COURSE OUTLINE

EDU309 Teaching Science in Primary Schools

School: School of Education and Tertiary Access

2026 | Trimester 2

UniSC Sunshine Coast
UniSC Moreton Bay
UniSC Fraser Coast

BLENDED LEARNING

Most of your course is on campus but you may be able to do some components of this course online.

Please go to unisc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

During this course you will explore and evaluate scientific concepts to build your scientific literacy and proficiency as a primary school science teacher. Throughout the course you will plan and take part in hands-on activities and investigations to explore science concepts and model the pedagogy of science. You will deepen your knowledge of the Australian Curriculum: Science by exploring and researching links between the syllabus, Big Ideas in chemical and physical sciences, and primary science activities and pedagogies.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – You are required to engage and interact with asynchronous materials and activities accessed through Canvas modules, course readings and required texts.	2hrs	Week 1	9 times
Tutorial/Workshop 1 – You are required to attend weekly tutorial/workshop activities on campus.	2hrs	Week 1	10 times

1.3. Course Topics

- Develop an understanding of the Australian Curriculum: Science in the primary years (Chemical Sciences and Physical Sciences focus)
- Understand and apply 'big ideas' of Science relating to the particle model for matter, energy, forces, and the Nature of Science
- Science pedagogies and managing a science classroom: student engagement, learning by inquiry, active learning, context, argumentation, representations
- Engage with technologies to enhance science education
- Design safe science learning experiences and assessment strategies appropriate for primary classrooms

2. What level is this course?

300 Level (Graduate)

Demonstrating coherence and breadth or depth of knowledge and skills. Independent application of knowledge and skills in unfamiliar contexts. Meeting professional requirements and AQF descriptors for the degree. May require pre-requisites where discipline specific introductory or developing knowledge or skills is necessary. Normally undertaken in the third or fourth full-time study year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES	GRADUATE QUALITIES MAPPING	PROFESSIONAL STANDARD MAPPING *
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...	Australian Institute for Teaching and School Leadership
1 Build personal scientific literacy and content knowledge through engagement with Big Ideas in science in a range of learning and investigative contexts. Develop skills for promoting scientific literacy and integration of literacy and numeracy skills.	Knowledgeable Creative and critical thinker	2.1, 2.5, 3.2, 3.3, 3.4
2 Evaluate links between science content, the Australian Curriculum - Science (ACS), literacy and numeracy capabilities, and learning theory and teaching strategies that contribute to planning science education activities.	Knowledgeable Empowered	1.2, 2.1, 2.2, 2.3, 2.5, 3.2, 3.3, 3.4, 4.4, 5.1
3 Apply innovative and adaptive science education design, including use of physical resources, ICT, ethics and risk management protocols, and application of literacy and numeracy strategies to promote scientific literacy, and to plan science activities and events that facilitate student engagement and achievement.	Creative and critical thinker Empowered	1.2, 2.1, 2.2, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 4.4, 4.5, 6.2, 6.3
4 Develop proficient and responsible use of digital devices and other resources to support your science teaching, further learning and professional advancement. Explore literacy and numeracy strategies to promote scientific literacy.	Engaged Sustainability-focussed	2.1, 2.5, 2.6, 3.2, 4.5, 6.2, 6.3

* Competencies by Professional Body

CODE	COMPETENCY
AUSTRALIAN INSTITUTE FOR TEACHING AND SCHOOL LEADERSHIP	
1.2	Understand how students learn: Demonstrate knowledge and understanding of research into how students learn and the implications for teaching.
2.1	Content and teaching strategies of the teaching area: Demonstrate knowledge and understanding of the concepts, substance and structure of the content and teaching strategies of the teaching area
2.2	Content selection and organisation: Organise content into an effective learning and teaching sequence.
2.3	Curriculum, assessment and reporting: Use curriculum, assessment and reporting knowledge to design learning sequences and lesson plans.

CODE	COMPETENCY
2.5	Literacy and numeracy strategies: Know and understand literacy and numeracy teaching strategies and their application in teaching areas.
2.6	Information and Communication Technology (ICT): Implement teaching strategies for using ICT to expand curriculum learning opportunities for students.
3.1	Establish challenging learning goals: Set learning goals that provide achievable challenges for students of varying abilities and characteristics.
3.2	Plan, structure and sequence learning programs: Plan lesson sequences using knowledge of student learning, content and effective teaching strategies.
3.3	Use teaching strategies: Include a range of teaching strategies.
3.4	Select and use resources: Demonstrate knowledge of a range of resources, including ICT, that engage students in their learning.
4.4	Maintain student safety: Describe strategies that support students' wellbeing and safety working within school and/or system, curriculum and legislative requirements.
4.5	Use ICT safely, responsibly and ethically: Demonstrate an understanding of the relevant issues and the strategies available to support the safe, responsible and ethical use of ICT in learning and teaching.
5.1	Assess student learning: Demonstrate understanding of assessment strategies, including informal and formal, diagnostic, formative and summative approaches to assess student learning.
6.2	Engage in professional learning and improve practice: Understand the relevant and appropriate sources of professional learning for teachers
6.3	Engage with colleagues and improve practice: Seek and apply constructive feedback from supervisors and teachers to improve teaching practices.

5. Am I eligible to enrol in this course?

Refer to the UniSC Glossary of terms for definitions of "pre-requisites, co-requisites and anti-requisites".

5.1. Pre-requisites

Enrolled in Program ED303, ED304, ED306 or UB009

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

5.4. Specific assumed prior knowledge and skills (where applicable)

ED304 students (Bachelor of Primary Education) and ED303 (Bachelor of Education (Early Childhood)) will have successfully completed minimum of 12 Education Courses, not including school placement courses.

5.5. Microcredential Information

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Early feedback is provided as part of task 1a. This course will provide feedback during the first three weeks of tutorial investigations that lead to the assessment task.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1a	Quiz/zes	Individual	15%	30 minutes	Week 4	In Class
All	1b	Quiz/zes	Individual	15%	30 minutes	Week 10	In Class
All	2	Plan	Individual	35%	2 x lesson plans (2 x 1000 words)	Week 5	Online Assignment Submission with plagiarism check and in class
All	3a	Oral	Individual	15%	10-minute teaching segment	Refer to Format	In Class
All	3b	Artefact - Professional	Individual	20%	1000-word lesson plan	Week 9	Online Assignment Submission with plagiarism check

All - Assessment Task 1a: Chemical Science Quiz

GOAL:	The goal of this task is to demonstrate science content knowledge and curriculum understanding aligned with the Australian Curriculum: Science (Chemical Sciences) for primary school teachers.
PRODUCT:	Quiz/zes
AUTHORSHIP STATEMENT:	
FORMAT:	Online Quiz completed in tutorial: closed book, multiple choice and short answer
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Demonstrated knowledge and understanding of the Australian Curriculum: Science - Chemical Sciences. — 1 2 2 Demonstrated understanding of appropriate pedagogies to teach science. — 1
GENERIC SKILLS:	Problem solving, Information literacy

All - Assessment Task 1b: Physical Science Quiz

GOAL:	The goal of this task is to demonstrate science content knowledge and curriculum understanding aligned with the Australian Curriculum: Science (Physical Sciences) for primary school teachers.
PRODUCT:	Quiz/zes
AUTHORSHIP STATEMENT:	
FORMAT:	Online Quiz completed in tutorial: closed book, multiple choice and short answer
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Demonstrated knowledge and understanding of the Australian Curriculum: Science - Physical Sciences. — 1 2 2 Demonstrated understanding of appropriate pedagogies to teach science. — 1
GENERIC SKILLS:	Problem solving, Information literacy

All - Assessment Task 2: Chemical Science Investigation

GOAL:	The goal of this task is to demonstrate an understanding of Chemical Science, the Australian Curriculum: Science andappropriate pedagogy to develop a scientific investigation lesson sequence.
PRODUCT:	Plan
AUTHORSHIP STATEMENT:	
FORMAT:	Contemporary science teaching and learning develops students' ability to follow an inquiry approach by creating and completing investigations in science. This course will teach you how to create an investigation suitable for primary aged students. You will design a teaching sequence of two complete lesson plans as an individual task. Details about the two lesson plans will be discussed in tutorials. A template will be provided and must not be modified. Your lessons should align with the Australian Curriculum: Science – Chemical Sciences sub-strand using developmentally appropriate teaching and learning pedagogies. The lesson plans will indicate assessment opportunities and resources that will meet the needs of a diverse classroom and be equivalent to 2 x 60-minute lessons of science. They should demonstrate inquiry-based learning and teaching.
CRITERIA:	

No.		**Learning Outcome assessed**
1	Application of knowledge and understanding of the Australian Curriculum: Science.	1 3
2	Application of science learning theory and developmentally appropriate pedagogy to pedagogical choices.	3
3	Application scientific ideas and laboratory safety procedures to classroom activities in Science.	1 3 4
4	Employment of effective language, structure and text to communicate curriculum strategies and ideas	

GENERIC SKILLS:	Communication, Problem solving, Organisation, Information literacy

All - Assessment Task 3a: Physical Science Teaching Segment

GOAL:	The goal of this task is to create and deliver a teaching segment that follows a written lesson plan to demonstrate knowledge of the Australian Curriculum: Science - Physical Science. Your lessons should align with the sub-strand using developmentally appropriate pedagogies and provide achievable challenges for all students.
PRODUCT:	Oral
AUTHORSHIP STATEMENT:	
FORMAT:	Teaching segment: You will individually teach one of the activities (from the lesson plan submitted as Task Three B) to the tutorial class for approximately 10 minutes. You will need to locate materials and resources related to the concept you plan to teach, model the teaching of the selected concept by incorporating suitable teaching pedagogy and age-appropriate language and demonstrate good questioning and communication skills (verbal and non-verbal) while you are teaching. The micro-teaching segment should be taught as though the tutorial is your primary-aged science class. Teaching segments will be conducted during Week 8 and 9 tutorials.
CRITERIA:	

No.		**Learning Outcome assessed**
1	Application of knowledge and understanding of the Australian Curriculum: Science.	1 3
2	Demonstrated understanding of science learning theory and developmentally appropriate pedagogy.	3
3	Application of deep knowledge of science pedagogy to design investigations and synthesise Science learning outcomes.	1 3 4
4	Employment of written communication skills and academic literacies including English expression grammar, spelling, punctuation, APA referencing conventions.	
5	Employment of presentation and teaching communication skills (verbal and non-verbal).	

GENERIC SKILLS:	Communication, Problem solving, Applying technologies, Information literacy

All - Assessment Task 3b: Physical Science Lesson Plan

GOAL:	The goal of this task is to create and provide a written lesson plan to demonstrate knowledge of the Australian Curriculum: Science - Physical Sciences.
PRODUCT:	Artefact - Professional
AUTHORSHIP STATEMENT:	
FORMAT:	Lesson Plan: You will create a written lesson plan using the template provided on Canvas that reflects what you present for Task Three A. The lesson plan will use an inquiry-based approach to develop a concept from the Physical Sciences Sub-strand. Like Task Two, the lesson plan is to demonstrate developmentally appropriate science pedagogy through student investigation.
CRITERIA:	

No.		Learning Outcome assessed
1	Application of knowledge and understanding of the Australian Curriculum: Science.	1 3
2	Demonstrated understanding of science learning theory and developmentally appropriate pedagogy.	3
3	Application of deep knowledge of science pedagogy to design investigations, and synthesise Science learning outcomes.	1 3 4
4	Employment of written communication skills and academic literacies including English expression, grammar, spelling, punctuation, and APA referencing conventions.	
5	Employment of presentation and teaching communication skills (verbal and non-verbal).	

GENERIC SKILLS:	Communication, Problem solving, Applying technologies, Information literacy

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

You need regular access to the resource(s) below. Many texts are available as ebooks through the Library at no additional cost.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Required	Peter Loxley,Lyn Dawes,Linda Nicholls,Babs Dore	2017	Teaching Primary Science, 3rd Edition	3rd edition	Routledge
Recommended	Michael Allen	2014	Misconceptions in Primary Science	n/a	McGraw-Hill Education (UK)

8.2. Specific requirements

It is your responsibility to attend tutorials/workshops to obtain the course topics and seek clarification. It will be necessary to spend time outside of class preparing for the content exam. There are two weeks in which a laptop will be required for the tutorial. If you don't have one, please make arrangements to share with another student.

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the online induction training for students, and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:
(a) The final mark is in the percentage range 47% to 49.4%; and
(b) The course is graded using the Standard Grading scale

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:
(a) One day: deduct 5%;
(b) Two days: deduct 10%;
(c) Three days: deduct 20%;
(d) Four days: deduct 40%;
(e) Five days: deduct 60%;
(f) Six days: deduct 80%;
(g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:
Less than 15 minutes: No penalty
From 15 minutes to 30 minutes: 20% penalty
More than 30 minutes: 100% penalty

10.4. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.5. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The Student Charter sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.6. General Enquiries

For course-specific questions, contact your teaching staff or Course Coordinator.

For other enquiries or to access support, please contact Student Central:

- UniSC Student Central
- UniSC Adelaide Student Central