





Professional Development Unit Unit Outline

18 July 2016 – 30 October 2016 (or 15 weeks by negotiation)

> Contact Unit Co-ordinator

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Unit description

The aim of this unit is to introduce university lecturers and tutors teaching in the mathematical sciences to the theories, principles and practice of university learning and teaching in this area. Our definition of the mathematical sciences is broad and inclusive of any of the quantitative disciplines (such as finance, mathematics, statistics, operations research, psychology). For simplicity, we will refer to this collective group as *mathematics*.

This unit has been designed to provide practical, discipline-specific and best-practice strategies for teaching and assessment so as to enhance student engagement and learning in mathematics. The unit has been written by a team of your colleagues who have endeavoured to develop tasks in each module that allow you to reflect and draw upon your own day-to-day teaching practice and context. Through a series of sequential online modules we will examine how students learn in mathematics and how you can use this knowledge to plan your lessons and units; when and how you might utilise learning technologies; how you go about writing assessment tasks and giving feedback; and planning for your ongoing professional development. One module specifically concerns issues related to service teaching.

The modules in this unit have been designed to take you from a consideration of teaching of classes, to the more complex role of co-ordinating a unit and a teaching team.

Intended learning outcomes

Part 1: Teaching classes

On completion of modules 1 - 7 you will be able to:

- T1. Demonstrate an enthusiasm for the discipline of mathematics and a commitment to developing a student learning community that is respectful of the individual learner
- T2. Use knowledge of the discipline and how students learn (both generally and in the discipline) to select appropriate teaching and learning activities for mathematics classes
- T3 Develop a repertoire of strategies to create positive learning environments that are supportive and engaging, and that allow students to gain feedback to enhance their learning
- T4. Evaluate and reflect on the effectiveness of your teaching through collection of evidence about student learning and student engagement.

Part 2: Co-ordinating units

On completion of modules 8 – 12 you will be able to:

- C1. Develop cohort-building strategies to manage units, to support and guide tutors in their role, and to encourage students to connect with the discipline
- C2. Use knowledge of discipline and graduate attributes, how students learn, and students' prior experience to design units where the learning outcomes, teaching activities and assessment are constructively aligned
- C3. Evaluate units through the systematic collection of evidence, and analysis of this evidence from multiple perspectives.

Alterations to the unit as a result of participant feedback

Examples of alterations include revising the assessment tasks to reflect the responsibilities of tutors. We have added clearer references linking the educational theory and mathematical examples.

We have provided from 2013 onwards rubric definitions for what constitutes assessment submissions which are not of satisfactory standard.

Alterations will continue throughout subsequent iterations of the unit. We would very much appreciate your input to make these modules more useful to lecturers and tutors in the quantitative disciplines. We will continue to refine the unit materials so they more accurately reflect your teaching needs. We ask that you complete the feedback forms before you commence the unit, at the end of each module, and after you finish the unit.

Please note any typographic errors, technical glitches or other difficulties in working through the unit in the feedback forms. The unit co-ordinator can also assist you as issues arise.

Prior knowledge and/or skills

You should have completed an undergraduate degree in mathematics, statistics or a related quantitative discipline.

In addition <u>you should be currently teaching</u> in a university course in a quantitative discipline. If you are not currently teaching a class, you will need to have access to a class for some of the tasks in the modules.

Learning expectations and teaching strategies/approaches

Expectations

High standards of professional conduct are expected in all activities. If you are undertaking this unit there is an expectation that you will participate actively and positively in the teaching/learning environment, comply with workload expectations, and submit required work on time.

Learning resources required

Requisite texts

Nil

Recommended reading

There are readings outlined in each individual module.

There is a glossary <u>http://www.austms.org.au/glossary</u> with terms that you may not be familiar with. These terms have been put in a mathematical context.

Computer hardware and software

Access to the online unit through the Australian Mathematical Society (AustMS) website <u>http://www.austms.org.au/Professional+Development+Unit</u> is necessary. Other software is only as required in your teaching.

Details of teaching arrangements

The unit has been designed to be delivered online. The twelve modules are designed to be completed sequentially and each should take approximately three hours to complete, plus time to complete the assessment tasks. 15 weeks has been allowed for in the unit dates, inclusive of assessment.

Each of the modules includes tasks for you to complete as part of the learning experience. Some of these tasks will also be preparation for the formal assessment tasks of the unit. We encourage you to add to the discussion board provided on the unit website http://www.austms.org.au/Discussion+Board as you work through the modules. In some modules we will invite you to post responses to one task but feel free to add more as you wish. The discussion board is visible only to participants in the unit and the unit co-ordinator.

The formal assessment tasks are listed below. See also the rubrics beginning on page 7. These tasks relate directly to your teaching and will be assessed by the coordinator and/or members of the project team who wrote the unit. You will receive a certificate from the AustMS upon successful completion of the unit and the assessment tasks. The learning outcomes and the required study and assessment are equivalent to a one semester unit of a Graduate Certificate in Higher Education.

Assessment

Assessment schedule

Assessment task	Date due			Percentage weighting	Links to intended learning outcomes
	1st Semester	2nd Semester	Two Semesters		
Assessment task 1: Teaching philosophy		August 14, 2016		20%	T1, T3
Assessment task 2: Annotated teaching sequence		September 18, 2016		30%	T2, T3, T4
Assessment task 3: Choose ONE of the options (design a unit; design a summative assessment task)		October 30, 2016		50%	C1, C2, C3

Assessment details

Assessment task 1: Teaching philosophy

Task description

Write a <u>one page</u> teaching philosophy statement that could serve as an introduction to a Teaching Portfolio (or promotion or teaching award application). You should convey to the reader your own personal enthusiasm for your mathematical discipline and outline your beliefs about learning and teaching in your discipline, or of your discipline to students who are studying in a service-taught unit. Your statement should also discuss how you enact your philosophy through the learning and teaching activities in your classes.

Task length	1-2 pages (maximum 750 words)
Links to unit's intended	Learning outcomes T1 and T3
learning outcomes	
Date due	See schedule, page 3

Assessment task 2: Annotated teaching sequence

Task description

<u>Write</u> a teaching sequence of 2 to 3 lectures or tutorials that you will be taking with a class. Your sequence should be annotated to indicate why the content was chosen and sequenced in the chosen way, as well as the reasons for the choice of the particular tasks that you selected to support this sequence. You should also indicate how students will be engaged in the activities and how the learning will be supported and feedback given.

Once the sequence has been trialled, indicate what changes you may make in the future and provide a summary of any feedback you have received on the sequence from your students. If you do not have the opportunity to plan your own teaching sequence, select a sequence that you have taught and annotate this to indicate what worked well and why, and what changes you might make if you were able to do so.

Task length	Teaching materials + 2 - 4 pages of annotations/summary of feedback and changes for future
Links to unit's learning outcomes	Learning outcomes T2, T3 and T4.
Date due	See schedule, page 3

Assessment task 3: Choose ONE of the following assessment tasks

Option 1: Design a unit

Design a <u>new</u> unit that you would like to, or will, teach. You should complete a 'unit outline' that is consistent with the requirements of your university or use a template from links provided in Module 8. Your outline should include:

- an introduction to the unit and where it fits in the context of the course;
- a list of the learning outcomes (making explicit how these contribute to course level goals and graduate attributes as appropriate to your university)
- the assessment tasks and how they link to the learning outcomes
- a sequenced outline of the content of the course and the teaching activities that will be used to develop these.

Any additional opportunities for students to support their study should also be identified in the document. A short accompanying statement should be appended to the unit outline that indicates your plan for ensuring consistency of delivery across the teaching team and how ongoing evaluation of the unit will be conducted.

Option 2: Design a summative assessment task

Design an assessment task such as a quiz or assignment.

- Give reasons for your choice of questions and question types.
- Prepare a marking guide and feedback for students.
- Describe how you prepare students to do the assignment and how you communicate your expectations and standards to them.
- If you are able to use the assessment with students, reflect on the results and student responses.

Task length	Option 1 – Unit Outline document + 1- 2 additional pages			
	Option 2 – Assessment task, marking guide and feedback + 2 additional pages			
Links to unit's learning outcomes	Learning outcomes C1, C2 & C3.			
Date due	See schedule, page 3			

Linkage between learning outcomes and assessment criteria

The following table is provided to support you in the completion of the assessment tasks.

Task-specific criteria have been developed that link the learning outcomes for the unit with each assessment task. These criteria will be used both to assess and to provide feedback for each of your submitted assessment tasks.

Assessment tasks 1 and 2 enable you to demonstrate the four intended learning outcomes (T1 to T4) for the Teaching Classes modules of the unit.

Part 1: Teaching classes					
Learning outcome	Assessme	ent criteria			
	Task 1	Task 2			
T1. Demonstrate an enthusiasm for the discipline of mathematics and a commitment to develop a student learning community that is respectful of the individual learner	Criterion 1. Create a short statement that outlines your enthusiasm for the discipline of mathematics and your beliefs about student learning. Criterion 2. Reflect on how your attitudes to mathematics and philosophy of learning and teaching mathematics influence your learning and teaching practices.				
T2. Use knowledge of the discipline and how students learn (both generally and in the discipline) to select appropriate teaching and learning activities for mathematics classes		Criterion 1. Write a teaching sequence for two to three lectures or tutorials that is informed by both your knowledge of the discipline of mathematics and your understanding of student learning.			
T3. Develop a repertoire of strategies to create positive learning environments that are supportive and engaging and allow students to gain feedback to enhance their learning	Criterion 3. Discuss how your teaching philosophy is enacted in the teaching and learning activities you use in the classroom.	Criterion 2. Explain how students will be engaged in the sequence of activities, how the learning will be supported and how feedback will be given.			

Assessment task 3 enables you to demonstrate all three intended learning outcomes (C1 to C3) for the Co-ordinating Units modules of the unit.

T4. Evaluate and reflect on the effectiveness of your teaching through the collection of evidence about student learning and student engagement		Criterion 3. Reflect upon the evidence collected and feedback given to recommend future changes for your teaching.
	Part 2: Co-ordinating units	
Learning outcome	Assessme	ent criteria
	Option 1	Option 2
C1. To develop cohort- building strategies to manage units, to support and guide tutors in their role, and to encourage students to connect with the discipline	Criterion 1. Outline how you have given consideration to consistency of delivery across the teaching team	Criterion 1. Describe the strategies that tutors will use to mark and give feedback to students. Justify your answer.
C2. To use knowledge of discipline and graduate attributes, how students learn and students' prior experience to design units where the learning outcomes, teaching activities and assessment are constructively aligned	Criterion 2. Formulate learning outcomes that reflect the intent of the unit and pay explicit attention to ensuring course-level and graduate attributes are taken into account. Criterion 3. Design a unit that constructively aligns the learning outcomes with assessment tasks and teaching and learning strategies.	Criterion 2. Justify the assessment task in terms of linkage to learning outcomes. Criterion 3. Explain how you have designed tasks that allow good students to be able to demonstrate high level outcomes and weak students to demonstrate their learning.
C3. To evaluate units through the systematic collection of evidence and analysis of this evidence from multiple perspectives	Criterion 4. Devise a plan for ongoing evaluation of the unit.	Criterion 4. Reflect on the task and the outcomes for the students and revise the task accordingly.

Marking rubrics

Assessment task 1: Teaching philosophy statement

Criterion	High Distinction	Distinction	Credit	Pass	Not satisfied
1. Create a short statement that outlines your enthusiasm for the discipline of mathematics and your beliefs about student learning.	As for a Distinction, and your enthusiasm for mathematics is embedded throughout the statement and evidenced by compelling examples. There is clear flow and connection between your beliefs about student learning and your practice.	Your personal enthusiasm for mathematics is clearly articulated with examples of how you convey this to your students. Your beliefs about student learning in mathematics are student focused and multi- faceted.	Your enthusiasm for mathematics is articulated and you have conveyed several key beliefs about teaching and learning in mathematics.	There is some evidence of your enthusiasm for mathematics .and you have outlined one key idea about student learning in mathematics.	The ideas about student learning presented do not appear to have been informed by, or re-examined in light of, the unit readings. OR Your statement is not coherent or is carelessly written or exceeds word limit.
2. Reflect on how your attitude to mathematics and your philosophy of learning and teaching mathematics influence your learning and teaching practices.	You have discussed how you approach/structure your teaching practice to take into account your beliefs about mathematics learning and teaching. There is persuasive evidence that this has involved your reflecting on your personal beliefs and experiences.	You have discussed how you approach your teaching practice and explicitly linked this to your beliefs about mathematics learning and teaching. There is clear evidence of personal reflection on your practice.	You have outlined how you approach your teaching practice and linked this to your beliefs about mathematics and student learning in mathematics. There is some evidence of personal reflection on your practice.	You have outlined how you approach your teaching practice.	Your statement contains general statements and does not give evidence of personal reflection on your practice.
3. Discuss how your teaching philosophy is enacted in the teaching and learning activities you use in the classroom.	A variety of specific teaching and learning activities have been discussed and justified according to your stated beliefs about mathematics and student learning.	A variety of teaching and learning activities has been outlined and links made to your stated beliefs about mathematics and student learning.	Specific teaching and learning activities have been outlined with some links to your stated beliefs about mathematics and student learning.	You have included examples of teaching and learning activities that you use in the classroom.	Your statement does not include any specific examples.

Assessment task 2: Annotated teaching sequence

Criterion	High Distinction	Distinction	Credit	Pass	Not satisfied
1. Write a teaching sequence, for two to three lectures or tutorials, that is informed by both your knowledge of the discipline of mathematics and your understanding of student learning.	As for a Distinction, with consideration of areas of difficulty and potential misunderstanding and specific inclusion of examples, illustrations, and models to address these.	As for a Credit, and there is evidence that ideas and concepts are reinforced through the exercises and links made explicitly for students. Examples have been chosen to specifically illustrate points and these may include the use of multimedia or technology. As for Pass, with evidence of consideration of the prior understanding needed, and in what direction the mathematics will be taken in future classes.	Credit As for a Pass, with explanations presented fully worked with no jumps between steps. Examples have been well chosen. There is evidence that the topic/problems are introduced with attention to applications.	Pass The chosen sequence is well placed in the relevant unit/topic and the activities are structured in such a way as to scaffold students' understanding.	Not satisfied You have not adequately placed the teaching sequence in context. You have not provided sufficiently comprehensive teaching materials to be assessable in terms of your examples or explanations.
	The mathematics has been w consistency of definitions and planning.	I ritten with care and there is terminology throughout the	The mathematics is correct, but the terminology/definitions that has the	I re may be some changing of use of potential to confuse students.	The mathematics contains errors.
2. Explain how students will be engaged in the sequence of activities, how the learning will be supported and how feedback will be given.	As for a Distinction, with consideration given to how student learning is facilitated through the different activities that have been planned. Feedback to students is given at multiple times and in several different ways.	Efforts have been made to engage the students through an understanding of applications of the concept/topic, the future use of the topic and through connections with other concepts where appropriate. Students have also been engaged though active learning that includes opportunities for discussion and for receiving feedback.	Student engagement has been facilitated in several ways through the sequence. Feedback to students is built into the plan.	There has been some effort made to promote student engagement in the plan, and at least one point of feedback has been identified.	No consideration of student engagement or of the provision of feedback has been described. No annotations have been provided.

3. Reflect upon the evidence	Systematic evidence, of	More than one form of evidence	There is evidence that feedback	There is evidence that some	You have not
collected and feedback given	more than one type, has	has been collected to gain	has been sought from the students	feedback has been sought from	addressed this
to recommend future changes	been collected from the	insights into understanding, and	with respect to their understanding	the students leading to a	criterion.
for your teaching.	students and this has been	these findings have been used	leading to a suggestion or	suggestion or suggestions for	
	considered with a view to	to suggest future teaching	suggestions for future activities.	future activities.	
	uncover students'	activities.			
	understanding (or				
	misunderstanding).				
	Suggestions to address				
	these issues in future				
	teaching have been made.				

Assessment task 3: Option 1) Design a unit

Criterion	High Distinction	Distinction	Credit	Pass	Not satisfied
1. Outline how you have given consideration to consistency of delivery across the teaching team	A clear process of induction of tutors, support throughout the unit and moderation at the point of assessment has been outlined. The process is achievable and respectful of members of the team.	A clear process of support and moderation of assessment has been outlined. There is attention to orientation to the unit. The process is achievable.	As for a Pass, but also providing opportunities for interaction with your teaching team.	There is a consideration of support given to address consistency and/or opportunities for comparison of assessment.	You have not meaningfully addressed this criterion.
2. Formulate learning outcomes that reflect the intent of the unit and pay explicit attention to ensuring course level and graduate attributes are taken into account	As for a Distinction, and unit learning outcomes are manageable in number and extend to encouraging higher order thinking and skills.	As for a Credit, and links between unit learning outcomes, course level learning outcomes, and graduate attributes are made explicit.	Unit learning outcomes clearly set out with reference to generic attributes or course level outcomes.	Unit learning outcomes and graduate attributes are listed.	The unit is described in terms of content, rather than learning outcomes and graduate outcomes.
3. Design a unit that constructively aligns the learning outcomes with assessment tasks and teaching and learning strategies	Assessment tasks have been purposefully selected to address specific learning outcomes in the most appropriate manner. It has been made clear how the learning and teaching strategies have developed these learning outcomes.	As for a Credit, and assessment tasks have been selected to address specific learning outcomes with a focus mostly on content.	Clear links have been made in the unit outline between learning outcomes, teaching activities and assessments.	Learning outcomes are linked with assessment tasks.	You appear to have tried to fit an existing unit to this task, rather than having designed a new unit using what you have learned in this unit. The unit guide contains obvious inconsistencies.
4. Devise a plan for ongoing evaluation of the unit	As for a Distinction, with evidence collected across all four lenses of reflection (Brookfield, 1995)	The evaluation collected multiple forms of evidence at more than one point in the semester. The evidence is centred on student learning. An intent to deeply reflect and act upon evidence is clear.	Evaluation is collected from more than one source and a plan is included for how this will be acted upon.	Some evaluation is carried out to inform future unit delivery.	You have not meaningfully addressed this criterion.

Assessment task 3: Option 2) Design a summative assessment task

Criterion	High Distinction	Distinction	Credit	Pass	Not satisfied
1. Describe the strategies that tutors will use to mark and give feedback to students. Justify your answer	A clear process of induction of tutors and moderation at the point of assessment has been outlined. The process is achievable and respectful of members of the team.	A clear process of moderation has been outlined and there is attention to orientation to the task. The process is achievable.	A rubric or detailed marking scheme has been provided to support tutors.	There is a consideration of comparison of assessment and/or support given to address consistency.	The task/setting you have described does not allow you to meaningfully address this criterion.
2. Justify the assessment task in terms of linking to learning outcomes.	As for a Distinction, with a justification that draws on literature or knowledge of the development of conceptual understandings.	The assessment task has been designed to link with unit learning outcomes as well as generic attributes and/or course level outcomes and made explicit for the students.	As for a Pass, and the mode of the assessment task has been purposefully selected to link with learning outcome/s and made explicit to the students.	Learning outcomes are linked with the assessment task.	You have not linked the task with learning outcomes.
3. Explain how you have designed tasks that allow good students to be able to demonstrate high level outcomes and weak students to demonstrate their learning	As for a Distinction, and tasks are open-ended or allow some creativity in student responses that encourages students to pursue areas of interest through the task.	The design of the task scaffolds the students' learning and incorporates increasing complexity for high achieving students. There is flexibility inherent in the task.	The assessment task design incorporates flexibility that allows students to meet the requirements of the task at different levels or in different ways.	There is opportunity for high achieving students to be extended through the assignment.	There is little or no explanation of the design of the task in terms of diversity of student learning.
4. Reflect on the task and the outcomes for the students and revise the task accordingly	As for a Distinction, with evidence of reflection collected across all four lenses of reflection (Brookfield, 1995)	The evidence for reflection has been collected from multiple sources and more than once. The evidence is centred on student learning. An intent to deeply reflect and act upon evidence is clear.	Evidence to inform reflection is or has been collected from more than one source and a plan is included on how this has been or will be enacted.	Some evidence has been collected to inform reflection.	This criterion has not been meaningfully addressed.

Submission of assignments

Assignments should be submitted electronically on the AustMS website <u>http://www.austms.org.au/Assessment</u>. Your assignments will be visible only to the marking team.

You should ensure that you keep a copy of your assignment for your records.

Requests for extensions

Any requests for extensions should be made in writing to the unit co-ordinator prior to the due date for the assessment task. Please email the unit coordinator when you upload a task for which you have an extension.

Academic referencing

In your written work you will need to support your ideas by referring to scholarly literature, works of art and/or inventions. It is important that you understand how to correctly refer to the work of others and maintain academic integrity.

The appropriate referencing style for this unit is APA, a citation style created by the American Psychological Association. Links to APA referencing guides can be found through most university library sites. The most recent published guide is:

American Psychological Association. (2010). *Publication Manual of the American Psychological Association* (6th ed.). Washington DC: American Psychological Association.

Academic misconduct

Academic misconduct includes cheating, plagiarism, allowing another student to copy work for an assignment or an examination and any other conduct by which a student:

(a) seeks to gain, for themselves or for any other person, any academic advantage or advancement to which they or that other person are not entitled; or(b) improperly disadvantages any other student.

Plagiarism

Plagiarism is a form of cheating. It is taking and using someone else's thoughts, writings or inventions and representing them as your own; for example, using an author's words without putting them in quotation marks and without citing the source; using an author's ideas without proper acknowledgment and citation and/or copying another student's work. If you have any doubts about how to refer to the work of others in your assignments, then consult the academic integrity webpage at your own university.

Further information and assistance

Please contact the unit co-ordinator to assist you as issues arise. In addition, feel free to post your query to the discussion board to invite the input of other participants in the unit.

Unit schedule

The unit is composed of 12 modules, each designed to be completed in one week. You may complete modules at your own pace; however, you should complete them before the related assessment tasks.

Module	Module learning outcomes
Part 1: Teaching classes (Weeks 1-7)	
 Introduction to teaching mathematics 	 Explain perspectives of teaching mathematics at university Describe the variety that may exist within the student body you teach Explain the importance of instilling a passion for mathematics in students.
2. Models of mathematics learning	 Explain different learning theories as they relate to mathematics Describe different approaches to mathematics learning and how they can inform your mathematics teaching Outline different learning styles and describe ways in which your teaching may be adjusted to cater to them.
3. Planning and designing lessons	 Explain the importance of consolidating background knowledge as the foundation for generating new understanding of mathematical concepts, and to develop techniques for higher order mathematical thinking Identify relevant mathematical skills and concepts in proposed lesson content, and be able to signal and enhance these during learning activities Place new mathematical knowledge in both a broader context and a student-meaningful real world context.
4. Conducting lessons	 Encourage enquiring minds as opposed to delivering a suite of mathematical facts Effectively communicate with both large and small classes Utilise a range of teaching strategies to help students achieve learning outcomes Implement a range of technological options for unit and session facilitation, and describe how each of them can contribute to effective teaching.
5. Teaching in service units	 Understand the importance of service teaching for mathematics and statistics Explain how the needs and expectations of service unit students differ from those enrolled in degree programs in the mathematical sciences Identify the main teaching strategies for service units in mathematics and statistics Apply these strategies to cater to and effectively engage students in service units Celebrate the opportunity to engage with cross-disciplinary ideas and methods in mathematics and statistics.

6. Assessing students in classes	 Design learning and formative assessment tasks to check whether the learning objectives of a class have been met Adjust learning activities on the basis of formative assessment results 	
	Design effective and efficient feedback to students in classes.	
7. Collecting evidence about teaching	Describe how critical reflection can be used to enhance teaching and learning outcomes	
	• Plan and implement activities to obtain feedback from the students, yourself, peers and the literature in relation to your teaching and learning practice	
	Critically reflect on your teaching and learning practice	
	Collate feedback as part of a professional teaching practice portfolio.	
Part 2: Co-ordinating units (Weeks 8-12)		
8. Planning and designing units	• Develop a unit that incorporates purposeful student learning outcomes, learning activities and assessment tasks based on integration of information pertaining to student background, course curricula, and the broader learning context	
	• Write a unit outline that reflects the best practice in unit design.	
9. Managing units	Effectively manage and communicate with students, tutors and other stakeholders in a unit	
	Organise and utilise resources and conduct procedures to facilitate effective learning and efficient implementation of your unit.	
10. Assessing students in units	Compare and contrast a range of assessment strategies and approaches	
	Design and implement effective assessment strategies in mathematical units, including writing rubrics and marking guidelines	
	Describe strategies to make mathematics assessment accessible, equitable, valid and reliable.	
11. Developing learning communities	Describe attributes of positive learning communities and outline strategies that can be used to create them	
	• Explain how different technologies can be used to facilitate interaction and collaboration between students.	
12. Evaluating units	• Explain why units should be evaluated and how this aligns with your obligations for unit evaluation within the quality assurance framework at your university	
	 Identify and collect evidence that can be used to evaluate a unit, and outline how this evidence may be used to enhance a unit 	
	• Apply the principles of Action Research to plan for a small-scale intervention aimed at enhancing teaching in your unit, or a unit into which you teach	
	• Become familiar with sources of research into undergraduate teaching of mathematics and professional development that both informs your practice and gives you an opportunity to share your practice with your peers.	