



MOLS8902

Advanced Biotechnology Research Experience

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

School of Natural Sciences

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General Information

Unit convenor and teaching staff

Yuling Wang

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Contact via Email

4WW-229

By appointment

Credit points

10

Prerequisites

permission by special approval

Corequisites

Co-badged status

Unit description

This unit provides students with the opportunity to undertake a research project or internship supervised by leaders in the field of biotechnology. Students will develop a range of research skills, including literature searching, project planning, experimental design, data analysis, and scientific communication. This hands-on experience will enable students to apply their knowledge to real-world problems in biotechnology. Interested students are encouraged to contact potential supervisors in their preferred research areas to discuss available projects.

Learning in this unit enhances student understanding of global challenges identified by the United Nations Sustainable Development Goals ([UNSDGs](#)) Quality Education; Industry, Innovation and Infrastructure

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: Conduct research to solve problems relevant to biotechnology

ULO2: Apply a range of research techniques while adhering to safety and ethical standards.

ULO3: Collect, record, and critically interpret research data.

ULO4: Critically evaluate and interpret project-specific relevant published literature.

ULO5: Communicate research findings effectively through various formats, including written reports, oral presentations, and visual media, to scientific and non-scientific audiences.

General Assessment Information

MOLS8902 Advanced Biotechnology Research Experience unit outline

MOLS8902 is a self-organised unit of independent study aimed at providing postgraduate coursework students with substantial experience in a working research laboratory. Students need to be self-directed and independent in order to get the most out of this unit, including optimising their own timetable since there are no timetabled learning activities involved.

Students need to organise a research project ahead of time by approaching academic supervisors directly, and working out who is available to supervise a project in an area that is of interest to the student. It is best to get started on this task as early as possible, well ahead of the start of semester. As a starting point, students should consult the School of Natural Sciences website which contains details of all the academic staff in the school including links to profiles with their areas of research interest (<https://www.mq.edu.au/faculty-of-science-and-engineering/departments-and-schools/school-of-natural-sciences>). If that proves to be too difficult, students should consult their unit convenor and course director.

Students are expected to spend at least 150 hours completing the unit across the 13 weeks of semester. This equates to about 1.5 days a week in a laboratory. There are no scheduled classes, you need to sort it out so you can spend sufficient time in the laboratory and that fits in with your own timetable and that of your supervisor.

A. Assessment Release

- Laboratory performance and skills evaluation: details to be released by 9th October, 2026
- Seminar Presentation: specifications provided no later than 16th October, 2026
- Research report: details to be released by 30th October, 2026

B. Requirements to Pass this Unit

To pass this unit, you need to:

- Achieve a total mark equal to or greater than 50% across all assessments.

C. Late Assessment Submission Penalty

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is **11:55 pm**. A

1-hour grace period will be provided to students who experience technical concerns. For any late submission of the research report, please apply for Special Consideration.

D. Assessments where Late Submissions will be accepted:

In this unit, late submissions will be accepted as follows:

- **LABORATORY PERFORMANCE AND SKILLS EVALUATION** - NO, unless Special Consideration is granted.
- **SEMINAR PRESENTATION WITH SELF-REFLECTION** - NO, unless Special Consideration is granted.
- **RESEARCH REPORT** - Yes, Standard Late Penalty applies.

E. Special Consideration

The Special Consideration Policy aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through <https://connect.mq.edu.au>.

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Laboratory Performance and Skills Evaluation	30%	No	23/10/2026	Individual	No	Observed
Seminar Presentation with Self-Reflection	20%	No	30/10/2026	Individual	No	Observed
Research Report	50%	No	08/11/2026	Individual	Yes	Open

Laboratory Performance and Skills Evaluation

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 0 hours

Due: **23/10/2026**

Weighting: **30%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

You will be assessed on practical laboratory skills through direct observation by your supervisor.

Criteria include experimental techniques, safety practices, data collection, and problem-solving.

On successful completion you will be able to:

- Conduct research to solve problems relevant to biotechnology
- Apply a range of research techniques while adhering to safety and ethical standards.
- Collect, record, and critically interpret research data.

Seminar Presentation with Self-Reflection

Assessment Type ¹: Presentation task

Indicative Time on Task ²: 10 hours

Due: **30/10/2026**

Weighting: **20%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

You will deliver a presentation on your research aims, methodology, and preliminary outcomes, receiving feedback from peers and supervisor. You will also submit a self-reflection on your progress, challenges and development of practical and problem-solving skills. Both will be submitted at the same time.

On successful completion you will be able to:

- Conduct research to solve problems relevant to biotechnology
- Collect, record, and critically interpret research data.
- Communicate research findings effectively through various formats, including written reports, oral presentations, and visual media, to scientific and non-scientific audiences.

Research Report

Assessment Type ¹: Written Submission

Indicative Time on Task ²: 50 hours

Due: **08/11/2026**

Weighting: **50%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open

You will submit a comprehensive research report formatted for a scientific journal, detailing the research question, methodology, results, and discussion. The report will be examined by two independent examiners to ensure rigorous evaluation.

On successful completion you will be able to:

- Conduct research to solve problems relevant to biotechnology
- Collect, record, and critically interpret research data.
- Critically evaluate and interpret project-specific relevant published literature.
- Communicate research findings effectively through various formats, including written reports, oral presentations, and visual media, to scientific and non-scientific 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

There is no lecture for this unit.

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.

- [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.

Changes from Previous Offering

This unit has changed considerably from previous offerings. It now i) follows the new three-assessment policy, ii) is offered only in Session 2, and ii) requires special approval.

Unit information based on version 2026.02 of the [Handbook](#)