



**UNSW**  
A U S T R A L I A

Arts & Social  
Sciences

School of Education

EDST6755  
Mathematics Method 2

Semester 2

## Contents

1. LOCATION .....	2
2. STAFF CONTACT DETAILS.....	2
3. COURSE DETAILS.....	2
<i>Summary of Course</i> .....	2
<i>Aims of the Course</i> .....	2
<i>Student Learning Outcomes</i> .....	3
<i>Program Learning Outcomes (AITSL Professional Graduate Teaching Standards)</i> .....	3
<i>National Priority Area Elaborations</i> .....	4
4. RATIONALE FOR THE INCLUSION OF CONTENT AND TEACHING APPROACH.....	4
5. TEACHING STRATEGIES .....	4
6. COURSE CONTENT AND STRUCTURE .....	5
7. ASSESSMENT .....	6
8. RESOURCES .....	14

### IMPORTANT :

For student policies and procedures relating to assessment, attendance and student support, please see website, <https://education.arts.unsw.edu.au/students/courses/course-outlines/>

**The School of Education acknowledges the Bedegal and Gadigal people as the traditional custodians of the lands upon which we learn and teach.**

## 1. LOCATION

Faculty of Arts and Social Sciences  
School of Education  
EDST6755 Mathematics Method 2 (6 units of credit)  
Semester 2 2016

## 2. STAFF CONTACT DETAILS

Course Coordinator: Rachael Mowe  
Office Location: John Goodsell, Room 132  
Email: [rachael.mowe@unsw.edu.au](mailto:rachael.mowe@unsw.edu.au)  
Availability: 3:45 – 4 or by appointment

## 3. COURSE DETAILS

<b>Course Name</b>	Mathematics Method 2	
<b>Credit Points</b>	6 units of credit (uoc)	
<b>Workload</b>	Includes 150 hours including class contact hours, readings, class preparation, assessment, follow up activities, etc.	
<b>Schedule</b>		
Lecture	Friday 16:00- 17:00 (CLB2)	Weeks 1-8
Tutorials	Friday 17:00-19:00 (John Goodsell LG21)	Weeks 1-8

### **Summary of Course**

This course continues for students studying EDST6725, reflecting on their classroom and content knowledge in Mathematics. Students will also critique themselves and their peers understanding of teaching Mathematics.

The main ways in which the course has changed since last time as a result of student feedback:

- To ensure that assessments are useful resources for the teaching experience

### **Aims of the Course**

This course aims to:

- Further students' knowledge of the Australian Curriculum for New South Wales syllabus documents for stages 4/5 and 6
- Students will demonstrate a knowledge and understanding of the National Professional Teaching Standards for Graduate teachers.

### **Important Information**

**Assessment:** Students must pass ALL assignments in order to pass the course. Only by passing all assignments can the Graduate Attributes (AITSL Professional Graduate Teaching Standards) be achieved.

**Attendance:** Students are expected to give priority to university study commitments. Unless specific and formal permission has been granted, failure to attend 80% of classes in a course may result in failure.

**Student Learning Outcomes**

Outcome		Assessment/s
1	Discuss classroom strategies that recognise students' different approaches to learning	1, 2
2	Develop appropriate and engaging resources for the Mathematics classroom that take into account students' skills, interests and prior achievements and that respect the social, ethnic and religious backgrounds of students	1, 2
3	Investigate and discuss a variety of strategies to develop rapport with students, a positive classroom learning environment and approaches to managing student behaviour	1, 2
4	Demonstrate the essential link between outcomes, assessment, teaching strategies and lesson planning	1,2
5	Analyse specific teaching strategies and develop engaging materials to meet the needs of Aboriginal and Torres Strait Islander students, students with Special Education Needs, Non-English Speaking Background students, Students with Challenging Behaviours	1, 2

**Program Learning Outcomes (AITSL Professional Graduate Teaching Standards)**

Standard		Assessment/s
1.3	Demonstrate knowledge of teaching strategies that are responsive to the learning strengths and needs of students from diverse linguistics, cultural, religious and socioeconomic backgrounds.	2
1.5	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	Demonstrate knowledge and understanding of the concepts, substance and structure of the content and teaching strategies of the teaching area	1, 2
2.2	Organise content into an effective learning and teaching sequence.	1, 2
2.3	Use curriculum, assessment and reporting knowledge to design learning sequences and lesson plans.	1, 2
2.4	Demonstrate broad knowledge of, understanding of and respect for Aboriginal and Torres Strait Islander histories, cultures and languages	1, 2
2.5	Know and understand literacy and numeracy teaching strategies and their application in teaching areas.	1, 2
2.6	Implement teaching strategies for using ICT to expand curriculum learning opportunities for students.	1, 2
3.1	Set learning goals that provide achievable challenges for students of varying characteristics.	2
3.2	Plan lesson sequences using knowledge of student learning, content and effective teaching strategies.	1, 2
3.6	Demonstrate broad knowledge of strategies that can be used to evaluate teaching programs to improve student learning.	1, 2
4.2	Demonstrate the capacity to organise classroom activities and provide clear directions.	1, 2
5.1	Demonstrate understanding of assessment strategies, including informal and formal, diagnostic, formative and summative approaches to assess student learning.	1, 2 Tutorials
5.2	Demonstrate an understanding of the purpose of providing timely and appropriate feedback to students about their learning.	Tutorials
5.3	Demonstrate understanding of assessment moderation and its application to support consistent and comparable judgements of student learning.	Tutorials

5.4	Demonstrate the capacity to interpret student assessment data to evaluate student learning and modify teaching practice.	1, 2 Tutorials
5.5	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.	Tutorials

### ***National Priority Area Elaborations***

Priority area		Assessment/s
A. Aboriginal and Torres Strait Islander Education	A.5, A.8	1
B. Classroom Management	B.1, B.2, B.4, B.5, B.6, B.7, B.10	1
C. Information and Communication Technologies	C.3, C.4, C.5, C.6, C.8, C.13, C.14	1
D. Literacy and Numeracy	D.6, D.7, D.8, D.9, D.10, D.11, D.12, D.13, D.14, D.15, D.16, D.17, D.18, D.19	1,2
E. Students with Special Educational Needs	E.1, E.4, E.5, E.6, E.8	2
F. Teaching Students from Non-English Speaking Backgrounds	F.5, F.6, F.7	2

## **4. RATIONALE FOR THE INCLUSION OF CONTENT AND TEACHING APPROACH**

Student-centred activities will form the basis of the course. These activities will draw on the prior knowledge of the students and will allow them to engage in relevant and challenging experiences that mirror those they will be expected to design for the secondary students they will later teach. The lectures and tutorials are designed to be supportive and friendly, as we believe that students are more engaged and learn better if when given challenging tasks, thinking time and good feedback.

## **5. TEACHING STRATEGIES**

Teaching strategies used during the course will include:

- Small group cooperative learning, such as Jigsaw, to understand the importance of teamwork in an educational context and to demonstrate the use of group structures as appropriate to address teaching and learning goals
- Explicit teaching, including lectures, to demonstrate an understanding of students' different approaches to learning and the use of a range of teaching strategies to foster interest and support learning
- Structured occasions for reflection on learning, such as the use of learning journals, to allow students to reflect critically on and improve teaching practice and strategies
- Extensive opportunities for whole group and small group dialogue and discussion, allowing students the opportunity to demonstrate their capacity to communicate and liaise with the diverse members of an education community, and to demonstrate their knowledge and understanding of method content.
- Online learning from readings on the Moodle website
- Specific numeracy and problem solving strategies.

These activities will occur in a classroom climate that is supportive and inclusive of all learners.

## 6. COURSE CONTENT AND STRUCTURE

Week Beginning	Topics	Tutorials
1 29 July	Discussion of the course outline Advice for Assessment 1 Classroom management ideas Teaching for understanding: Common Misconceptions <i>Oral Presentations</i> B.1, B.2, B.4, B.5, B.6, B.7, B.10	Practicum experience to address classroom management and teaching for understanding  <i>Oral Presentations</i>
2 5 Aug	National Professional Standards for teachers AITSL Advice for Assessment 2: collecting the evidence <i>Oral Presentations</i> C.3, C.4, C.5, C.6, C.8, C.13, C.14	Requirements for Graduate and Proficient teachers. Areas that need attention. Q&A session.  <i>Oral Presentations</i>
3 12 Aug	National Priority Area Elaborations Alternate Problem Solving Methods- Solving one problem in different ways <i>Oral Presentations</i> F5,F6,F7,E1,E4,E5,E6,E8,A5,A8	Which is better: Solving one question in 10 ways or solving 10 questions in 1 way? How this can address National Priority Areas  <i>Oral Presentations</i>
4 19 August	Feedback & Reporting  -Hurdle requirement: Feedback to Parents and Students  <i>Oral Presentations</i>	Written and verbal feedback to students. Report writing using authentic work samples  <i>Oral Presentations</i>
5 26 August	Mathematics General Courses Using ICT, Syllabus, Unusual Topics in the Syllabus <i>Oral Presentations</i> C.3, C.4, C.5, C.6, C.8, C.13, C.14	Curriculum, Formula sheet, Finance and Two Way Tables  <i>Oral Presentations</i>
6 2 Sept	Literacy and Numeracy Demands Working Mathematically Understanding NAPLAN <i>Oral Presentations</i> D.6, D.7, D.8, D.9, D.10, D.11, D.12, D.13, D.14, D.15, D.16, D.17, D.18, D.19	Creation of rubrics based on assessing Numeracy and Literacy in Mathematics. Looking at grading based on NAPLAN and SC grading systems  <i>Oral Presentations</i>
7 9 Sept	Mathematics Course Presenting the Harder topics for students <i>Oral Presentations</i> <i>Assessment 2 due 8/9 @ 5 pm</i>	Year 11 topics, advice on HSC exam techniques, and common mistakes.  <i>Oral Presentations</i>
8 16 Sept	Ext 1 Mathematics Course Presenting some harder topics for students Identifying Areas of concern for students. Why teach Mathematics?	  <i>Oral presentations</i>

## 7. ASSESSMENT

Assessment Task	Length	Weight	Student Learning Outcomes Assessed	Program Learning Outcomes Assessed	National Priority Area Elaborations	Due Date
<b>Assessment 1</b> Reflection on Practicum	2500 words or equivalent	40%	1, 2, 3, 5	1.5, 2.1, 2.5, 2.6, 3.2, 3.6, 4.2, 5.1, 5.4	A.5, A.8, B.1, B.2, B.4, B.5, B.6, B.7, B.10, C.3, C.4, C.5, C.6, C.8, C.13, C.14, D.6, D.7, D.8, D.9, D.10, D.11, D.12, D.13, D.14, D.15, D.16, D.17, D.18, D.19,	Weeks 1 – 8 in tutorials
<b>Assessment 2</b> Collection of Resources	3500 words or equivalent	60%	1 - 5	1.3,1.5, 2.1, 2.2, 2.3, 2.5, 2.6, 3.1, 3.2, 3.6, 4.2	D.6, D.7, D.8, D.9, D.10, D.11, D.12, D.13, D.14, D.15, D.16, D.17, D.18, D.19, E.1, E.4, E.5, E.6, E.8, F.5, F.6, F.7	Submitted online 8/9 @ 5 pm
<b>Hurdle requirement</b> Assessment, Feedback and Reporting	Tasks assigned in tutorials	Hurdle requirement		5.1, 5.2, 5.3, 5.4, 5.5		

*Students are required to follow their lecturer's instructions when submitting their work for assessment. All assessment will be submitted online via Moodle by 5pm. Student no longer need to use a cover sheet. Students are also required to keep all drafts, original data and other evidence of the authenticity of the work for at least one year after examination. If an assessment is mislaid the student is responsible for providing a further copy. Please see the Student Policies and Procedures for information regarding submission, extensions, special consideration, late penalties and hurdle requirements etc.*

### **Assessment 1 - Reflection on practicum – oral component**

You will be required to give a 10-minute presentation to the class based on a lesson that you delivered while on your professional experience based on an engaging lesson (eg. a real world problem). You may base this on any topic or strategy that you found helpful or constructive. If you need to utilise particular technology, check that it is possible at university.

In this assignment, you will demonstrate your ability to reflect on of your teaching. You may focus of the following questions. How did you identify effective student learning and give good assessment / feedback to students? How did you meet the needs of students in your class? How did you use ICT? How did you assess your own teaching? What strategies worked and what didn't work? How well did

your introduction serve to engage students? What were the specific literacy and numeracy needs and strategies needed to inform the teaching of Mathematics?

### **Assessment criteria**

In your 10-minute presentation, you should:

- Involve the class in a key component of a lesson you have either taught or observed
- Provide at least one resource, worksheets, lesson plans etc. for the class
- Time yourself carefully so that your presentation fits neatly into allocated time
- Be prepared to answer questions about your presentation (context, reasons for effectiveness etc.)
- Provide evidence of student thinking in the form of student sample work
- Express yourself clearly, demonstrating a sound ability to use the English language fluently.
- Contribute to the tutorials by providing helpful feedback to your fellow classmates

A roster for the oral presentations will be organised in class. If you are unable to present your reflection on the agreed day (due to illness for example), you must inform your tutor as soon as possible **before** the assigned time.



UNSW SCHOOL OF EDUCATION  
FEEDBACK SHEET  
EDST6755 MATHEMATICS METHOD 2

Student Name:

Student Number:

Assessment Task 1

SPECIFIC CRITERIA	(-) <span style="font-size: 1.5em;">—————&gt;</span> (+)				
<b>Understanding of the question or issue and the key concepts involved</b> <ul style="list-style-type: none"> <li>• Understanding of the task and its relationship to relevant areas of theory, research and practice.</li> <li>• Clarity and accuracy in use of key terms and concepts in Mathematics teaching.</li> </ul>					
<b>Depth of analysis and/or critique in response to the task</b> <ul style="list-style-type: none"> <li>• Ability to reflect deeply on the observations made of other teachers during the professional experience, and on their own teaching strategies, classroom management and teaching resources.</li> </ul>					
<b>Familiarity with and relevance of professional and/or research literature used to support response</b> <ul style="list-style-type: none"> <li>• Reference to material, research and ideas presented in Mathematics Method, Lectures and readings.</li> </ul>					
<b>Structure and organisation of response</b> <ul style="list-style-type: none"> <li>• Presentation is logically structured, organised and professionally carried out.</li> </ul>					
<b>Presentation of response according to appropriate academic and linguistic conventions</b> <ul style="list-style-type: none"> <li>• Ability to involve the class in a key component of a lesson either taught or observed.</li> <li>• Ability to use the English language fluently.</li> <li>• Preparedness to answer questions about the presentation (context, reasons for effectiveness etc.).</li> <li>• Provision of any necessary engaging resources, worksheets, lesson plans etc. for the class</li> </ul>					
<b>GENERAL COMMENTS/RECOMMENDATIONS FOR NEXT TIME</b>          					

**Lecturer**

**Date**

**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 contextualize 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.**

## Assessment 2 : Collection of Resources for Numeracy Development

Using your practicum school experience, lectures and readings and in particular the information that is contained on the Department of Education site, collect resources that would help develop numeracy. What strategies are useful?

Your collection should include at least the following items but not restricted by them:

- An assessment task **you** devised for your students, including the learning outcomes you wanted to achieve (include details regarding moderation techniques of the assessment)
- A student work sample from one of these assessment tasks and the written feedback you gave to the student/parent on that work. (NB. Please remove any identifying names from the work before you submit it as part of this assignment)
- Examples of formative assessment tasks which may be used to inform future lesson plans.
- Examples of tasks that would help numeracy development
- A list of resources that may be useful in planning

The original source reference must be included as well as identifying any work that you have created. Work should be annotated identifying the effectiveness of the resource.

Share three resources online that you feel would be helpful for your classmates.

UNSW SCHOOL OF EDUCATION  
 FEEDBACK SHEET  
 EDST6755 MATHEMATICS METHOD 2

Student Name:

Student Number:

Assessment Task 2

SPECIFIC CRITERIA	(-) <span style="font-size: 2em;">→</span> (+)				
<b>Understanding of the question or issue and the key concepts involved</b> <ul style="list-style-type: none"> <li>• Understanding of the task and its relationship to relevant areas of theory, research and practice.</li> <li>• Clarity and accuracy in use of key terms and concepts in Mathematics teaching.</li> </ul>					
<b>Depth of analysis and/or critique in response to the task</b> <ul style="list-style-type: none"> <li>• Ability to reflect deeply on the your own teaching strategies, classroom management and teaching resources.</li> </ul>					
<b>Familiarity with and relevance of professional and/or research literature used to support response</b> <ul style="list-style-type: none"> <li>• Reference to material, research and ideas presented in Mathematics Method, Lectures and readings.</li> </ul>					
<b>Structure and organisation of response</b> <ul style="list-style-type: none"> <li>• Presentation is logically structured, organised and professionally carried out.</li> </ul>					
<b>Presentation of response according to appropriate academic and linguistic conventions</b> <ul style="list-style-type: none"> <li>• Academic conventions used</li> </ul>					
<b>GENERAL COMMENTS/RECOMMENDATIONS FOR NEXT TIME</b>					

**Lecturer**

**Date**

**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 contextualize 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.

## HURDLE REQUIREMENT

### FEEDBACK AND REPORTING

Assessment is the process of gathering evidence from a variety of sources about learning outcomes and being able to use that information to improve learning and teaching. Evidence includes not only individual student work samples and test results, but also more global data derived from standardised tests (eg NAPLAN, ICAS, HSC etc) as well as more qualitative information generated from student self and peer evaluations, and student-parent conferences.

Feedback is a structured interaction with the student about their current learning: where they are, where they want and /or need to be and how to get there. It may be in oral or written form and may be given by the teacher, by the student's peers or take the form of self-assessment. Feedback needs to indicate learning that has been demonstrated (achieved) as well as what needs more work. For the feedback to also feed forward, comments need to provide students with strategies to guide their improvement. Feedback /reporting to and for parents is also important as they are critical stakeholders and partners in their children's learning.

Moderation is a process used by teachers to compare their judgements about student performance so that assessment is trustworthy. Teachers work together as a group to ensure that the way they use assessment grades is consistent with agreed or published standards. For A to E grades this means the grade a student receives in one school can be fairly compared to the same grade anywhere in NSW. For school-based tasks, it means the work of students in different classes can be assessed using the same success criteria to evaluate progress toward learning outcomes.

View some work samples that teachers in your subject area have aligned to grades A to E at [BOSTES](#) or [ACARA](#) workshops.

It is recommended that students read widely on how to design appropriate assessment tasks, how moderate student samples of work and how to provide effective feedback. Tutorial time will be allocated to discussing this aspect of professional competence and providing experience with the moderation and feedback process.

The assessment process consists of two components.

1. A collection of five or six authentic student responses to preferably two assessment tasks. The responses may be written, visual or oral. The number depends on the length of the response. For each text

- ensure anonymity by removing student names and destroying the samples at the end of the course.
- include the instructions that were given for the assessment task and indicate whether the task was intended for formative purposes or summative and formative purposes
- annotate the task to indicate what worked well and what needs changing if it were to be used again
- include the marking scheme/rubric for each task
- provide annotations (with time codes if your sample is audio- or video-based) to indicate what the student has demonstrated as areas of strength and areas that need to be developed further in relation to the task
- include a key for marking symbols
- find out what the general expectation and/or current standards of the school/system are in relation to this subject area/topic/skill by consulting published NAPLAN/HSC/other relevant data, as well as talking to teachers, and consider where this student work is in relation to those overall expectations/standards as well in relation to their previous performance

- provide written feedback for the student which indicates strengths and areas for improvement in relation to this work sample as well as their past performance and overall expectations/standards. Suggest a strategy that will guide the student in his/her learning. (If the task was used summatively you can still use it for formative purposes.)
  - indicate what the implications of your evaluation might be for the teacher in terms of future teaching.
2. Write a few lines that could be included in a mid-year report comment to parents. Provide enough detail to indicate to parents which aspect of the student's performance you are commenting on. Add A, B, C, D or E to align with the advice and work samples provided by BOSTES and ACARA.

**NOTES:**

**The student work samples must be authentic. They should have been collected during Professional Experience 1 during a normal assessment task and/or provided by the method lecturer. Annotated student work samples, notes and all other written evidence of teacher education students' ability to address Standard 5 to be discussed in class and submitted by the due date.**

**If a student is assessed as Unsatisfactory in the feedback and reporting hurdle requirement, s/he will automatically fail Method 2 overall, and not be permitted to undertake Professional Experience or any further method work in that teaching area until the key concerns have been resolved.**

**STUDENT TEACHER**

Name:	zID:	Date:
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Details	
Method	Topic/level

AITSL Standard 5 Assess, provide feedback and report on student learning	Comments
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<p><b>A. Demonstrate understanding of assessment strategies, including informal and formal, diagnostic, formative and summative approaches to assess student learning (5.1.1)</b></p> <ul style="list-style-type: none"> <li>• Has the purpose of the assessment task been described appropriately?</li> <li>• Has the task been annotated appropriately to indicate what changes in layout, language or requirement could be improved?</li> <li>• Does the marking rubric/style provide diagnostic information for the student?</li> </ul>	
<p><b>B. Demonstrate an understanding of the purpose of providing timely and appropriate feedback to students about their learning (5.2.1)</b></p> <ul style="list-style-type: none"> <li>• Does the feedback allow the assessment to be used for formative purposes?</li> <li>• Is feedback expressed in appropriate language for the age/stage of the students?</li> <li>• Does the feedback                         <ul style="list-style-type: none"> <li>-acknowledge the student's areas of strength?</li> <li>-identify areas where the student needs to do more work?</li> <li>-indicate strategies to help the student improve?</li> </ul> </li> </ul>	
<p><b>C. Demonstrate understanding of assessment moderation and its application to support consistent and comparable judgements of student learning (5.3.1)</b></p> <ul style="list-style-type: none"> <li>• Is the difference between ranking and moderation understood?</li> <li>• Does the student recognise the importance of following marking guides/rubrics?</li> <li>• Can the student listen professionally to the opinions of others?</li> <li>• Does the student express his/her point of view respectfully, and provide appropriate evidence to support his viewpoint?</li> </ul>	
<p><b>D. Demonstrate the capacity to interpret student assessment data to evaluate student learning and modify teaching practice (5.4.1)</b></p> <ul style="list-style-type: none"> <li>• Has the student analysed and evaluated the schools' global assessment data?</li> <li>• Has the student collected a range of the students' past performance data?</li> <li>• Is the student able to interpret that data accurately to make generalizations about the specific work samples they have collected?</li> <li>• Is the student able to triangulate different forms of student assessment data so that they can propose appropriate modifications to learning and teaching?</li> </ul>	
<p><b>E. Demonstrate understanding of a range of strategies for reporting to students and parents/caregivers and the purpose of keeping accurate and reliable records of student achievement (5.5.1)</b></p> <ul style="list-style-type: none"> <li>• Are feedback and reporting understood as separate tasks?</li> <li>• Do the report comments provide succinct and helpful written information to pinpoint where the student is at in his/her learning?</li> <li>• Has the student provided evidence that the Assessment Resource Centre (BOSTES) has been used to provide appropriate A, B, C, D, E grades?</li> </ul>	

<p><b>Comments:</b></p>
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**Lecturer:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Satisfactory / Unsatisfactory (circle)**

## Feedback

Assessment Task	Feedback Mechanism	Feedback Date
Assessment One	<i>Tutorials</i>	<i>Within three weeks of submission</i>
Assessment Two	<i>Written</i>	26/9
Hurdle requirement	<i>Tutorials</i>	

## 8. RESOURCES

### Required readings

Cavanagh, M. & Prescott, A. (2014). Your professional experience *handbook: A guide for preservice teachers*. Sydney: Pearson.

Goos, M., Stillman, G., & Vale, C. (2007). Teaching secondary school mathematics: Research and practice for the 21st century. Sydney: Allen & Unwin

All students must buy copies of the following Mathematics syllabuses:

- *Mathematics 7-10 Syllabus*,
- *Stage 6 Syllabus, Mathematics, Preliminary and HSC Courses*,

Alternatively, it is possible to download these syllabuses from the Board of Studies website <http://www.boardofstudies.nsw.edu.au/>  
<https://syllabus.bostes.nsw.edu.au/>

### Further readings

Readings on UNSW Moodle

Ernest, P. (1998). *Social constructivism as a philosophy of mathematics*: State University of New York Press.

Finger, G., Russell, G., Jamieson-Proctor, R. & Russell, N. (2006) *Transforming Learning with ICT Making IT Happen*. Pearson Australia

Gibbons, P (2002) *Scaffolding language, scaffolding learning: Teaching second language learners in the mainstream classroom*. Portsmouth, Heinemann.

Hargreaves, E. (2005). Assessment for learning? Thinking outside the (black) box. *Cambridge Journal of Education*, 35(2), 213-224. doi: 10.1080/03057640500146880

Harrison, N. (2008). *Teaching and learning in Indigenous education*. Oxford, Sydney.

Henderson, R. (2012). *Teaching Literacies. Pedagogies and Diversity in the Middle Years*, Oxford University Press, Australia

Hiebert, J., & Lefevre, P. (1986). Conceptual and procedural knowledge in mathematics: An introductory analysis. In J. Hiebert (Ed.), *Conceptual and procedural knowledge: The case of mathematics*. (pp. 1-27): Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc.

Hyde, M., Carpenter, L. & Conway, R. (2010). *Diversity and Inclusion in Australian Schools*. Oxford University Press, Australia

Killen, R. (2005). *Programming and assessment for quality teaching and learning*: Thomson/Social Science Press.

Martin, K. (2008). The intersection of Aboriginal knowledges, Aboriginal literacies and new learning pedagogy for Aboriginal students. In Healy, A (Ed.) *Multiliteracies and diversity in education: New pedagogies for expanding landscapes*. Pp 59-81. Oxford University Press, Melbourne.

Schoenfeld, A. H. (2004). The math wars. *Educational Policy*, 18(1), 253-253-286.

Skemp, R. R. (2006). Relational understanding and instrumental understanding. *Mathematics Teaching in the Middle School*, 12(2), 88-88-95.

Sullivan, P. (2011). *Teaching mathematics : using research informed strategies*. Melbourne: ACER Pres

Recommended Texts:

Pender, Bill (1999). *Cambridge Mathematics, Cambridge University Press, Year 11 3 unit*

Pender, Bill (1999). *Cambridge Mathematics, Cambridge University Press, Year 11 2 unit*

Pender, Bill (1999). *Cambridge Mathematics, Cambridge University Press, Year 12 3 unit*

Pender, Bill (1999). *Cambridge Mathematics, Cambridge University Press, Year 12 2 unit*

Goos, Stillman & Vale (2007). *Teaching Secondary School Mathematics: Research and Practice for the 21<sup>st</sup> century*. Sydney, Australia: Allen & Unwin.

Professional websites for Mathematics teachers:

[www.mansw.nsw.edu.au](http://www.mansw.nsw.edu.au)

[www.aamt.com.au](http://www.aamt.com.au)

<http://www.boardofstudies.nsw.edu.au>

The NSW Board of Studies. The BOS decides what is to be taught and examined, so it writes the parents informed about syllabus development, examination information etc. There are also some syllabuses and the examinations. The main function of this site is to keep teachers, students and useful reference material, links to various related sites and an annotated bibliography of texts relevant to the syllabus and to Mathematics teaching.

<http://www.det.nsw.edu.au> - The Department of Education and Training.

The DET has the responsibility for administering and staffing government schools and producing support material which can be found at:

<http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/index>

[www.studentnet.edu.au/aispd/index.html](http://www.studentnet.edu.au/aispd/index.html) - The Association of Independent Schools

[www.cecsw.catholic.edu.au](http://www.cecsw.catholic.edu.au) - The Catholic Education Commission

[www.curriculum.edu.au](http://www.curriculum.edu.au) - A part of the Curriculum Corporation of Victoria website

This is a tutorial which is useful if you are uncertain of how to use the internet and/or want ideas for using the internet in the classroom, teaching students how to explore English sites etc. Well worth a browse.

<http://www.nswteachers.nsw.edu.au> - The teaching standards detailed on the NSW Institute of Teachers website

<http://www.naplan.edu.au/> - The National Assessment Program Literacy and Numeracy website

<http://www.acara.edu.au/> - The Australian Curriculum, Assessment and Reporting Authority