

TEAC 5021 MATHEMATICS CURRICULUM 3

Credit Points 10

Legacy Code 102895

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Description This subject enables students to extend their knowledge of Mathematics education with a particular focus on STEM in years 7-10. Students will explore their role in implementing the general capabilities of numeracy, both within the mathematics curriculum and in supporting the capable and confident use of mathematics across other learning areas at school and in society. A range of informed approaches to catering for the diverse needs of students to the middle years of schooling including intervention and appropriate challenge will be addressed. Issues in education such as Mathematics teaching for productive disposition will be explored with further professional and applied research into Mathematics education.

School Education

Discipline Teacher Education: Secondary

Student Contribution Band HECS Band 1 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Postgraduate Coursework Level 5 subject

Pre-requisite(s) TEAC 7027 AND
TEAC 7004 AND
TEAC 7032

Restrictions

Students in program 1714 or 1848 must have Mathematics Curriculum Area applied to their student record before they can enrol in this subject. Students can view their Curriculum Areas on DegreeWorks in MySR.

Learning Outcomes

1. Generate and critically evaluate Mathematics curriculum program for students which synthesises a variety of pedagogical approaches and resources appropriate to these year levels, assessment tasks and curriculum content.
2. Critically analyse and develop a variety of research-informed classroom strategies which cater for individual differences in student learning in the classroom, including culturally and linguistically diverse and Aboriginal and Torres Strait Islander students.
3. Evaluate the relationship between learning task design, student learning and expertise, higher order thinking, assessment, feedback and reporting strategies and evaluation in Mathematics Education.
4. Present well-constructed, innovative and coherent STEM based student-centred lessons that include literacy (including key metalanguage) and numeracy, enhance thinking and ICT skills and which take into account the full range of students' abilities and school-based and system data.
5. Prepare a suitable range of assessment instruments that use valid, reliable and consistent judgements of student learning.
6. Design and select innovative STEM and problem-based teaching resources that apply a critically reflective approach to teaching

arrange of Mathematics curricula and develop students critical and creative capabilities.

7. Reflect and research professional learning to develop the discipline of Mathematics teaching.

Subject Content

1. What is the relevant and contemporary Mathematics teaching in the early and middle years of secondary education?
2. How are current educational policies and priorities with particular reference to Aboriginal and Torres Strait Islander education, literacy and numeracy and ICT, addressed in the teaching of Mathematics?
3. In what ways do active and engaging, student-centred teaching practices characterise Mathematics teaching. Why is an understanding of socio-cultural and pedagogical theories and approaches important to quality teaching in the subject?
4. How are high order, creative and critical Mathematics lessons planned, units written and learning scoped and sequenced in the subject?
5. Why is it necessary to differentiate teaching in Mathematics? How do teachers go about differentiation?
6. How may the incorporation of creative, innovative uses of ICT, critical and creative thinking and problem solving support the achievement of quality learning outcomes in the subject?
7. How can assessment of learning, assessment for learning and assessment as learning be reconciled in teaching Mathematics?
8. What records do teachers keep? How are those records used in reporting student performance and in particular used towards awarding the Record of Student Achievement (ROSA)?
9. In what ways has educational research contributed to the teaching and student learning of Mathematics?
10. What are the future directions of Mathematics education nationally and internationally?

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/Group Task
Professional Task	2000 Words	50	N	Individual
Portfolio	2000 Words (Portfolio)	50	N	Individual

Prescribed Texts

New South Wales Standards Authority [NESA]. (2012) Mathematics K-10 Syllabus (<https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/mathematics/mathematics-k-10/>)