

TEAC 5020 MATHEMATICS CURRICULUM 2

Credit Points 10

Legacy Code 102894

Coordinator John Ley ([https://directory.westernsydney.edu.au/search/name/John Ley/](https://directory.westernsydney.edu.au/search/name/John%20Ley/))

Description All students seeking a first secondary teaching area qualification must complete Years 11-12 Mathematics teaching methodology subject. The subject will examine and model effective contemporary classroom practice to develop students' pedagogical content knowledge. The specifics of the relevant Board of Studies NSW Years 11-12 Syllabus and links with the Years 7-10 curriculum will be analysed and critiqued as will current Australian and NSW educational/curriculum policies and priorities. Emphasis will be placed on principles underlying engaged inquiry teaching within the specific secondary subject, on creativity and quality teaching outcomes, on innovative program, subject and lesson planning and on the role of student data in authentic and appropriate assessment practices. Students will have opportunities for investigation and discussion of current research particularly related to sustainability and diversity in the teaching of the specific subject area. This subject is included in the Development Phase of the Master of Teaching program.

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 7004 OR TEAC 7161 AND TEAC 7032 AND TEAC 7027 OR TEAC 7160

Restrictions

Students in program 1714, 1848 or 1914 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

On successful completion of this subject, students should be able to:

1. Demonstrate a comprehensive understanding of Mathematics curricula in Stage 6.
2. Apply socio-cultural perspectives and pedagogical theories and approaches used in the Mathematics curriculum area for senior students.
3. Present well-constructed, innovative and coherent senior student-centred lessons that extend students' 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.
4. Prepare a suitable range of senior assessment instruments that use valid, reliable and consistent judgements of student learning.
5. Design relevant, innovative and authentic teaching programs that apply a critically reflective approach to teaching Mathematics

in stage 6 and include opportunities to develop students' understanding of key concepts.

6. Use a variety of teaching and learning strategies and resources, including ICT and a range of sources in teaching senior lessons and programs.
7. Critically reflect on research and pedagogy in teaching Mathematics.

Subject Content

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

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	50	N	Individual

Prescribed Texts

New South Wales Standards Authority [NESA]. (2017) Mathematics Stage 6 Syllabuses (<https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/stage-6-learning-areas/stage-6-mathematics/>)

Teaching Periods

Spring (2024)

Penrith (Kingswood)

On-site

Subject Contact John Ley ([https://directory.westernsydney.edu.au/search/name/John Ley/](https://directory.westernsydney.edu.au/search/name/John%20Ley/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=TEAC5020_24-SPR_KW_1#subjects)