

# TEAC 5035 SCIENCE CURRICULUM 4

Credit Points 10

Legacy Code 102900

Coordinator Gail Walker (<https://directory.westernsydney.edu.au/search/name/Gail Walker/>)

**Description** The subject will explore senior Science curriculum to develop pre-service teachers' pedagogical content knowledge in the teaching of Investigating Science and Science Extension. The subject will provide opportunities to engage with teaching interdisciplinary Science. Emphasis will be placed on principles underlying Investigating Science and Science Extension teaching to develop innovative lesson and subject planning, choose relevant data and contexts to create authentic inquiry project based assessment tasks and apply consistent feedback for student learning. There will be a focus on the development of laboratory skills within the context of Investigating Science and techniques including aspects of general and mandatory safety requirements. Opportunities for investigation and discussion of current research particularly related to the development of applied and inquiry-based Science learning in Science Extension will be explored in depth.

**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/](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 a relevant Science 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. Demonstrate a comprehensive understanding of the Investigating Science Stage 6 course.
2. Apply socio-cultural perspectives and pedagogical inquiry theories and approaches used in the Science curriculum area with reference to Investigating Science.
3. Present well-constructed, innovative and coherent 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.
4. Prepare a suitable range of assessment instruments that use valid, reliable and consistent judgements of student learning.
5. Design creative and innovative teaching programs that apply an interdisciplinary approach to teaching Science and include opportunities to develop students' number, spatial, data analysis, problem-solving and graphing skills and understanding.

6. Use a variety of teaching and learning strategies and apply a variety of laboratory skills and techniques including aspects of general and mandatory safety requirements in the laboratory.
7. Reflect and research professional learning to develop the discipline of interdisciplinary and extension Science.

## Subject Content

1. What is the nature of the interdisciplinary science in the senior 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 the subject?
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 the subject?
4. How are lessons planned, units written and learning scoped and sequenced in the subject?
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 the subject?
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 the subject with options for project development in Science Extension?
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 the subject?
11. What options are open to pre-service teachers to continue to learn about the inquiry in Science?

## 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]. (2017). Science Stage 6 Syllabuses. (<https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/stage-6-learning-areas/stage-6-science/>)