TEAC 5032 SCIENCE CURRICULUM 1

Credit Points 10

Legacy Code 102897

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

Description The subject will examine and model effective contemporary classroom practice to develop students' pedagogical content knowledge in the teaching of Science. The subject will provide opportunities to engage with teaching Science across strands and programs in years 7-10. The specifics of the relevant NSW Education Standards Authority Years 7-10 Syllabus and links with the K-6 curriculum will be analysed and critiqued as will current Australian and NSW educational/curriculum policies and priorities. Emphasis will be placed on principles underlying Science teaching to develop innovative lesson and subject planning, choosing relevant data and contexts to create authentic assessment tasks and applying consistent feedback for student learning. There will be a focus on the development of laboratory skills 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 will be presented.

School Education

Discipline Teacher Education: Secondary

Student Contribution Band HECS Band 1 10cp

Check your HECS Band contribution amount 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 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 NSW Science curriculum in Stages 4 and 5.
2. Apply socio-cultural perspectives and pedagogical inquiry theories and approaches used in the Science curriculum area.
3. Demonstrate an understanding of the scientific principles used by Aboriginal and Torres Strait Islander peoples in developing technologies, using materials, cultivating plants and sustainably managing natural resources.
4. 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.
5. Prepare a suitable range of assessment instruments that use valid, reliable and consistent judgements of student learning.
6. Design creative and innovative teaching programs that apply a critically reflective approach to teaching Science and include opportunities to develop students' number, spatial, data analysis, problem-solving and algebraic skills and understanding.
7. 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.
8. Reflect and research professional learning to develop the discipline of Science.

Subject Content

1. What are the main concepts and approaches to Science in the early and middle years of secondary education? How is the subject linked to what is taught in primary school and in the senior 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 the subject?
3. What are the scientific principles used by Aboriginal and Torres Strait Islander peoples in developing technologies, using materials, cultivating plants and sustainably managing natural resources?
4. 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?
5. How are lessons planned, units written and learning scoped and sequenced in the subject?
6. Why is it necessary to differentiate teaching in the subject? How do teachers go about differentiation?
7. How do teachers keep students safe during teaching in Science?
8. 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?
9. How can assessment of learning, assessment for learning and assessment as learning be reconciled in teaching the subject?
10. 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)?
11. In what ways has educational research contributed to the teaching and student learning of the subject?
12. What options are open to pre-service teachers to continue to learn about Science teaching?

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]. (2018). Science 7-10 syllabus. (https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/science/science-7-10-2018/)

Teaching Periods

Autumn (2022)
Penrith (Kingswood)
Day
Subject Contact Gail Walker (https://directory.westernsydney.edu.au/search/name/Gail Walker/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=TEAC5032_22-AUT_KW_D#subjects)

Autumn (2023)
Penrith (Kingswood)
On-site
Subject Contact Gail Walker (https://directory.westernsydney.edu.au/search/name/Gail Walker/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=TEAC5032_23-AUT_KW_1#subjects)