COURSE OUTLINE

EDU354 Teaching Junior Secondary Science 2

School: School of Education and Tertiary Access

2026 | Trimester 1

UniSC Sunshine Coast
UniSC Moreton Bay

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

This course is only for students who have two teaching areas in the sciences. In this course you will deepen your knowledge of teaching and the Australian Curriculum: Science by exploring the nexus between curriculum strands, science concepts, science education research, and innovative strategies for learning and communication. You will design, plan and participate in hands-on science activities and investigations suitable for Years 7-10 students.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – 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

- Australian Curriculum: Science (ACS) – Science Understanding, Science Inquiry Skills and Science as a Human Endeavour.
- Linking the ACS with 'Big Ideas' and teaching and learning activities
- Using ICT, literacy and numeracy in classroom activities
- Reflective practice; responding to students' needs
- Science pedagogy, teaching strategies and managing a Science classroom for student engagement, in learning and active learning for a diversity of middle phase students
- Approaches to Scientific Investigations
- Linking learning theory and practice through planning learning activities and assessment to support and extend a diversity of learners
- Professional practice and risk management in Science 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 Apply knowledge of the Australian Curriculum, Science 'big ideas' and pedagogies for learning, inclusion and engagement to develop a sequence of lesson plans in Science.	Knowledgeable Empowered	2.1, 2.2, 2.3, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4
2 Apply knowledge of inquiry-based pedagogies, classroom management, ICT, literacy, numeracy and laboratory safety to design classroom activities in Science.	Knowledgeable Empowered	2.1, 2.2, 2.3, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.6, 4.1, 4.2, 4.3, 4.4, 4.5
3 Professionally reflect and act on principles of curriculum design, implementation and assessment in relation to teaching Science.	Knowledgeable Empowered	2.1, 2.2, 2.3, 2.4, 3.2, 3.6, 4.1, 4.2, 4.3, 4.4, 4.5, 5.1, 5.2, 5.3, 5.4, 5.5
4 Employ effective language, structure and text to communicate curriculum strategies and ideas.	Knowledgeable Empowered	3.5

* Competencies by Professional Body

CODE	COMPETENCY
AUSTRALIAN INSTITUTE FOR TEACHING AND SCHOOL LEADERSHIP	
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.
2.4	Understand and respect Aboriginal and Torres Strait Islander people to promote reconciliation between Indigenous and non-Indigenous Australians: Demonstrate broad knowledge of, understanding of and respect for Aboriginal and Torres Strait Islander histories, cultures and languages.
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.

CODE	COMPETENCY
3.4	Select and use resources: Demonstrate knowledge of a range of resources, including ICT, that engage students in their learning.
3.5	Use effective classroom communication: Demonstrate a range of verbal and non-verbal communication strategies to support student engagement
3.6	Evaluate and improve teaching programs: Demonstrate broad knowledge of strategies that can be used to evaluate teaching programs to improve student learning.
4.1	Support student participation: Identify strategies to support inclusive student participation and engagement in classroom activities.
4.2	Manage classroom activities: Demonstrate the capacity to organise classroom activities and provide clear directions
4.3	Manage challenging behaviour: Demonstrate knowledge of practical approaches to manage challenging behaviour.
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.
5.2	Provide feedback to students on their learning: Demonstrate an understanding of the purpose of providing timely and appropriate feedback to students about their learning
5.3	Make consistent and comparable judgements: Demonstrate understanding of assessment moderation and its application to support consistent and comparable judgements of student learning.
5.4	Interpret student data: Demonstrate the capacity to interpret student assessment data to evaluate student learning and modify teaching practice.
5.5	Report on student achievement: Demonstrate understanding of a range of strategies for reporting to students and parents/ carers and the purpose of keeping accurate and reliable records of student achievement

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 SE303 with a major and extended major in in Biological Sciences, Chemical Sciences or Psychological Sciences

5.2. Co-requisites

EDU352

5.3. Anti-requisites

Not applicable

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

Not applicable

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

You will work with a group of your peers on Task 1 in tutorials during the first four weeks of the course, Your tutor and peers will exchange ideas and feedback with you as you work on Task 1.

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	1	Artefact - Creative, and Oral	Group	30%	10 minutes presentation including a short animation	Week 4	In Class
All	2	Artefact - Professional, and Written Piece	Individual	20%	1000 words	Week 7	Online Assignment Submission with plagiarism check
All	3	Plan	Individual	50%	2000 words and 3 minutes presentation	Week 10	Online Assignment Submission with plagiarism check and in class

All - Assessment Task 1: Active Learning Artefact and Analysis

GOAL:	The goal of this task is to analyse engagement and learning strategies in a hands-on science activity.
PRODUCT:	Artefact - Creative, and Oral
AUTHORSHIP STATEMENT:	
FORMAT:	"Slowmation" (abbreviated from "Slow Animation") is a narrated stop-motion animation that tells a story or explains a concept. With 2-3 of your peers, you will produce a short Slowmation to exemplify a Content Description or Elaboration from the Australian Curriculum – Science (ACS). Each group will present their animation in tutorial, and explain: • the ACS Content Description or Elaboration(s) that has been addressed, • how the Slowmation was designed to represent the Content Description or Elaboration, • 'learning moments' your group encountered whilst making it, supported by education literature.
CRITERIA:	**No.** / **Learning Outcome assessed** 1 Applying knowledge of the Australian Curriculum, Science 'big ideas'. — 1 2 Professional reflection and action on principles of curriculum design and implementation in relation to teaching Science. — 3 3 Employment of language, structure and text appropriate to the teaching profession to communicate curriculum strategies and ideas. — 4
GENERIC SKILLS:	Collaboration, Applying technologies

All - Assessment Task 2: Infographic & Professional Reflection

GOAL:	The goal of this task is to review, reflect and report on a science education issue.
PRODUCT:	Artefact - Professional, and Written Piece
AUTHORSHIP STATEMENT:	
FORMAT:	You will create an infographic to communicate details of a given science education issue reported through the academic literature, and write an accompanying reflection of how Years 7-9 science teachers can respond to the issue via their teaching.
CRITERIA:	

No.		Learning Outcome assessed
1	Professional reflection on principles of curriculum design, implementation and assessment in relation to teaching Science.	3
2	Employment of effective language, structure and text to communicate curriculum strategies and ideas.	4

GENERIC SKILLS:	Communication, Information literacy

All - Assessment Task 3: Lesson and Assessment Module (Unit) Production

GOAL:	The goal of this task is to design a Webquest inquiry-learning module.
PRODUCT:	Plan
AUTHORSHIP STATEMENT:	
FORMAT:	"A WebQuest is an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet…" (Bernie Dodge). In this task you will create a learning module consisting of an original Webquest for a Year 7, 8 or 9 Australian Curriculum Science (ACS) unit, and an accompanying teachers' guide consisting of ACS alignment and a recommended lesson sequence plan and recommendation for classroom management. The first lesson must include how you will identify where a student is in their learning through assessing what they know, or think they know. Content and tasks will be sequenced to become increasingly challenging and will include opportunities to practise. Your rationale must address why specific teaching strategies were selected, considering the students' familiarity with the content, and explain your choice of curriculum content, assessment, and resources, and should make specific reference to the course readings, Australian education policy frameworks and curriculum documents. The lesson sequence should include appropriate teaching strategies, including explicit teaching, spacing and retrieval practices, modelling/worked examples, and scaffolding as appropriate and assessment practices to evaluate progress, adjust instruction, provide targeted feedback and support learning. You will upload your Webquest and your teacher's guide to Canvas, and you will also present your Webquest to your tutor and peers during tutorial.
CRITERIA:	

No.		Learning Outcome assessed
1	Presentation: Employment of effective language, structure and text to communicate curriculum strategies and ideas.	4
2	Webquest Learning Module: Application of knowledge of the Australian Curriculum, Science 'big ideas' and pedagogies for learning, inclusion and engagement to develop a sequence of lesson plans in Science.	1
3	Webquest Learning Module: 2. Application of knowledge of a range of teaching strategies, classroom management, ICT, literacy, numeracy and laboratory safety to design classroom activities in Science.	2
4	Webquest Learning Module: Professional reflection and action on principles of curriculum design, implementation and assessment in relation to teaching Science.	3

GENERIC SKILLS:	Organisation, 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.

7.1. Schedule

PERIOD AND TOPIC	ACTIVITIES
Module 1: Weeks 1-3 Active Learning	Exploring middle-phase pedagogies for inclusion, engagement and scientific literacy. Diagnosing student thinking to identify conceptions and misconceptions. Student-centred approaches to Curriculum design. Science-pedagogy content knowledge. Reflecting on and evaluating teaching and learning activities with special focus on learner-generated animations.
Module 2: Weeks 4-10 Facilitating engagement and learning for middle-phase science students	Considering students' needs during the primary to lower secondary school transition. STEM Education. Evaluating scientific activities for middle-phase classrooms. Science education literature review. Exploring, reflecting on and planning with teaching and learning activities.
Module 3: Week 6-10 Student-centred learning and authentic assessment	Evaluating scientific activities for middle-phase classrooms. Examining teaching resources including ICT and its use in science teaching and assessment. Developing literacy and numeracy through Science. Designing inquiry-based activities to develop conceptual understanding, scientific literacy and critical and creative thinking skills. Exploring, reflecting on and planning with teaching and learning activities with special focus on Webquests. Developing inquiry-based learning and teaching plans and resources. Planning lesson sequences. Exploring assessment, evaluation, feedback, moderation, and reporting in science. Designing assessment schema

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	Vaille Dawson,Grady Venville,Jennifer Donovan	2019	The Art of Teaching Science	3	Routledge

8.2. Specific requirements

Not applicable

9. How are risks managed in this course?

Risk assessments have been performed for all studio and laboratory classes and a low level of health and safety risk exists. Some risk concerns may include equipment, instruments, and tools; as well as manual handling items within the laboratory. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the 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

Eligibility for Supplementary Assessment 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. 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