COURSE OUTLINE

EDU768 Teaching Mathematics in the Early Years

School: School of Education and Tertiary Access

2023 | Semester 2

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 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

Your analysis of the Australian Curriculum: Mathematics (Prep to Year 3) during this course will lead to research and evaluation of current pedagogical approaches for the delivery of this curriculum. You will analyse and apply a range of learning theories and teaching strategies (including play-based and inquiry learning) as well as interpret student thinking and diagnose misconceptions to improve student learning. You will also examine the curriculum linkages with literacy, numeracy and ICT and critically apply your mathematical content knowledge to classroom scenarios.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – You are required to engage with online learning materials, associated activities and required/recommended course reading materials. Apart for the prescribed text, all learning materials can be accessed through the university learning management system.	2hrs	Week 1	10 times
Tutorial/Workshop 1 – A blended learning approach is used to deliver the tutorial/workshop component of the course. The workshop involves on-campus engagement and application of learning materials.	2hrs	Week 1	10 times
Seminar – On campus	1hr	Week 1	6 times

1.3. Course Topics

- How children learn mathematics
- Number and Algebra (1)
- Planning for and assessing mathematics learning
- Number and Algebra (2) – Computational thinking
- Number and Algebra (3) – Patterning and Algebraic thinking
- Measurement and Geometry
- Probability and Statistics
- Mathematical language
- Developing an identity as a mathematics teacher
- Mathematical associations and PD – where to from here?

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 Demonstrate and apply advanced knowledge of the Australian Curriculum Mathematics to lesson planning and teaching strategies.	Knowledgeable Creative and critical thinker Empowered	2.1, 2.2, 2.3, 2.5, 3.3
2 Synthesise knowledge of mathematical learning theory with developmentally appropriate pedagogy to planning and practice. Reflect on personal, knowledge, skills and ability to teach Mathematics.	Knowledgeable Creative and critical thinker Empowered	2.1, 2.2, 2.3, 3.3
3 Demonstrate mastery of mathematical pedagogies, diagnostic and formative assessment and resources to meet the needs of a diverse range of early years learners.	Creative and critical thinker Empowered Ethical Engaged	2.1, 2.2, 2.3, 2.5, 3.3, 3.4, 3.6, 4.2, 5.1, 5.4
4 Demonstrate advanced technical skills when planning and creating learning environments and learning episodes that reflect a sound understanding of mathematical concepts, literacy and use of resources, including ICTs.	Knowledgeable Creative and critical thinker Empowered Sustainability-focussed	2.1, 2.2, 2.3, 2.5, 3.6, 4.2

* 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.

CODE	COMPETENCY
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.
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.
3.6	Evaluate and improve teaching programs: Demonstrate broad knowledge of strategies that can be used to evaluate teaching programs to improve student learning.
4.2	Manage classroom activities: Demonstrate the capacity to organise classroom activities and provide clear directions
5.1	Assess student learning: Demonstrate understanding of assessment strategies, including informal and formal, diagnostic, formative and summative approaches to assess student learning.
5.4	Interpret student data: Demonstrate the capacity to interpret student assessment data to evaluate student learning and modify teaching practice.

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 will occur during tutorials and prior to the first assessment in a variety of forms such as: online weekly quizzes, peer support, tutor modelling, examples to view, open discussions, etc..

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	Plan	Individual	30%	Rationale statement (500 words) and Lesson Plan (1000 words)	Week 4	Online Assignment Submission with plagiarism check
All	2	Oral and Written Piece	Individual and Group	30%	Lesson Plan (1000 words), Teaching Segment (10 minutes), and reflection.	Week 7	In Class
All	3	Examination - not Centrally Scheduled	Individual	40%	90 minutes	Week 10	In Class

All - Assessment Task 1: Rationale Statement and Lesson Plan

GOAL:	The goal of this task is to apply mathematical learning theory, developmentally appropriate pedagogy and knowledge of the Australian Curriculum: Mathematics to develop a rationale statement and lesson plan.
PRODUCT:	Plan
FORMAT:	Apply your knowledge of how children learn Mathematics (learning theory), the Australian Curriculum Mathematics, and developmentally appropriate pedagogies to develop an Early Years (P-3) Mathematics lesson plan and Rationale Statement. The lesson plan is to develop a new mathematical concept for young learners in Prep, Year 1, Year 2, or Year 3. [Refer to Canvas for further details and planning templates for this task]

CRITERIA:

No.		Learning Outcome assessed
1	Apply knowledge of the Australian Curriculum: Mathematics content and substance.	1
2	Synthesise mathematical learning theory and developmentally appropriate pedagogy	2
3	Demonstrate mastery of mathematical pedagogies, diagnostic and formative assessment and resources to meet the needs of a diverse range of early year's learners.	3
4	Written communication skills and academic literacies including English expression, grammar, spelling, punctuation, APA referencing conventions.	

All - Assessment Task 2: Teaching Segment, Lesson Plan and Reflection

GOAL:	The goal of this task is to develop an Early Years Mathematics lesson plan, present a teaching segment, and professional critical reflection.
PRODUCT:	Oral and Written Piece
FORMAT:	Apply your knowledge of how children learn Mathematics (learning theory), the Australian Curriculum Mathematics, and developmentally appropriate pedagogies to develop an Early Years (P-3) Mathematics lesson plan with a partner, and then individually present a teaching segment that provides a sequence of mathematical teaching and learning. Complete a critical reflection after your teaching segment. [Refer to Canvas for further details and planning templates for this task]

CRITERIA:	No.		Learning Outcome assessed
	1	Apply knowledge of the Australian Curriculum: Mathematics content and substance.	1
	2	Synthesise mathematical learning theory and developmentally appropriate pedagogy when selecting resources and teaching strategies (Explicit modelling of concepts and effective teaching strategies)	2
	3	Demonstrate mastery of mathematical pedagogies, diagnostic and formative assessment and resources to meet the needs of a diverse range of early year's learners (appropriate and effective teaching resources and use of ICTs if applicable)	3 4
	4	Oral communication skills (verbal and non-verbal) - teaching presence and engagement with peers during teaching segment	1
	5	Critical reflection of professional competencies in development of teaching segment	1
	6	Written communication skills and academic literacies including English expression, grammar, spelling, punctuation, APA referencing conventions.	

All - Assessment Task 3: In-class exam

GOAL:	The goal of this task is to synthesise knowledge of mathematical learning theory, curriculum content, pedagogy and resources.
PRODUCT:	Examination - not Centrally Scheduled
FORMAT:	Apply your knowledge of the course learning outcomes in this two part exam. [Refer to Canvas for further details on this task].

CRITERIA:	No.		Learning Outcome assessed
	1	Application of the knowledge of the concepts, substance and structure of the Australian Curriculum: Mathematics to critical evaluation of scenario.	1 2
	2	Evaluate teaching and the learning sequences to recommend ways to address a range of students' needs and ways to improve teaching and learning.	2 3
	3	Synthesise knowledge of curriculum, assessment and mathematical learning theory to evaluate students' understandings and misconceptions.	2 3 4

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	Robyn Jorgensen,Shelley Dole,Kevin Larkin	2020	Teaching Mathematics in Primary Schools	(3rd ed.)	Allen & Unwin

8.2. Specific requirements

It is the responsibility of the student to attend tutorials/workshops to obtain the course topics and seek clarification. It is the responsibility of the student to provide resources for the teaching segment (assessment). There is one week in which a laptop/tablet will be required for the tutorial (assessment). 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:

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 submission of assessment tasks may be penalised at the following maximum rate:
- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day - 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task. Weekdays and weekends are included in the calculation of days late. To request an extension you must contact your course coordinator to negotiate an outcome.

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