



NSCI7900

Research Frontiers in Natural Sciences

Session 1, In person-scheduled-weekday, North Ryde 2022

School of Natural Sciences

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General Information

Unit convenor and teaching staff

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before or after seminars/discussions or by appointment.

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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

ULO3: Communicate current research questions, methods and results in multiple

formats to a variety of audiences with supporting evidence

ULO2: Critically evaluate and discuss current research with other researchers

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

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. The University's Academic Honesty Policy can be found at http://www.mq.edu.au/policy/docs/academic_honesty/policy.html

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. Full details of penalties can be found at http://www.mq.edu.au/policy/docs/academic_honesty/schedule_penalties.html

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 instructor prior to submission. 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 from your 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 instructor. Once due dates are agreed they are final (see: extensions and penalties).

Extensions, late penalties

In-class activities must be undertaken at the time indicated in the unit guide / timetable (late submissions will not be accepted). Should these activities be missed due to illness or misadventure, students may apply for Special Consideration. All other assessments must be submitted by 5:00 pm on their due date. Should these assessments be missed due to illness or misadventure, students should apply for Special Consideration using the online form: ask.mq.edu.au.

A 12-hour grace period will be given after which the following deductions will be applied to the awarded assessment mark: 12 to 24 hours late = 10% deduction; for each day thereafter, an additional 10% per day or part thereof will be applied until five days beyond the due date. After

this time, a mark of zero (0) will be given. For example, an assessment worth 20% is due 5 pm on 1 January. Student A submits the assessment at 1 pm, 3 January. The assessment received a mark of 15/20. A 20% deduction is then applied to the mark of 15, resulting in the loss of three (3) marks. Student A is then awarded a final mark of 12/20.

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

COVID Information and on-campus classes On-campus teaching continues to be scheduled for Session 1, 2022. Masks are compulsory for all classes in indoor spaces and social distancing will be implemented wherever possible. Students will also be required to sanitise surfaces before and after use.

Students are requested to minimise the risk of spreading COVID 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.

Disruptions to studies

Information about the Disruptions to Studies policy and procedure is online at Policy Central: http://www.mq.edu.au/policy/docs/disruption_studies/procedure.html.

Information on managing your Disruptions to Studies: http://students.mq.edu.au/student_admin/manage_your_study_program/disruption_to_studies/

Assessment Tasks

Name	Weighting	Hurdle	Due
Seminar and discussion participation	10%	No	Weekly through session
Discussion leadership	25%	No	As agreed
Goals and needs assessment	10%	No	Week 3 or as agreed
Communication plan	10%	No	Week 5 or as agreed
Summary paragraph	15%	No	Week 2 and Week 7 or as agreed.
General audience science communication	25%	No	Week 10 or as agreed.
Time on task reflection	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
- Communicate current research questions, methods and results in multiple formats to a variety of audiences with supporting evidence
- 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

Discussion leadership

Assessment Type ¹: Presentation

Indicative Time on Task ²: 21 hours

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

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

Communication plan

Assessment Type ¹: Reflective Writing

Indicative Time on Task ²: 7 hours

Due: **Week 5 or as agreed**

Weighting: **10%**

You will develop a communication and professional networking 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

Summary paragraph

Assessment Type ¹: Professional writing

Indicative Time on Task ²: 15 hours

Due: **Week 2 and Week 7 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

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

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

Weekly seminars and discussions will happen in person (if possible) and 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 those unable to attend in person). It is preferred that students attend the workshop in person if it is possible and they are feeling well, but no formal medical certificate is required. Please advise the convenor as soon as possible if you will not be attending in person so that appropriate arrangements can be made.

Unit Schedule

The school seminar schedule is still being finalised, but you will need to attend school seminars 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) (<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 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.

Changes since First Published

Date	Description
01/02/2022	Added faculty late policy and covid related information as required.