

TEAC 3044 STEM PRINCIPLES AND PRACTICES IN THE PRIMARY YEARS

Credit Points 10

Legacy Code 102797

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Description The purpose of this unit is for students to gain exposure to authentic contexts for integrating science, technology, engineering and mathematics (STEM) and to develop knowledge and skills with designing and implementing STEM learning experiences. Students will have the opportunity to complete authentic interdisciplinary STEM tasks, and draw upon this experience to design and implement interdisciplinary STEM learning activities aligned to syllabus outcomes. This unit will allow students to simulate and evaluate the teaching practices associated with high-quality interdisciplinary STEM lessons.

School Education

Discipline Teacher Education: Primary

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 Undergraduate Level 3 subject

Restrictions Students must be enrolled in and have successfully completed 160 credit points in the Bachelor of Education (Primary).

Assumed Knowledge

1. Mathematics K-10 Syllabus (2012).
2. Science & Technology K-6 Syllabus (2017).

Learning Outcomes

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

1. Demonstrate a critical understanding of theoretical constructs underlying STEM curriculum development as it relates to classroom teaching practice and student learning;
2. Demonstrate a critical understanding of computational and algorithmic thinking;
3. Apply knowledge of the K-6 syllabus documents in developing authentic STEM learning experiences;
4. Incorporate design thinking into STEM curriculum integration and development;
5. Create and evaluate interdisciplinary STEM units which integrate STEM principles in meaningful ways across traditional subject boundaries.

Subject Content

1. What is STEM and where does it fit in today's educational climate?
2. Applying interdisciplinary STEM pedagogies in the classroom (K-6)
3. Authentic STEM tasks and what do they look like in the classroom
4. Designing interdisciplinary STEM learning experiences (K-6)
5. Computational Thinking through robotics and coding in the classroom
6. Design making with a STEM approach

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.

Item	Length	Percent	Threshold	Individual/Group Task
Simulation	500 words	15	N	Individual
Critical Review	1 400 words	35	N	Individual
Professional Task	2000 words	50	N	Individual

Teaching Periods