



NSCI7900

Research Frontiers in Natural Sciences

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

School of Natural Sciences

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General Information

Unit convenor and teaching staff

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14ER 330

Tuesdays and Wednesdays.

Credit points

10

Prerequisites

Admission to MRes

Corequisites

Co-badged status

Unit description

This foundation unit deeply engages students with the broad topics, big questions, strategies, new directions of scientific thought and break-through methods currently emerging in the biological, chemical, earth and environmental sciences. Activities undertaken include tailored workshops and presentations by research groups and academics, seminar attendance, directed reading of research literature, as well as the discussion and critique of wide-ranging research topics. Students will demonstrate their understanding of current research and develop their science communication skills based on the research frontiers explored; they will become embedded in our active research community, and reflect on their future goals in their chosen discipline.

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 an understanding of current scientific questions and methods

ULO2: Critically evaluate and discuss current research with other researchers

ULO3: Communicate current research questions, methods and results in multiple formats to a variety of audiences with supporting evidence

ULO4: Apply networking skills in a variety of contexts with peers and partners from industry and academia

ULO5: Critically reflect on your current knowledge and transferability of these in relation to your career aspirations inside and/or outside academia

General Assessment Information

Requirements to Pass this Unit

To pass this unit you must achieve a total mark equal to or greater than 50%.

Engagement – please read, as this is very important

As a BPhil / MRes Yr 1 student you are becoming part of our community of researchers. You need to be an active participant in the unit activities. You will be expected to lead and participate in discussions, ask questions and engage with seminar speakers, and proactively work to find your place in our diverse research community.

Academic Honesty

Presenting the work of another person as one's own is a serious breach of the University's rules and carries significant penalties. In this unit, we will be checking written work for plagiarism using TURNITIN. Penalties for plagiarism may include a zero mark for the assignment or in more extreme cases, failure of the unit. Plagiarism WILL be noted on your academic record. (link: [Academic Integrity Policy](#))

Due dates and assessment topics

For assessments where the topic is to be derived from a seminar / discussion - you must get the topic approved by the convenor prior to submission (as outlined in iLearn). Topics covered in leading discussions, summary paragraphs and general audience communication piece need to be distinct and span the breadth of the research undertaken within the school with no more than one of those assessments from your anticipated area of focus. In the first two weeks of the session you will have the opportunity to adjust the due dates listed in the unit guide through agreement with the convenor. Once due dates are agreed they are final.

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 or presentation assessment 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 a technical concern. For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for [Special Consideration](#).

Assessments where Late Submissions will be accepted

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

- The summary paragraph, goals & needs assessment, communication plan, general audience science communication, and the time on task reflection are all subject to the standard late submission penalty.
- Seminar and discussion participation and discussion leadership must take place at the agreed / scheduled times unless a special consideration is granted.
- See marking guidance on iLearn or consult the convenor for additional information.

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 contact the convenor prior to submitting a Special Consideration request through ask.mq.edu.au.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Seminar and discussion participation</u>	10%	No	Weekly through session
<u>Summary paragraph</u>	15%	No	Week 2 or as agreed
<u>Goals and needs assessment</u>	10%	No	Week 3 or as agreed
<u>Career Development Plan</u>	10%	No	Week 5 or as agreed
<u>Discussion leadership</u>	25%	No	Week 8 or as agreed
<u>General audience science communication</u>	25%	No	Week 10 or as agreed
<u>Time on task reflection</u>	5%	No	Week 13

Seminar and discussion participation

Assessment Type ¹: Participatory task

Indicative Time on Task ²: 0 hours

Due: **Weekly through session**

Weighting: **10%**

Seminars and discussion groups will expose you to a broad range of topics in the natural sciences from which you will select topics to explore in greater detail. Proactive participation in discussions following seminars is required. In addition to the seminars hosted by the school, you will also be required to attend seminars elsewhere (e.g. other departments / schools at

Macquarie University, other universities, museums, botanical gardens or other research oriented institutions).

On successful completion you will be able to:

- Demonstrate an understanding of current scientific questions and methods
- Critically evaluate and discuss current research with other researchers
- Communicate current research questions, methods and results in multiple formats to a variety of audiences with supporting evidence
- Apply networking skills in a variety of contexts with peers and partners from industry and academia

Summary paragraph

Assessment Type ¹: Professional writing

Indicative Time on Task ²: 15 hours

Due: **Week 2 or as agreed**

Weighting: **15%**

Using a seminar or discussion group as inspiration, you will write a Nature summary paragraph.

On successful completion you will be able to:

- Demonstrate an understanding of current scientific questions and methods
- Communicate current research questions, methods and results in multiple formats to a variety of audiences with supporting evidence

Goals and needs assessment

Assessment Type ¹: Reflective Writing

Indicative Time on Task ²: 7 hours

Due: **Week 3 or as agreed**

Weighting: **10%**

You will reflect on your professional aspirations and how you can most effectively use your BPhil/MRes to advance those goals. You will discuss research aspirations with potential supervisors and other researchers at various career stages to reflect on potentially mutual research interests, preferred methods and modes of work and future goals.

On successful completion you will be able to:

- Critically evaluate and discuss current research with other researchers
- Apply networking skills in a variety of contexts with peers and partners from industry and academia
- Critically reflect on your current knowledge and transferability of these in relation to your career aspirations inside and/or outside academia

Career Development Plan

Assessment Type ¹: Plan

Indicative Time on Task ²: 7 hours

Due: **Week 5 or as agreed**

Weighting: **10%**

You will develop a professional development plan based on the career goals and aspirations you have identified in the goals and needs assessment.

On successful completion you will be able to:

- Apply networking skills in a variety of contexts with peers and partners from industry and academia
- Critically reflect on your current knowledge and transferability of these in relation to your career aspirations inside and/or outside academia

Discussion leadership

Assessment Type ¹: Presentation

Indicative Time on Task ²: 21 hours

Due: **Week 8 or as agreed**

Weighting: **25%**

You will be expected to present on discussion topics and facilitate group discussions.

On successful completion you will be able to:

- Demonstrate an understanding of current scientific questions and methods
- Critically evaluate and discuss current research with other researchers
- Communicate current research questions, methods and results in multiple formats to a

variety of audiences with supporting evidence

- Apply networking skills in a variety of contexts with peers and partners from industry and academia

General audience science communication

Assessment Type ¹: Non-academic writing

Indicative Time on Task ²: 28 hours

Due: **Week 10 or as agreed**

Weighting: **25%**

Using a seminar or discussion group as inspiration, you will complete a science communication piece (blog, video, podcast, etc) aimed at a general audience.

On successful completion you will be able to:

- Demonstrate an understanding of current scientific questions and methods
- Critically evaluate and discuss current research with other researchers
- Communicate current research questions, methods and results in multiple formats to a variety of audiences with supporting evidence

Time on task reflection

Assessment Type ¹: Reflective Writing

Indicative Time on Task ²: 7 hours

Due: **Week 13**

Weighting: **5%**

Through the session, you will keep a time on task diary. At the end of the session, you will reflect on the time required to perform various tasks, your time management, and identify ways to improve your time management, research planning, and ways to be more efficient in your work.

On successful completion you will be able to:

- Critically reflect on your current knowledge and transferability of these in relation to your career aspirations inside and/or outside academia

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

Off-shore students

Off-shore students must email the convenor as soon as possible to discuss study options.

Attendance at scheduled activities

Should any activity be missed due to illness or misadventure please notify the convenor as soon as possible (ideally prior to the scheduled activity).

On-campus / in person is the preferred way to attend unit activities, but please do not attend class in person if you are unwell. See [iLearn](#) for details on attending unit activities online.

Weekly seminars and discussions will happen in person (if possible) or via Zoom link to be provided via [iLearn](#).

One full day workshop in week one is provided in person (with online back up available for students who are unwell). Students are expected to attend the workshop in person, but if you are not feeling well no formal medical certificate is required to attend online. Please advise the convenor as soon as possible if you will not be attending in person so that appropriate arrangements can be made.

COVID or any other readily transmissible illnesses

Students are requested to minimise the risk of spreading COVID or other illnesses to themselves and others in accordance with the university and NSW Health guidelines: <https://www.mq.edu.au/about/coronavirus-faqs> and <https://www.nsw.gov.au/covid-19/stay-safe>. Students who feel unwell are requested to participate in the class using the online option (see [iLearn](#)). Any further requirements or changes to units in relation to COVID will be communicated to students via [iLearn](#).

Unit Schedule

The school seminar schedule is still being finalised, but you will need to attend school seminars (Tuesdays at 1pm in 14ER 280) and the discussion session following. You are expected to engage in weekly activities/discussions and at the start of the session you will be assigned / sign up for times to be the discussion leader.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#) (<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 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/>

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/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.

Unit information based on version 2024.04 of the [Handbook](#)