



EDST8609

Teaching Secondary STEM in Years 7-10 (Post Grad) (First Teaching Area)

Session 2, In person-scheduled-weekday, North Ryde 2026

Macquarie School of Education

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General Information

Unit convenor and teaching staff

Convenor

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Contact via Contact via Unit Dialogue site.

2:00pm to 4:00pm

Lecturer

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Tutor

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Lab Tech

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Credit points

10

Prerequisites

Corequisites

EDST8509 or EDST8301

Co-badged status

Unit description

This unit is the first in a sequence of two which focuses on learning how to teach Science, Technology, Engineering and Mathematics in a secondary school context. Emphasis is placed on acquiring the skills and knowledge for planning engaging learning sequences. Students will work with syllabus documents for Stages 4 and 5 to interpret learning outcomes, develop programs, implement assessment strategies, use ICT effectively and create resources. The aim is for students to develop a range of research-informed approaches to teaching, reflect on their teaching practices and demonstrate awareness of the diverse needs of the students in their classes.

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: Critically analyse the content and structure of the NSW Stage 4 and 5 syllabus for a relevant Science Technology Engineering Mathematics (STEM) subject.

ULO2: Evaluate and apply important contextual aspects of professional practice including: effective teaching, curriculum differentiation, classroom management, and assessment and evaluation.

ULO3: Critically evaluate and implement a range of research-informed strategies that underpin the principles and practices of teaching and learning in the relevant teaching area

ULO4: Design and justify evidence-informed lesson sequences to engage secondary students in learning using syllabus content, subject knowledge, understanding of student learning, ICT, and teaching strategies.

ULO5: Implement and assess the suitability of strategies for differentiating teaching to meet specific learning needs of Stage 4-5 students across a range of interests, backgrounds and abilities.

ULO6: Critically analyse and reflexively engage with key current issues in the profession and teaching area together with implications for professional practice.

ULO7: Evaluate how to effectively communicate information about concepts and processes from the STEM subject to diverse audiences.

General Assessment Information

General Submission Information

All written assessments must be submitted electronically. Please format assessments using 12-point font and 1.5 spacing. Submissions must meet the required file type and formatting specifications outlined in the assessment guidelines. If you are unsure about the file format or have technical difficulties, it is your responsibility to seek assistance before the submission deadline. Students should be careful to 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. 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 contact the unit convenor.

Turnitin plagiarism detection software is used to check all written assessments. It is the responsibility of all students to ensure that their submitted work is in a format compatible with Turnitin software for plagiarism checking. 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.

Word limits are strictly applied, with + or – 10% applicable. Work above the word limit will not be marked.

Academic Integrity

Students should be aware of and apply the University policy on academic integrity (see: <https://policies.mq.edu.au/document/view.php?id=3>).

Artificial Intelligence

<https://students.mq.edu.au/study/assessment-exams/assessments/ai-and-assessment>

<https://policies.mq.edu.au/document/view.php?id=394>

Information for Unit Convenors: [What to communicate to students about AI and Assessments.](#)

Special Consideration / Late Penalties

Unless a Special Consideration request has been submitted and approved, **a 5% penalty (of the total possible mark) will be applied each day to late submissions, up until the 7th calendar 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.

Important to note:

Late submission of time sensitive tasks (such as tests/exams, performance assessments/presentations, scheduled practical assessments/labs) will be addressed by the unit convenor in a Special consideration application.

Students should not request an informal arrangement from their tutor, lecturer or Unit Convenor (or equivalent).

Where an application for Special Consideration is approved and the outcome is an extension to the due date of a task, submissions that are received after the new due date will be subject to late penalties that are calculated from the new due date. This only applies where the outcome is an extension to the due date – see the [Special Consideration Policy](#) for a schedule of all possible

outcomes.

A Special Consideration outcome may result in a new question or topic.

Applications must be made via [Service Connect](#).

University Policy on Grading

Assignments will be awarded grades ranging from HD to F according to guidelines set out in the [University's Grading System](#) and [University Assessment Policy](#).

To attain a pass or higher grade in Professional Experience a student must obtain a satisfactory in both the Professional Experience component and a pass or higher grade in the academic component. For Professional Experience units the Professional Experience Evaluation Report is marked as Satisfactory or Unsatisfactory. The Macquarie Teaching Performance Assessment (MQTPA - in final WIL/ PEx units) is marked as Not met, Met or Exceeds.

Results

Results shown in iLearn, or released directly by your Unit Convenor, are not confirmed because 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 [Service Connect](#).

Withdrawing from this unit

If you are considering withdrawing from this unit, please seek academic advice via [Service Connect](#) before doing so as this unit may be a co-requisite or prerequisite for units in the following sessions and may impact your course progression.

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Micro-teaching	50%	No	Week 8 and during the MQ Recess Period	Individual	No	Observed
Teaching Portfolio Item	50%	No	08/11/2026	Individual	Yes	Open

Micro-teaching

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 39 hours

Due: **Week 8 and during the MQ Recess Period**

Weighting: **50%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

Students will prepare a 15-minute teaching scenario appropriate to their teaching area. Micro-teaching scenarios will be presented during the formal examination period.

On successful completion you will be able to:

- Critically evaluate and implement a range of research-informed strategies that underpin the principles and practices of teaching and learning in the relevant teaching area
- Implement and assess the suitability of strategies for differentiating teaching to meet specific learning needs of Stage 4-5 students across a range of interests, backgrounds and abilities.
- Critically analyse and reflexively engage with key current issues in the profession and teaching area together with implications for professional practice.

Teaching Portfolio Item

Assessment Type ¹: Professional task

Indicative Time on Task ²: 39 hours

Due: **08/11/2026**

Weighting: **50%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open

Students will be required to develop a series of linked teaching and learning resources for teacher resources and/ or classroom use.

On successful completion you will be able to:

- Critically analyse the content and structure of the NSW Stage 4 and 5 syllabus for a relevant Science Technology Engineering Mathematics (STEM) subject.
- Evaluate and apply important contextual aspects of professional practice including: effective teaching, curriculum differentiation, classroom management, and assessment and evaluation.
- Design and justify evidence-informed lesson sequences to engage secondary students in learning using syllabus content, subject knowledge, understanding of student learning, ICT, and teaching strategies.
- Evaluate how to effectively communicate information about concepts and processes from the STEM subject to diverse audiences.

¹ 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
- [Academic Success](#) for academic skills support.

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

³ An automatic short extension is available for some assessments. Apply through the [Service Connect Portal](#).

Delivery and Resources

Information about the unit iLearn site

This unit has a full web presence through iLearn. 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: via email onehelp@mq.edu.au or Ph: 9850 4357 or 1800 67 4357. On Campus: Ground floor at 18 Wally's Walk.

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 connect.mq.edu.au or if you are a Global MBA student contact 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](#).

School of Education Procedures

In addition, the following policies and procedures for the Macquarie School of Education apply to this unit.

Academic Progression Policy

This unit is a part of a professional course listed on Schedules 2 and 3 of the [Academic Progression Policy](#). This course has additional requirements that are applicable for the full duration of the course, including course-specific Inherent Requirements, Fitness to Practice requirements and other compulsory course requirements. It also has rigorous academic progression standards. Inability to meet these requirements may result in a withdrawal of offer of admission and/or permanent exclusion from the course in accordance with the General Coursework Rules.

Communication

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

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

Attendance and Participation

See the University timetable for information about when classes begin in this unit. [Creating your timetable - Enrolling | Macquarie University, Sydney \(mq.edu.au\)](#). Students are required to attend the tutorial in which they are enrolled. Any changes to tutorial enrolments must be completed officially through e-Student. Please do not contact the unit convenor to request a change.

There is an attendance requirement in this unit. Initial Teacher Education (ITE) degrees must ensure that teacher education students meet unit learning outcomes, course learning outcomes and the Graduate level of the Australian Professional Standards for

Teachers. Since units are within an accredited ITE degree, Macquarie School of Education is required to demonstrate these outcomes and standards have been taught, practised and assessed. To meet 'taught, practiced and assessed' accreditation requirements, ITE units have mandatory attendance, with an expectation of at least 80% attendance at tutorials. Please see your unit iLearn site for details of how to meet attendance requirements in this unit.

Infrequent Attendance Students

Information about the dates of the on-campus sessions can be found in the university timetable. [Creating your timetable - Enrolling | Macquarie University, Sydney \(mq.edu.au\)](#)

The on-campus sessions are essential to student engagement and learning and attendance is expected.

Prior to the on-campus sessions, students should have read the prescribed readings and listened to the lectures, summarise the main points, and make notes of the key terms and definitions. Prepare any discussion questions of your own that you wish to share.

Please make effective use of the online component of the unit and access iLearn regularly. Keep up to date with listening to the lectures on a weekly basis.

Further details and any updates about times and locations will be posted on iLearn as an Announcement during first half of the semester.

Student Support

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

Academic Success

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

- [Ask a Study Coach](#)
- [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 the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit <https://students.mq.edu.au/support/technology/service-desk>.

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.

Unit information based on version 2026.03 of the [Handbook](#)