



# STAT7900

## Research Frontiers in Statistics

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

*School of Mathematical and Physical Sciences*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Unit Convenor/Lecturer

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Lecturer

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Credit points

10

Prerequisites

Admission to MRes

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 must meet ALL of the following requirements:

- Achieve a total mark equal to or greater than 50%

### Hurdle Assessments

- There is no Hurdle Assessment

### 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 7<sup>th</sup> day (including weekends). After the 7<sup>th</sup> 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

- 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 [ask.mq.edu.au](http://ask.mq.edu.au).

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Career Development Plan</a>	10%	No	Week 9
<a href="#">Short Report on Statistics Seminars</a>	18%	No	Week 12
<a href="#">Presentation for Topic 1</a>	12%	No	Week 2
<a href="#">Presentation for Topic 2</a>	12%	No	Week 4

Name	Weighting	Hurdle	Due
<a href="#">Presentation for Topic 3</a>	12%	No	Week 6
<a href="#">Presentation for Topic 4</a>	12%	No	Week 8
<a href="#">Presentation for Topic 5</a>	12%	No	Week 10
<a href="#">Presentation for Topic 6</a>	12%	No	Week 12

## Career Development Plan

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

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

Due: **Week 9**

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: **Week 12**

Weighting: **18%**

Students are required to 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

## Presentation for Topic 1

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

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

Due: **Week 2**

Weighting: **12%**

Six different advanced topics will be covered in this unit. They are selected from areas of statistical research strength within the School of Mathematical and Physical Sciences. Each student will present for at least 15 minutes on the topic plus 5 minutes of question time on one of the papers the teaching staff provided and they will be assessed by the teaching staff of that topic. Two core criteria will be used to assess students' work: (1) Understanding of key ideas and concepts. (2) The extent to which work has been written and/or presented in a manner consistent with accepted academic standards.

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: **Week 4**

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: **Week 6**

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: **Week 8**

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: **Week 10**

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: **Week 12**

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.

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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

**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 email Nan at [nan.zou@mq.edu.au](mailto:nan.zou@mq.edu.au) and Nan will do his best to help.

**Lectures:** 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.

**COVID Information:** For the latest information on the University's response to COVID-19, please refer to the Coronavirus infection page on the Macquarie website: <https://www.mq.edu.au/about/coronavirus-faqs>. Remember to check this page regularly in case the information and requirements change during the semester. If there are any changes to this unit in relation to COVID, these will be communicated via iLearn.

## Unit Schedule

Tentatively:

- Week 1-2
  - Topic 1
- Week 3-4
  - Topic 2
- Week 5-6
  - Topic 3
- Week 7-8
  - Topic 4
- Week 9-10
  - Topic 5
- Week 11-12
  - Topic 6

## 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](http://ask.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/>

## 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/](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.

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Unit information based on version 2024.02 of the [Handbook](#)