

# EDST6779

Mathematics 1 (Years K-2)

Term 1, 2022



## Course Overview

### Staff Contact Details

#### Convenors

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### School Contact Information

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## Acknowledgement of Country

UNSW Arts, Design and Architecture Kensington and Paddington campuses are built on Aboriginal Lands. We pay our respects to the Bidjigal and Gadigal peoples who are the Custodians of these lands. We acknowledge the Aboriginal and Torres Strait Islander peoples, the First Australians, whose lands, winds and waters we all now share, and pay respect to their unique values, and their continuing and enduring cultures which deepen and enrich the life of our nation and communities.



Image courtesy of the Office of the Pro Vice-Chancellor Indigenous [UNSW's Indigenous strategy](#)

## Course Details

### Units of Credit 6

### Workload

150 hours including class contact hours, readings, class preparation, assessment, follow up activities, etc.

### Summary of the Course

In this course you will be introduced to the continuum of mathematics learning K-6, with reference to the NSW K-10 Mathematics syllabus. There will be a focus on evaluating and teaching number concepts, taking into account the range of developmental understanding and student ability prior to school entry. The emphasis will be on the pedagogical approaches and teaching strategies suitable for Early Stage 1 and Stage 1 which will develop your understanding of numeracy and encourage the application of numeracy to mathematical concepts. There will also be a focus on the formative and summative assessment strategies needed to evaluate student progress in the early years.

This course is complemented by a minimum of 5 days of supervised professional experience.

### Course Learning Outcomes

1. Identify and describe the range of home and community numeracy practices, including the impact of parental/carer attitudes and different cultural systems including Australian Indigenous communities
2. Identify and communicate mathematical concepts underpinning development of mathematical knowledge, skills and understanding using appropriate terminology
3. Identify and explain the difference between mathematics and numeracy and demonstrate the importance of both aspects in student's lives to meet a range of social and cultural needs
4. Implement a broad and critical understanding of the NSW Board of Studies (2012) Mathematics K-10 syllabus and to select concepts, sequence and connect lessons and map progress
5. Identify and apply a range of assessment and pedagogical strategies suitable for different developmental stages and levels of understanding in mathematics
6. Identify and apply engaging teaching activities and materials to accommodate diverse student abilities (including gifted students)
7. Select, design and apply relevant digital tools to support mathematical understanding and learning
8. Evaluate and appropriately use teaching resources such as calculators, games, hands-on materials and puzzles

### Australian Professional Standards for Teachers

Standard		Assessment/s
1.1.1	Demonstrate knowledge and understanding of physical, social, and intellectual development and characteristics of students and how these may affect learning.	2
1.2.1	Demonstrate knowledge and understanding of research into how students learn and the implications for teaching.	1, 2
1.3.1	Demonstrate knowledge of teaching strategies that are responsive to the learning strengths and needs of students from diverse linguistic, cultural,	1, 2

	religious, and socioeconomic backgrounds.	
1.4.1	Demonstrate broad knowledge and understanding of the impact of culture, cultural identity, and linguistic background on the education of students from Aboriginal and Torres Strait Islander backgrounds.	1
1.5.1	Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities.	1, 2
2.1.1	Demonstrate knowledge and understanding of the concepts, substance and structure of the content and teaching strategies of the teaching area.	1, 2
2.2.1	Organise content into an effective learning and teaching sequence.	1, 2
2.3.1	Use curriculum, assessment and reporting knowledge to design learning sequences and lesson plans.	1, 2
2.6.1	Implement teaching strategies for using ICT to expand curriculum learning opportunities for students.	2
3.3.1	Include a range of teaching strategies.	2
3.4.1	Demonstrate knowledge of a range of resources including ICT that engage students in their learning.	2
5.1.1	Demonstrate understanding of assessment strategies, including informal and formal, diagnostic, formative, and summative approaches to assess student learning.	1
5.3.1	Demonstrate understanding of assessment moderation and its application to support consistent and comparable judgements of student learning.	1
5.4.1	Demonstrate the capacity to interpret student assessment data to evaluate student learning and modify teaching practice.	1
6.3.1	Seek and apply constructive feedback from supervisors and teachers to improve teaching practices.	2

## National Priority Area Elaborations

	Priority area		Assessment/s
A	Aboriginal and Torres Strait Islander Education	4, 8	1, 2
B	Classroom Management	1-2	2
C	Information and Communication Technologies	3-7, 10	1, 2
D	Literacy and Numeracy	1-2, 6-19	1, 2
E	Students with Special Educational Needs	1-8	1, 2
F	Teaching Students from Non-English-Speaking Backgrounds	1-9	1, 2

## Teaching Strategies

### Teaching Strategies

- Student-centred practical activities provide opportunities for critique and reflection on the importance, methodology and pedagogy for teaching mathematics and numeracy
- Lectures demonstrate and explicitly model teaching strategies
- Hands-on use of concrete materials and ICT resources allow students to become confident in selecting, evaluating and using and demonstrating a range of resources
- On-line learning from readings on the Moodle website and selected websites.

### Rationale

Students need to understand the scope and sequence of the NSW Board of Studies (2012) Mathematics K-10 syllabus and use it appropriately to select concepts, sequence and connect lessons and map progress. The course investigates pedagogy appropriate for the developmental stages of diverse students learning mathematics and numeracy. Students are required to develop their use of mathematical language to explain concepts at different levels and in appropriate ways. Developing appropriate use of ICT and concrete materials is also important to develop engaging lesson activities.

A hands-on teaching environment will allow students to model, collaborate and critique explicit strategies and resources within a supportive, reflective environment. Students should be able to discuss, question and critically respond to their own teaching experiences.

## Assessment

Assessment task	Weight	Due Date	Course Learning Outcomes Assessed
1. Lesson Plan: Assessing understanding of measurement and geometry	40%	25/03/2022 05:00 PM	1, 2, 3, 5, 6, 7, 8
2. Portfolio: Maths Resources with Student Work Samples	60%	22/04/2022 05:00 PM	4, 5, 6, 7, 8

### Assessment 1: Lesson Plan: Assessing understanding of measurement and geometry

**Due date:** 25/03/2022 05:00 PM

Task 1 - 2000 words

Part 1: Interview a student

- A. Interview a student in Stage 1 to assess their understanding of size, shapes and dimensions.
- B. Design hands-on activities which require students to demonstrate and articulate an understanding of capacity.
- C. Write a report outlining what the student already understands and can already do.

Part 2: Lesson Plan

- A. Identify the next steps for moving the student forward in their learning.
- B. Design a lesson plan that would extend the student's understanding of measurement and geometry.

#### Additional details

You will have the opportunity during your tutorial to teach a 10 minute excerpt of your lesson plan and receive peer feedback. You will also be encouraged to try out your lesson plan at your INSTEP placement (e.g., with a small group of Stage 1 students, if possible).

### Assessment 2: Portfolio: Maths Resources with Student Work Samples

**Due date:** 22/04/2022 05:00 PM

Task 2 - 3000 words equivalent

Part 1. Develop and trial resources for assessing and teaching syllabus outcomes expected at the end of early stage 1 and stage 1 addressing a range of content areas in Number, Algebra, and Measurement.

Part 2. Select samples of student work and annotate the samples to demonstrate evidence of student thinking. Analyse what the evidence is pointing to in terms of extending, consolidating or re-teaching.

Additional criteria will be provided on Moodle.

### **Additional details**

Part 1: Resources

Gather and/or develop **four** hands-on resources for assessing and teaching syllabus outcomes expected at the **end of early stage 1 and stage 1** addressing at least three content areas of the **Number and Algebra** strand.

Gather and/or develop **two** hands-on resources for assessing and teaching syllabus outcomes expected at the **end of early stage 1 and stage 1** addressing at least two content areas of the **Measurement** strand.

For each resource, you need to provide

- a rationale explaining why the resource is appropriate for the Stage and how it will support learning
- statement(s) of learning intention(s) for the task
- a list of concrete resources needed
- appropriate strategies for the skills and strategies for **Working Mathematically**

*Optional* – try the **six** hands-on resources with an individual or small group of students!

Part 2: Student Work Samples (c. 2000 words)

Select **six** samples of student work (see Moodle):

- four samples for Number/Algebra and
- two samples for Measurement for Early Stage 1 and Stage 1

Annotate the samples to demonstrate evidence of student thinking. Analyse what the evidence is pointing to in terms of extending, consolidating or re-teaching. Consider the language and symbols the student has used, the way the response is set out and any ‘traffic light’ indicator or self-reflection statement showing the student’s own level of confidence.

What written feedback would you use to help move the student’s learning forward?



**RUBRIC/FEEDBACK SHEET**  
**EDST6779 MATHEMATICS 1 (YEARS K-2)**  
**UNSW SCHOOL OF EDUCATION**

**Assessment Task 1: Lesson Plan: Assessing understanding of measurement and geometry**

Specific Criteria	(-)—————>(+)				
<p><b>Understanding of the question or issue and the key concepts involved</b></p> <ul style="list-style-type: none"> <li>• Outline what the student already understands and can already do in relation to Measurement</li> <li>• Include hands-on activities which require students to demonstrate and articulate an understanding of capacity</li> </ul>					
<p><b>Depth of analysis and critique in response to the task</b></p> <ul style="list-style-type: none"> <li>• Design of a lesson plan that clearly indicates next steps for student learning</li> </ul>					
<p><b>Familiarity with and relevance of professional and/or research literature used to support response</b></p> <ul style="list-style-type: none"> <li>• Appropriate research references to support responses</li> <li>• Sound range of research references</li> </ul>					
<p><b>Structure and organisation of response</b></p> <ul style="list-style-type: none"> <li>• Appropriate nature of structural organisation</li> <li>• Logical and coherent structure</li> <li>• Clear presentation of ideas to enhance readability</li> </ul>					
<p><b>Presentation of response according to appropriate academic and linguistic conventions</b></p> <ul style="list-style-type: none"> <li>• Clarity, consistency and appropriateness of conventions for quoting, paraphrasing, attributing sources and information and listing references (APA style)</li> </ul>					

<b>Specific Criteria</b>	(-)—————>(+)				
<ul style="list-style-type: none"> <li>Clarity and appropriateness of sentence structure, vocabulary use, spelling, punctuation and word length</li> </ul>					
<b>General comments/recommendations for next time:</b>					

**Recommended:                    /20 (FL PS CR DN HD)                    Weighting:                    40%**

NB: The ticks in the various boxes are designed to provide feedback to students; they are not given equal weight in determining the recommended grade. Depending on the nature of the assessment task, lecturers may also contextualise and/or amend these specific criteria. The recommended grade is tentative only, subject to standardisation processes and approval by the School of Education Learning and Teaching Committee.

**RUBRIC/FEEDBACK SHEET**  
**EDST6779 MATHEMATICS 1 (YEARS K-2)**  
**UNSW SCHOOL OF EDUCATION**

**Assessment Task 2: Portfolio: Maths Resources with Student Work Samples**

Specific Criteria	(-)—————>(+)				
<p><b>Understanding of the question or issue and the key concepts involved</b></p> <ul style="list-style-type: none"> <li>• Include <b>four</b> hands-on resources for assessing and teaching syllabus outcomes expected at the <b>end of early stage 1 and stage 1</b> addressing at least three content areas of the <b>Number and Algebra</b> strand</li> <li>• Include <b>two</b> hands-on resources for assessing and teaching syllabus outcomes expected at the <b>end of early stage 1 and stage 1</b> addressing at least two content areas of the <b>Measurement</b> strand</li> <li>• A rationale explaining why each of the <b>six</b> resources are appropriate for the Stage and how it will support learning</li> <li>• Include statements of learning intentions for the tasks</li> <li>• Include a list of concrete resources needed</li> <li>• Include 6 samples of student work: <b>four</b> for Number/Algebra and <b>two</b> samples for Measurement for Early Stage 1 and Stage 1</li> </ul>					
<p><b>Depth of analysis and critique in response to the task</b></p> <ul style="list-style-type: none"> <li>• Integrate appropriate strategies for the skills and strategies for <b>Working Mathematically</b> within the <b>six</b> hands-on resources</li> <li>• Annotate the work samples to demonstrate evidence of student thinking</li> <li>• Analyse what the evidence is pointing to in terms of extending, consolidating or re-teaching</li> <li>• Detail written feedback you would use to help move the student’s learning forward</li> </ul>					

Specific Criteria	(-)—————>(+)				
<p><b>Familiarity with and relevance of professional and/or research literature used to support response</b></p> <ul style="list-style-type: none"> <li>• Appropriate research references to support responses</li> <li>• Sound range of research references</li> </ul>					
<p><b>Structure and organisation of response</b></p> <ul style="list-style-type: none"> <li>• Appropriate nature of structural organisation</li> <li>• Logical and coherent structure</li> <li>• Clear presentation of ideas to enhance readability</li> </ul>					
<p><b>Presentation of response according to appropriate academic and linguistic conventions</b></p> <ul style="list-style-type: none"> <li>• Clarity, consistency and appropriateness of conventions for quoting, paraphrasing, attributing sources and information and listing references (APA style)</li> <li>• Clarity and appropriateness of sentence structure, vocabulary use, spelling, punctuation and word length</li> </ul>					
<p><b>General comments/recommendations for next time:</b></p>					

**Recommended:**

**/20 (FL PS CR DN HD)**

**Weighting:**

**60%**

NB: The ticks in the various boxes are designed to provide feedback to students; they are not given equal weight in determining the recommended grade. Depending on the nature of the assessment task, lecturers may also contextualise and/or amend these specific criteria. The recommended grade is tentative only, subject to standardisation processes and approval by the School of Education Learning and Teaching Committee.

# Attendance Requirements

## School of Education Attendance Requirement

The School of Education (SED) requires students meet a minimum attendance requirement of 80% of all scheduled classes (i.e. lectures, tutorials, workshops, seminars) for all courses. Attendance in person is required for tutorials, seminars, and workshops when courses are delivered in face-to-face mode. It is the responsibility of students to ensure that their attendance is recorded for the face-to-face either by electronic means or via an attendance register. Attendance in online or blended mode will be assessed through digital. Further information can be found [here](#).

## Course Schedule

[View class timetable](#)

### Timetable

Date/Module	Type	Content
1	Module	<p><b>Introduction and self-assessment</b></p> <ul style="list-style-type: none"><li>• Exploration of own numeracy levels, personal beliefs, and attitudes to mathematics.</li><li>• Affect and emotion in learning mathematics.</li><li>• Strategies for self-improvement.</li><li>• Introduction to the NSW K-10 Mathematics syllabus, Stages ES1-3</li><li>• Importance of explicit teaching, play, investigation, continuous assessment.</li><li>• The role of the Numeracy Learning Progression (each topic needs to be taught with the Numeracy Progression referenced).</li><li>• Influence of varied experiences prior to school entry.</li><li>• Assessing early numeracy and mathematics experiences, e.g., Best Start/ Port Jackson Number Sense.</li></ul> <p>Self-assessment of Numeracy (500-word written response): Identify and briefly describe your own numeracy learning experiences, your self-assessment of your numeracy levels and your self-efficacy in dealing with mathematical concepts. Provide three pieces of evidence to support your assessment of your levels of numeracy and suggest three ways to enhance those levels over the length of the program. <i>Upload your response to Moodle by the end of</i></p>

		<i>Week 1.</i>
2	Module	<p><b>Theories and approaches</b></p> <p>Dominant theories and approaches to teaching and learning in mathematics: importance of working mathematically; articulating and demonstrating understanding.</p> <p>Strategies for selecting, organising, implementing, and evaluating effective learning experiences in K-6, including groups/workstations and hand-on, practical activities.</p> <p>Importance of working mathematically to explore/communicate understanding and reasoning; represent and solve problems; develop fluency of language and strategies.</p> <p>Continuous assessment for learning:</p> <ul style="list-style-type: none"> <li>• know what learners can already do</li> <li>• learning intentions</li> <li>• success criteria</li> <li>• feedback</li> <li>• peer assessment</li> </ul> <p>Approaches for effective mathematics teaching including questioning, observing, and listening to students, peer discussion, and application of learning.</p> <p>Use of student portfolios (including e-portfolios) to evaluate misconceptions and application of strategies; cooperative learning; and investigation of experiences using concrete objects and representations.</p>
3	Module	<p><b>Measurement and Geometry (MG) Early Stage 1 and Stage 1</b></p> <p>Application to school, community, and home. Importance of physical handling of objects.</p> <p>Understand and apply:</p> <ul style="list-style-type: none"> <li>• length [formal v informal units];</li> <li>• area [surface = covering, compare by superimposing/super positioning shapes, count using cm<sup>2</sup> grids, boundary v area, tessellation];</li> <li>• volume and capacity (complicated topic)</li> </ul>

		<p>[open 3D objects, predict, measure and record, exploring units and strategies, including <i>displacement</i>], mass [conservation, balance, logic of comparing two objects to common third object];</p> <ul style="list-style-type: none"> <li>• time [sequence of day/night/parts of days/months/seasons, calendars, (formal v informal ways to indicate/compare time, analog/digital, identify quarter hours), compare/select shapes and objects [2D and 3D] using touch/properties;</li> <li>• name/description, closed v open shapes, parallel lines edges, vertical = portrait, landscape = horizontal for ICT orientation, use 2D shapes for flip/slide/turn, clockwise v anti-clockwise].</li> </ul> <p>Recognise Aboriginal and Torres Strait Islander usage and terminology may be based on other concepts: bodies, landmarks, etc.</p>
4	Module	<p><b>Early Stage 1 Number and Algebra (NA)</b></p> <p>Whole Numbers</p> <ul style="list-style-type: none"> <li>• Importance of concrete materials and word problems to demonstrate mathematical processes.</li> </ul> <p>Whole numbers 0-20</p> <ul style="list-style-type: none"> <li>• Estimation, comparison, language, and purpose of money.</li> <li>• Use real objects to collect, display and count. Compare size and quantity.</li> </ul> <p>Exact v comparative language</p> <ul style="list-style-type: none"> <li>• <i>equal to, same as, more, fewer</i> (using arrays and randomised groups)</li> <li>• Subtraction and addition as taking away/adding in real contexts.</li> </ul> <p><b>(NA) Addition and Subtraction</b></p> <ul style="list-style-type: none"> <li>• connected to count me in and the progressions.</li> </ul> <p>Working mathematically in other cultures</p> <ul style="list-style-type: none"> <li>• Use of abacus and Aboriginal and Torres</li> </ul>

		<p>Strait Islander spatial patterns.</p> <ul style="list-style-type: none"> <li>• Representations of addition and subtraction using drawings, words, and numerals.</li> </ul> <p>Assessing conceptual understanding using e.g.:</p> <ul style="list-style-type: none"> <li>• Interviews</li> <li>• “SENA” (DoE), and</li> <li>• “LIEN” (AIS).</li> </ul>
5	Module	<p><b>Early Stage 1 (NA) Multiplication and division</b></p> <ul style="list-style-type: none"> <li>• Demonstrate concept of ‘<i>group</i>’, <i>equal groups</i>, <i>unequal groups</i>, <i>lots of</i>, <i>share</i>.</li> <li>• Use conditional language: <i>If there are 9 toy cars in my collection and I am sharing them with two friends, how many cars do we get each?</i></li> </ul> <p><b>Early Stage 1 (NA) Patterns and Algebra</b></p> <ul style="list-style-type: none"> <li>• Sort and classify objects in different ways and explain reasoning;</li> <li>• copy, continue and create repeated <i>patterns</i> (sounds, actions, shapes, objects);</li> <li>• identify and explain errors in <i>repeated</i> patterns using item attributes.</li> </ul>
6	Module	<p><b>Early Stage 1: (NA) Fractions and decimals</b></p> <ul style="list-style-type: none"> <li>• Use pictures/objects to show two <i>equal</i> parts are ‘<i>halves</i>’ and <i>unequal</i> parts are not; need to ‘<i>combine</i>’ to make a <i>whole</i> to be ‘<i>halves</i>’.</li> <li>• Concept of two ‘<i>whole</i>’ objects of different sizes will have ‘<i>halves</i>’ of unequal size; more than one way to divide a <i>whole</i> into ‘<i>halves</i>’.</li> </ul> <p><b>Early Stage 1: (MG) Position</b></p> <ul style="list-style-type: none"> <li>• Combine numbers, sequence and direction to describe/determine position in relation to a given starting point.</li> </ul> <p><b>Early Stage 1: Statistics and Probability (SP)</b></p> <ul style="list-style-type: none"> <li>• Data - collect information about themselves and their environment with teacher assistance. They use actual</li> </ul>



		objects as data and group these objects into a data display.
7	Module	<p><b>Stage 1: Number and Algebra (NA) Whole numbers</b></p> <ul style="list-style-type: none"> <li>• Count 0-100 forwards/backwards with increasing fluency and starting with different numbers.</li> <li>• Apply ordinal numbers (20th) to sequences.</li> <li>• <i>Round to nearest 10</i> (explain different meaning from <i>round</i> shape or <i>around</i>).</li> <li>• Demonstrate <i>place value</i> using '<i>lots of</i>' 10s, 100s and ones.</li> <li>• <i>Estimate</i> size of groups using everyday objects. Group coins and notes differently for the same <i>total</i>.</li> <li>• Understand categories of <i>even</i> and <i>odd</i> numbers and count by 2s.</li> </ul> <p><b>(NA) Addition and subtraction</b></p> <ul style="list-style-type: none"> <li>• Use <i>number line</i> to count forwards and backwards and record as a <i>number sentence</i> to link concepts to real world.</li> <li>• Explain equivalence of number sentences and justify true/false for number sentences.</li> <li>• Articulate '<i>difference between</i>' numerically using concrete objects, number line and drawings. Add equal groups to <i>double</i>, then add left over digits for near doubles.</li> <li>• <i>Demonstrate how reversing</i> factors for addition keeps answer the same.</li> <li>• Explore different <i>strategies</i> to solve a number problem and explain reason for choosing the strategy.</li> </ul>
8	Module	<p><b>Stage 1 (NA) Multiplication and division</b></p> <ul style="list-style-type: none"> <li>• Demonstrate fluency for rhythmic <i>skip</i> counting by 2s, 5s and 10s.</li> <li>• Use equal groups to model <i>multiplication</i> and model division of collections as '<i>groups of</i>' equal <i>sets</i> with some <i>left over</i>.</li> <li>• Demonstrate division means '<i>sharing</i>'. Link multiplication by first dividing a collection and then recombining the groups.</li> </ul>

		<p><b>Stage 1 (NA) Patterns and Algebra</b></p> <ul style="list-style-type: none"> <li>• use objects to represent counting patterns;</li> <li>• describe repeated patterns as one, two or three patterns and relate to adding on by three;</li> <li>• odd and even numbers.</li> </ul>
9	Module	<p><b>Stage 1 (NA) Fractions</b></p> <ul style="list-style-type: none"> <li>• Apply halves, quarters and eighths to divide wholes.</li> <li>• Explain fraction notation for 'whole divided into ... parts'.</li> <li>• Compare different fractional parts: vertical, horizontal or area. Combine fractions to make a whole. Explore equivalence of fractions.</li> </ul> <p><b>Stage 1 (MG) Position</b></p> <ul style="list-style-type: none"> <li>• Use left/right from perspective of a person facing them.</li> <li>• Give/follow simple directions using a diagram.</li> <li>• Link to addition (forward) and subtraction (backwards).</li> </ul> <p><b>Stage 1 (SP) Chance</b></p> <ul style="list-style-type: none"> <li>• Use everyday model language to describe <i>chance</i> for events which are certain, likely, possible etc. Arrange words using opposites.</li> </ul> <p><b>Stage 1 (SP) Data</b></p> <ul style="list-style-type: none"> <li>• Use symbols for objects (including <i>tally</i> marks), recording displays of data, interpreting/explaining data displays using comparative/ superlative language.</li> </ul>
10	Module	<p><b>Course wrap-up and revision</b></p> <ul style="list-style-type: none"> <li>• Revisiting the issue of diverse learners in mathematics.</li> <li>• Recording progress and identifying conceptual gaps.</li> <li>• Language of mathematics: Different ways of saying the same idea; moving from everyday language to more mathematical</li> </ul>

language, words used differently in non-mathematical contexts.

- Changing word problems to number sentences and inventing scenario to match a number sentence. Drawing word problems and number sentences.
- Supporting students in the transition to Stage 2.

Reflection (500-word written response): Describe three ways in which you would assess the impact of your teaching in this KLA on your future students. If you have a specialisation in this KLA (e.g., a major in your undergraduate degree), describe how you could build on your advanced knowledge/skills to make improvements in student achievement in this KLA in your current school. If you do not have a specialisation in this KLA, identify three areas of your disciplinary knowledge /skills that require further development, and what strategies you will use to achieve that. *Post your response to Moodle by the end of the Week 10.*

# Resources

## Prescribed Resources

### Required Readings

- NSW Mathematics K-10 syllabus (2012) <http://syllabus.bostes.nsw.edu.au/mathematics/mathematics-k10/>
- National Numeracy Learning Progression (adapted for NSW Syllabus May 2018) NSW Education Standards Authority (NESA) <http://educationstandards.nsw.edu.au/wps/wcm/connect/7a7c08ac-8c7b-43db-934b-4a71f46a790e/national-numeracy-learning-progression.pdf?MOD=AJPERES&CVID=>
- Mathematics K-10 syllabus (2012) [https://syllabus.nesa.nsw.edu.au/assets/mathematicsk10/downloads/mathematicsk10\\_full.pdf](https://syllabus.nesa.nsw.edu.au/assets/mathematicsk10/downloads/mathematicsk10_full.pdf)
- NSW DET (2003) *Quality Teaching in NSW Public Schools*, Sydney, NSW

### Further Readings

- Boaler, J. (2010). *The elephant in the classroom: Helping children learn and love maths*. London: Souvenir Press Limited.
- Bobis, J. (2012). *Mathematics for Children – Challenging children to think mathematically* (4th ed). Pearson
- De Klerk, J. & Marasco, A. (2013). *Pearson Illustrated Maths Dictionary* (5th ed) Pearson
- Gibbons, P. (2002). *Scaffolding language, scaffolding learning: Teaching second language learners in the mainstream classroom*. Portsmouth: Heinemann.
- Harrison, N. & Sellwood, J. (2016). *Learning and Teaching in Aboriginal and Torres Strait Islander Education* (3rd ed). Melbourne: Oxford.
- Haylock, D. & Manning, R. (2014). *Mathematics Explained for Primary Teachers* (5th ed). London: Sage
- Jackson, E. (2015). *Reflective Primary Mathematics* London: Sage
- Jorgenson, R. & Dole, S. (2012). *Teaching Mathematics in Primary Schools* (2nd ed.). Sydney: Allen & Unwin
- Macdonald, A. with Rafferty, J. (2015). *Investigating Mathematics, Science and Technology in Early Childhood*. Melbourne: OUP
- Siemen, D. et al (2015). *Teaching Mathematics: Foundations to Middle Years*. Melbourne: OUP
- MeTRC (Mathematics eText Research Centre) (2012). What roles does vocabulary play in learning mathematics? University of Oregon <http://metrc.uoregon.edu/index.php/what-roles-does-vocabulary-play-in-learning-mathematics.html>
- Murray, M. (2004). *Teaching mathematics vocabulary in context: windows, doors, and secret passageways*. Portsmouth NH: Heinemann.
- Reys, R.E. et al (2012). *Helping Children Learn Mathematics* (8th ed). Milton, Queensland: Wiley
- Watson, A., Jones, K., & Pratt, D. (2013). *Key ideas in teaching mathematics: Research-based guidance for ages 9-19*. Oxford: Oxford University Press

## **Submission of Assessment Tasks**

### **Turnitin Submission**

If you encounter a problem when attempting to submit your assignment through Turnitin, please telephone External Support on 9385 3331 or email them on [externalteltsupport@unsw.edu.au](mailto:externalteltsupport@unsw.edu.au). Support hours are 8:00am – 10:00pm on weekdays and 9:00am – 5:00pm on weekends (365 days a year). If you are unable to submit your assignment due to a fault with Turnitin you may apply for an extension, but you must retain your ticket number from External Support (along with any other relevant documents) to include as evidence to support your extension application. If you email External Support you will automatically receive a ticket number, but if you telephone you will need to specifically ask for one. Turnitin also provides updates on their system status on Twitter.

Generally, assessment tasks must be submitted electronically via either Turnitin or a Moodle assignment. In instances where this is not possible, it will be stated on your course's Moodle site with alternative submission details.

For information on how to submit assignments online via Moodle: <https://student.unsw.edu.au/how-submit-assignment-moodle>

## Academic Honesty and Plagiarism

Plagiarism is using the words or ideas of others and presenting them as your own. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement.

### UNSW groups plagiarism into the following categories:

**Copying:** Using the same or very similar words to the original text or idea without acknowledging the source or using quotation marks. This includes copying materials, ideas or concepts from a book, article, report or other written document, presentation, composition, artwork, design, drawing, circuitry, computer program or software, website, internet, other electronic resource, or another person's assignment without appropriate acknowledgement.

**Inappropriate paraphrasing:** Changing a few words and phrases while mostly retaining the original information, structure and/or progression of ideas of the original without acknowledgement. This also applies in presentations where someone paraphrases another's ideas or words without credit and to piecing together quotes and paraphrases into a new whole, without appropriate referencing.

**Collusion:** Working with others but passing off the work as a person's individual work. Collusion also includes providing your work to another student for the purpose of them plagiarising, paying another person to perform an academic task, stealing or acquiring another person's academic work and copying it, offering to complete another person's work or seeking payment for completing academic work.

**Inappropriate citation:** Citing sources which have not been read, without acknowledging the "secondary" source from which knowledge of them has been obtained.

**Duplication ("self-plagiarism"):** Submitting your own work, in whole or in part, where it has previously been prepared or submitted for another assessment or course at UNSW or another university.

### Correct referencing practices

The [UNSW Academic Skills support](#) offers resources and individual consultations. Students are also reminded that careful time management is an important part of study. One of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and proper referencing of sources in preparing all assessment items.

UNSW Library has [the ELISE tool](#) available to assist you with your study at UNSW. ELISE is designed to introduce new students to studying at UNSW but it can also be a great refresher during your study. Completing the ELISE tutorial and quiz will enable you to:

- analyse topics, plan responses and organise research for academic writing and other assessment tasks
- effectively and efficiently find appropriate information sources and evaluate relevance to your needs
- use and manage information effectively to accomplish a specific purpose
- better manage your time
- understand your rights and responsibilities as a student at UNSW
- be aware of plagiarism, copyright, UNSW Student Code of Conduct and Acceptable Use of UNSW ICT Resources Policy
- be aware of the standards of behaviour expected of everyone in the UNSW community
- locate services and information about UNSW and UNSW Library

## Academic Information

Due to evolving advice by NSW Health, students must check for updated information regarding online learning for all Arts, Design and Architecture courses this term (via Moodle or course information provided.)

For essential student information relating to:

- requests for extension;
- late submissions guidelines;
- review of marks;
- UNSW Health and Safety policies;
- examination procedures;
- special consideration in the event of illness or misadventure;
- student equity and disability;
- and other essential academic information, see

<https://www.unsw.edu.au/arts-design-architecture/student-life/resources-support/protocols-guidelines>

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