

TEAC 3058 SCIENCE CURRICULUM 7-10

Credit Points 10

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Description The subject will examine and model effective contemporary classroom practice to develop students' pedagogical content knowledge in Science. Relevant NESA Years 7-10 Syllabus will be analysed and applied in practical and professional tasks. Emphasis will be placed on principles underlying engaged inquiry teaching within the specific secondary subject of Science. The subject will focus on how teachers develop practical and inquiry programs to meet outcomes in Science, and on the role of data in authentic and appropriate assessment practices. Students will have opportunities for scientific investigation and discussion of current research particularly related to sustainability, biodiversity and Aboriginal knowledges in the teaching of Science in years 7-10.

School Education

Discipline Curriculum Studies

Student Contribution Band

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

Level Undergraduate Level 3 subject

Pre-requisite(s) TEAC 2004

Restrictions

Students must be enrolled in 1939 Bachelor of Education (Secondary).

Assumed Knowledge

Successful completion of 40 credit points of Chemistry or Biology subjects in the Secondary Chemistry or Biology Education majors.

Learning Outcomes

After successful completion of this subject, students will be able to:

1. Demonstrate a comprehensive understanding of NSW Science curriculum in Stages 4 and 5.
2. 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.
3. Design 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 a critically reflective approach to teaching Science and include opportunities to develop students' scientific and numerate thinking.
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.

Subject Content

1. What are the main concepts and approaches to Science in the early and middle years of secondary education?
2. How is the subject linked to what is taught in primary school and in the senior years of secondary education?
3. 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?
4. 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?
5. What are the key inquiry and scientific pedagogies applied in teaching?
6. How are lessons planned, units written and learning scoped and sequenced in the subject?
7. Why is it necessary to differentiate teaching in the subject? How do teachers go about differentiation?
8. How do teachers keep students safe during teaching in Science?
9. 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?
10. How can assessment of learning, assessment for learning and assessment as learning be reconciled in teaching the subject?
11. In what ways has educational research contributed to the teaching and student learning of the subject?

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