



# STAT7900

## Research Frontiers in Statistics

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

*School of Mathematical and Physical Sciences*

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#### **Disclaimer**

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## General Information

### Unit convenor and teaching staff

Convenor

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Convenor

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Credit points

10

Prerequisites

Corequisites

Co-badged status

Unit description

This unit covers selected topics in hot research areas of statistics. The topics will be delivered by reading research papers, discussions and presentations. Students are also required to attend department research seminars. Each topic will be taught in two weeks and then assessed by the lecturer delivering the topic.

## 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 a broad view on some cutting edge research activities in statistics

**ULO2:** Synthesise information from a variety of sources as supporting evidence and discuss them

**ULO3:** Communicate credible information in oral, written, graphic or visual forms.

**ULO4:** Summarise key messages from research seminars

**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 need to:

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

### Hurdle Assessments

- There is no Hurdle Assessment in this unit.

### Attendance and participation

We strongly encourage all students to actively participate in all learning activities. Regular engagement is crucial for your success in this unit, as these activities provide opportunities to deepen your understanding of the material, collaborate with peers, and receive valuable feedback from instructors, to assist in completing the unit assessments. Your active participation not only enhances your own learning experience but also contributes to a vibrant and dynamic learning environment for everyone.

### 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, please apply for Special Consideration.

### Assessments where Late Submissions will be accepted

- Career Development Plan: YES, Standard Late Penalty applies
- Other Assessments: NO, unless Special Consideration is Granted

### 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
<a href="#">Presentation for Topic 1</a>	12%	No	07/03/2025
<a href="#">Presentation for Topic 2</a>	12%	No	21/03/2025
<a href="#">Presentation for Topic 3</a>	12%	No	04/04/2025
<a href="#">Presentation for Topic 4</a>	12%	No	02/05/2025
<a href="#">Presentation for Topic 5</a>	12%	No	16/05/2025
<a href="#">Presentation for Topic 6</a>	12%	No	30/05/2025
<a href="#">Career Development Plan</a>	10%	No	30/05/2025
<a href="#">Short Report on Statistics Seminars</a>	18%	No	30/05/2025

### Presentation for Topic 1

Assessment Type <sup>1</sup>: Presentation

Indicative Time on Task <sup>2</sup>: 7.5 hours

Due: **07/03/2025**

Weighting: **12%**

Six different advanced topics will be covered in this unit. Each topic will be selected from areas of statistical research strength within the School of Mathematical and Physical Sciences. You will give a 15 minute presentation on the topic plus 5 minutes of question time on one of the papers provided.

On successful completion you will be able to:

- Demonstrate a broad view on some cutting edge research activities in statistics
- Synthesise information from a variety of sources as supporting evidence and discuss them
- Communicate credible information in oral, written, graphic or visual forms.

### Presentation for Topic 2

Assessment Type <sup>1</sup>: Presentation

Indicative Time on Task <sup>2</sup>: 7.5 hours

Due: **21/03/2025**

Weighting: **12%**

For assessment see Presentation for Topic 1.

On successful completion you will be able to:

- Demonstrate a broad view on some cutting edge research activities in statistics
- Synthesise information from a variety of sources as supporting evidence and discuss them
- Communicate credible information in oral, written, graphic or visual forms.

## Presentation for Topic 3

Assessment Type <sup>1</sup>: Presentation

Indicative Time on Task <sup>2</sup>: 7.5 hours

Due: **04/04/2025**

Weighting: **12%**

For assessment see Presentation for Topic 1.

On successful completion you will be able to:

- Demonstrate a broad view on some cutting edge research activities in statistics
- Synthesise information from a variety of sources as supporting evidence and discuss them
- Communicate credible information in oral, written, graphic or visual forms.

## Presentation for Topic 4

Assessment Type <sup>1</sup>: Presentation

Indicative Time on Task <sup>2</sup>: 7.5 hours

Due: **02/05/2025**

Weighting: **12%**

For assessment see Presentation for Topic 1

On successful completion you will be able to:

- Demonstrate a broad view on some cutting edge research activities in statistics
- Synthesise information from a variety of sources as supporting evidence and discuss them
- Communicate credible information in oral, written, graphic or visual forms.

## Presentation for Topic 5

Assessment Type <sup>1</sup>: Presentation

Indicative Time on Task <sup>2</sup>: 7.5 hours

Due: **16/05/2025**

Weighting: **12%**

For assessment see Presentation for Topic 1

On successful completion you will be able to:

- Demonstrate a broad view on some cutting edge research activities in statistics
- Synthesise information from a variety of sources as supporting evidence and discuss them
- Communicate credible information in oral, written, graphic or visual forms.

## Presentation for Topic 6

Assessment Type <sup>1</sup>: Presentation

Indicative Time on Task <sup>2</sup>: 7.5 hours

Due: **30/05/2025**

Weighting: **12%**

For assessment see Presentation for Topic 1

On successful completion you will be able to:

- Demonstrate a broad view on some cutting edge research activities in statistics
- Synthesise information from a variety of sources as supporting evidence and discuss them
- Communicate credible information in oral, written, graphic or visual forms.

## Career Development Plan

Assessment Type <sup>1</sup>: Plan

Indicative Time on Task <sup>2</sup>: 7 hours

Due: **30/05/2025**

Weighting: **10%**

You will develop a professional development plan based on your career goals and aspirations.

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.

## Short Report on Statistics Seminars

Assessment Type <sup>1</sup>: Participatory task

Indicative Time on Task <sup>2</sup>: 14 hours

Due: **30/05/2025**

Weighting: **18%**

You will attend and compile a short report for at least 6 statistics research seminars. These are not limited to those hosted by the School of Mathematical and Physical Sciences and can be those hosted by other divisions at Macquarie or by other universities/professional organisations. The NSW branch of the Statistical Society Australia (SSA) hold a seminar most months and they are organised as a meetup group which you can subscribe to at <https://www.meetup.com/en-AU/NSW-Branch-of-the-Statistics-Society-of-Australia>.

On successful completion you will be able to:

- Summarise key messages from research seminars

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<sup>1</sup> 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.

<sup>2</sup> 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

**Lectures starting in Week 1:** We will communicate with you via email about the time and

location of the lectures. On average each week we will have one lecture, which lasts around 2 hours. Currently, we do not have SGTA for this unit.

**Email:** We will communicate with you via your university email or through announcements on iLearn. If you have any questions on the logistics part of this unit or any urgent issues, you can always reach out to the unit convenors.

## Unit Schedule

The following schedule is tentative. Please consult iLearn for any possible updates.

- Week 1: Welcome and Introduction to Research Resources: Familiarize students with academic resources and course expectations.
- Week 2: Foundations of Postgraduate Research: Equip students with core research skills and refine their research topic selection.
- Weeks 3–12: Researcher Sessions and Student Presentations: Each session focuses on a subfield, featuring a guest researcher followed by student-led discussions/presentations.
- Week 13: Open discussion and catchup session.

## 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](http://connect.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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/](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 from Previous Offering

We value student feedback to be able to continually improve the way we offer our units. As such we encourage students to provide constructive feedback via student surveys, to the teaching staff directly, or via the FSE Student Experience & Feedback link in the iLearn page.

Student feedback from the previous offering of this unit was very positive overall, with students pleased with the clarity around assessment requirements and the level of support from teaching staff. As such, no change to the delivery of the unit is planned, however we will continue to strive to improve the level of support and the level of student engagement.

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Unit information based on version 2025.01 of the [Handbook](#)