



EDST8611

Teaching STEM in Secondary Schools (Post Grad) (First Teaching Area B)

Session 1, In person-scheduled-weekday, North Ryde 2025

Macquarie School of Education

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Disclaimer

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General Information

Unit convenor and teaching staff

Michael Cavanagh

michael.cavanagh@mq.edu.au

Contact via Email

25BWW 655

By appointment

Credit points

10

Prerequisites

EDST8609 or EDST8226 or EDST8228 or EDST8218

Corequisites

Co-badged status

Unit description

This unit is the second in a sequence of two which focuses on learning how to teach STEM 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 Stage 6 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 6 syllabus for a relevant 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 6 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 key concepts and principles from the STEM subject to diverse audiences.

General Assessment Information

General Submission Information

Please format assessments using 12-point font and 1.5 spacing.

All assessments must be submitted electronically. 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. Submissions must meet the required file type and formatting specifications outlined in the assessment guidelines. Failure to submit work in an acceptable format may result in delays in processing your submission and potential penalties for non-compliance with assessment requirements. 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.

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. Work above the word limit will not be marked.

Use of Artificial Intelligence (AI)

Students should be aware of and apply the University policy on academic integrity (see: <https://policies.mq.edu.au/document/view.php?id=3>). Any student suspected of using unauthorised AI in an assignment will be referred to the Faculty of Arts Discipline Committee. Penalties can include reduced marks for an assessment, being awarded '0' for a task, failing an entire unit, being excluded from a course of study. Please see each assessment task description/rubric for expectations about AI.

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 an assessment is not submitted, up until the 7th day (including weekends) (see: <https://students.mq.edu.au/study/assessment-exams/special-consideration>). Applications for extensions must be made via [Service Connect](#). 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 assessments (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. A Special Consideration outcome may result in a new question or topic.

Marking

All assessments are marked using a rubric.

Marking of all assessments is moderated by the Unit Convenor.

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
<u>Viva Voce</u>	50%	No	Exam period
<u>Teaching Portfolio Item</u>	50%	No	23:55 13/04/2025

Viva Voce

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 39 hours

Due: **Exam period**

Weighting: **50%**

Students will deliver a 10-minute viva voce during the examination period. The viva voce will focus on professional knowledge and classroom practice.

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 6 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: Portfolio

Indicative Time on Task ²: 39 hours

Due: **23:55 13/04/2025**

Weighting: **50%**

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 6 syllabus for a relevant 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 key concepts and principles 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
- the [Writing Centre](#) 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

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.

Unit Schedule

Please refer to the unit iLearn page for details of the schedule.

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](#).

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.

- [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 the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit 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 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 \(mq.edu.au\)](#)

Attendance at all synchronous activities, completion of non-synchronous formative/diagnostic class tasks and involvement in professional forums is expected as the MTeach is a professional qualification. Activities completed during weekly tutorials (DAY or ONLINE DAY mode) or on campus days (INFQ mode) 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 and/or ACECQA requirements. Attendance at all tutorials and/or on campus days is expected and will be recorded. Make up tasks may be given if attendance is missed to ensure all content is covered to meet accreditation requirements.

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.

Changes from Previous Offering

This is the first offering of the unit.

Unit information based on version 2025.07 of the [Handbook](#)