help children explore how simple technological objects work and are used in their everyday lives; # Assess children's mathematical and scientific understanding; |

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| | # Respond to individual differences. |
| Assessment: | There will be 2 assessment tasks: A written assessment of science learning experiences (2000 words), due mid semester (50%) A written assessment of mathematics learning experiences (2000 words), due end of semester (50%) |
| Prescribed Texts: | 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: | <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"> # 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; # Use research evidence to continue to underpin and improve their practice in mathematics and science exploration with young children. # Have a conscious personal and social values base. |
| Related Course(s): | Master of Teaching (Early Childhood) |