



# EDTE4300

## Mathematics in the Secondary School II

Session 1, In person-scheduled-weekday, North Ryde 2024

*Macquarie School of Education*

### Contents

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<a href="#"><u>General Information</u></a>	2
<a href="#"><u>Learning Outcomes</u></a>	2
<a href="#"><u>General Assessment Information</u></a>	3
<a href="#"><u>Assessment Tasks</u></a>	5
<a href="#"><u>Delivery and Resources</u></a>	6
<a href="#"><u>Unit Schedule</u></a>	7
<a href="#"><u>Policies and Procedures</u></a>	7
<a href="#"><u>5Rs Framework</u></a>	9

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Convenor

Michael Cavanagh

[michael.cavanagh@mq.edu.au](mailto:michael.cavanagh@mq.edu.au)

Contact via Email

29WW 278

By appointment

Credit points

10

Prerequisites

(EDTE4290 or TEP429) and (TEP401 or EDTE4010 or EDST3010)

Corequisites

Co-badged status

Unit description

This unit focuses on the secondary Mathematics curriculum and its teaching. There are three main themes in this unit: understanding the central concepts of school calculus; the role of assessment in Mathematics education; and learning and teaching Mathematics in Stage 6.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

**ULO1:** Demonstrate knowledge and understanding of research into how students learn and the implications for teaching.

**ULO2:** Demonstrate knowledge and understanding of the concepts, substance and structure of the content and strategies of Stage 6 of the mathematics syllabuses.

**ULO3:** Plan lesson sequences using knowledge of student learning, content and effective teaching strategies.

**ULO4:** Demonstrate knowledge of a range of resources, including ICT, that engage students in their learning.

**ULO5:** Demonstrate understanding of assessment strategies, including formal and informal, diagnostic, formative and summative approaches to assess student learning.

**ULO6:** Develop oral communication skills, listening skills, and teamwork skills.

## General Assessment Information

- Students should be aware of and apply the University policy on academic honesty (see: <https://policies.mq.edu.au/document/view.php?id=3>)
- Unless a Special Consideration request (see: <https://students.mq.edu.au/study/assessment-exams/special-consideration>) has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a mark of, 0 (zero) will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical issue.
- This late penalty will apply to non-timed sensitive assessment (incl essays, reports, posters, portfolios, journals, recordings etc). Late submission of time sensitive tasks (such as tests/exams, performance assessments/presentations, scheduled practical assessments/labs etc) will only be addressed by the unit convenor in a Special Consideration application. Special Consideration outcome may result in a new question or topic.
- Please format assessments using 12-point font and 1.5 spacing.
- All assessments are submitted electronically. Turnitin plagiarism detection software is used to check all written assessments.
- Students can use Turnitin's Originality Report as a learning tool to improve their academic writing if this option is made available in the unit.
- Students should carefully check that they submit the correct file for an assessment as no re-submissions will be accepted after the due date and time, including instances where students upload an incorrect file in error.
- Word limits are strictly applied. Work above the word limit will not be marked.
- All assessments are marked using a clear marking scheme or a rubric.
- Marking of all assessments is moderated by the Unit Convenor.
- Applications for extensions must be made via AskMQ (<https://ask.mq.edu.au/>).
- It is **not the responsibility** of unit staff to contact students who have failed to submit assessments. If you have any missing items of assessment, it is your responsibility to make contact with the unit convenor.

## University policy on grading

### Criteria for awarding grades for assessment tasks

Assignments will be awarded grades ranging from HD to F according to guidelines set out in the University's Grading Policy. For Professional Experience (PEX) units the PE Report is marked as satisfactory or unsatisfactory and the Teaching Performance Assessment (in final PE units) is marked as not meets, meets or exceeds. The following descriptive criteria are included for your information.

### Descriptive Criteria for awarding grades in the unit

In order to meet the unit outcomes and successfully pass this unit, students should attempt all assessment tasks.

Grade	Descriptor
<b>HD</b> (High Distinction)	Provides consistent evidence of deep and critical understanding in relation to the learning outcomes. There is substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem-solving approaches; critical evaluation of problems, their solutions and their implications; creativity in application as appropriate to the discipline.
<b>D</b> (Distinction)	Provides evidence of integration and evaluation of critical ideas, principles and theories, distinctive insight and ability in applying relevant skills and concepts in relation to learning outcomes. There is demonstration of frequent originality in defining and analysing issues or problems and providing solutions; and the use of means of communication appropriate to the discipline and the audience.
<b>Cr</b> (Credit)	Provides evidence of learning that goes beyond replication of content knowledge or skills relevant to the learning outcomes. There is demonstration of substantial understanding of fundamental concepts in the field of study and the ability to apply these concepts in a variety of contexts; convincing argumentation with appropriate coherent justification; communication of ideas fluently and clearly in terms of the conventions of the discipline.
<b>P</b> (Pass).	Provides sufficient evidence of the achievement of learning outcomes. There is demonstration of understanding and application of fundamental concepts of the field of study; routine argumentation with acceptable justification; communication of information and ideas adequately in terms of the conventions of the discipline. The learning attainment is considered satisfactory or adequate or competent or capable in relation to the specified outcomes
<b>F</b> (Fail)	Does not provide evidence of attainment of learning outcomes. There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; missing, undeveloped, inappropriate or confusing argumentation; incomplete, confusing or lacking communication of ideas in ways that give little attention to the conventions of the discipline.

*Note: If you fail a unit with a professional experience component, the fail grade will be on your transcript irrespective of the timing of the placement.*

### Withdrawing from this unit

If you are considering withdrawing from this unit, please seek academic advice via <https://ask.mq.edu.au> before doing so as this unit may be a co-requisite or prerequisite for units in the following sessions and may impact on your course progression.

## Results

Results shown in iLearn, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](#).

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Joint Lesson Plan</a>	40%	No	11:55 22/03 11:55 29/03 09:55 05/04 11:55 15/04
<a href="#">Design a mathematics topic test</a>	60%	No	23:55 03/06/2024

### Joint Lesson Plan

Assessment Type <sup>1</sup>: Lesson plan

Indicative Time on Task <sup>2</sup>: 30 hours

Due: **11:55 22/03 11:55 29/03 09:55 05/04 11:55 15/04**

Weighting: **40%**

Students work in small groups to jointly plan a mathematics lesson; they provide individual peer feedback on the lesson from another group; and they write an individual reflection on what they have learned [1500 words]

On successful completion you will be able to:

- Demonstrate knowledge and understanding of research into how students learn and the implications for teaching.
- Demonstrate knowledge and understanding of the concepts, substance and structure of the content and strategies of Stage 6 of the mathematics syllabuses.
- Plan lesson sequences using knowledge of student learning, content and effective teaching strategies.
- Demonstrate knowledge of a range of resources, including ICT, that engage students in their learning.
- Develop oral communication skills, listening skills, and teamwork skills.

### Design a mathematics topic test

Assessment Type <sup>1</sup>: Work-integrated task

Indicative Time on Task <sup>2</sup>: 45 hours

Due: **23:55 03/06/2024**

Weighting: **60%**

Students design a mathematics topic test and accompanying mark scheme; they obtain feedback from a mathematics teacher, reflect on the feedback and revise the test and mark scheme as appropriate [2000 words]

On successful completion you will be able to:

- Demonstrate knowledge and understanding of the concepts, substance and structure of the content and strategies of Stage 6 of the mathematics syllabuses.
- Demonstrate understanding of assessment strategies, including formal and informal, diagnostic, formative and summative approaches to assess student learning.

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<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## **Delivery and Resources**

### **Information about the unit iLearn site**

**This unit has a full web presence through *iLearn*.**

**Students will need regular access to a computer and the Internet to complete this unit.**

Weekly access to iLearn is compulsory for all students. Important assessment information will be posted here, as will other relevant unit notices and materials, including a reading template and guide to lecture note taking to assist your studies.

Various activities and materials for discussion and critical reflection are included. Please check the iLearn unit regularly.

PowerPoint slides are available in iLearn following each workshop.

### **Access and technical assistance**

Information for students about access to the online component of this unit is available at <https://ilearn.mq.edu.au/login/index.php>. You will need to enter your student username and password.

Please do **NOT** contact the Unit Convenor regarding *iLearn* technical help.

Assistance is available from IT Helpdesk

Ph: 9850 4357 or 1800 67 4357

Email: [help.mq.edu.au](mailto:help.mq.edu.au).

On Campus: Ground floor at 18 Wally's Walk

## **Structure**

The unit structure can be found in the university timetable <https://timetables.mq.edu.au/2023/>

The weekly program for the unit with the accompanying readings/ preparation is available on the unit iLearn site.

## **Unit Schedule**

See the unit iLearn site.

## **Policies and Procedures**

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au) and use the [search tool](#).

## **Student Code of Conduct**

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/student-conduct>

## **Results**

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](https://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## **Academic Integrity**

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the

expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

### The Writing Centre

[The Writing Centre](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Workshops](#)
- [Chat with a WriteWISE peer writing leader](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and processes

## Student Enquiries

Got a question? Ask us via [AskMQ](#), or contact [Service Connect](#).

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/](http://www.mq.edu.au/about_us/)



[offices\\_and\\_units/information\\_technology/help/](#).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

### **School of Education Procedures**

In addition, the following policies and procedures of the School of Education are applicable in this unit.

### **Attendance for undergraduate units**

See the university timetable for information about when classes begin in this unit. <https://timetables.mq.edu.au/2023/>

Activities completed during weekly workshops are essential for building the core knowledge and/or skills required to demonstrate the learning outcomes of this unit and to meet the AITSL Graduate Teacher Standards. Attendance at all workshops is expected and the roll will be taken. Make up tasks may be given if attendance is missed to ensure all content is covered to meet accreditation requirements.

### **Electronic Communication**

It is the student's responsibility to check all electronic communication on a regular weekly basis. Communication may occur via:

- Official *MQ Student Email Address*
- The *Dialogue* function on iLearn
- Other iLearn communication functions

## **5Rs Framework**

The 5Rs Framework, developed by the School of Education at Macquarie University, is embedded throughout your teacher education course. Your use of the 5Rs Framework will help you develop the capabilities that will make your teaching career sustainable and fulfilling. In this unit, you will learn using the 5Rs framework in the following important ways:

### **Reflexive:**

In the 'Design a mathematics topic test' assignment, you will write a self-reflection on the feedback you receive from a colleague. In the 'Joint Lesson Planning' assignment, you will write a self-reflection on the JLP process and what you learned from participating in it.

### **Responsive:**

In the 'Joint Lesson Planning' assignment, you will learn to be responsive by giving and receiving peer feedback on your JLP and your peers' JLP.

Unit information based on version 2024.01R of the [Handbook](#)