COURSE OUTLINE

EDU769 Teaching Science in Primary School

School: School of Education and Tertiary Access

2025 | Semester 2

UniSC Sunshine Coast
UniSC Moreton Bay

BLENDED LEARNING

You can do this course without coming onto campus, unless your program has specified a mandatory onsite requirement.

Please go to usc.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 & take part in hands-on activities & 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?

700 Level (Specialised)

Demonstrating a specialised body of knowledge and set of skills for professional practice or further learning. Advanced application of knowledge and skills in unfamiliar contexts.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES On successful completion of this course, you should be able to...	GRADUATE QUALITIES MAPPING Completing these tasks successfully will contribute to you becoming...	PROFESSIONAL STANDARD MAPPING * Australian Institute for Teaching and School Leadership
1 Build strong 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 Synthesise links between science discipline 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 deeply 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.
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.

CODE	COMPETENCY
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 ED707

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

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) and rationale (500 words)	Week 5	Online Assignment Submission with plagiarism check
All	3a	Oral	Individual	15%	10-minute teaching segment	Refer to Format	In Class
All	3b	Artefact - Professional, and Written Piece	Individual	20%	1000-word lesson plan and 500-word reflection	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
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
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 Planning

GOAL:	The goal of this task is to demonstrate an understanding of Chemical Science, the Australian Curriculum: Science and appropriate pedagogy to develop a scientific investigation lesson sequence.
PRODUCT:	Plan
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. In your 500 word rationale, you are asked to elaborate on the pedagogical choices that you have made in your lesson sequence, supported by relevant academic literature.
CRITERIA:	

No.		**Learning Outcome assessed**
1	Application of deep synthesised knowledge and understanding of the Australian Curriculum: Science.	1 3
2	Application of deep understanding of science learning theory and developmentally appropriate pedagogy to justify pedagogical choices.	3
3	Application of deep knowldege of science pedagogy to design investigations and synthesise Science learning outcomes.	1 3 4
4	Employment of effective language, structure and text to communicate and validate curriculum strategies and ideas.	

GENERIC SKILLS:	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 Sciences.
PRODUCT:	Oral
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 deep synthesised knowledge and understanding of the Australian Curriculum: Science	1 3
2	Demonstrated deep 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 advanced presentation and teaching communication skills (verbal and non-verbal).	
6	Critical reflection of science teaching performance and conclusions justified with academic literature.	2 3

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

All - Assessment Task 3b: Physical Science Lesson Plan and Rationale

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, and Written Piece
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. Reflection: You will critically evaluate your teaching segment providing recommendations for areas you believe were successful and areas for further development, supported by relevant academic literature. Submit in Week 9.
CRITERIA:	

No.		Learning Outcome assessed
1	Application of deep synthesised knowledge and understanding of the Australian Curriculum: Science	1 3
2	Demonstrated deep 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 literature including English expression, grammar, spelling, punctuation, and APA referencing conventions.	
5	Employment of advanced presentation and teaching communication skills (verbal and non-verbal).	
6	Critical reflection of science teaching performance and conclusions justified with academic literature.	2 3

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

Please note that you need to have regular access to the resource(s) listed below. Resources may be required or recommended.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Required	Peter Loxley,Lyn Dawes,Linda Nicholls,Babs Dore	2017	Teaching Primary Science, 3rd Edition	n/a	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

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Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

The final mark is in the percentage range 47% to 49.4%
The course is graded using the Standard Grading scale
You have not failed an assessment task in the course due to academic misconduct

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. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: 07 5430 1168 or using the SafeZone app. For general enquires contact the SafeUniSC team by phone 07 5456 3864 or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call 07 5430 1226 or email studentwellbeing@usc.edu.au.

10.5. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the Learning Advisers web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.6. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to Student Hub, email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.7. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, AccessAbility Services can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to Student Hub, email AccessAbility@usc.edu.au or call 07 5430 2890.

10.8. 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

10.9. 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.

10.10. General Enquiries

In person:

- **UniSC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **UniSC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **UniSC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **UniSC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **UniSC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **UniSC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au