STAT8180

Applied Statistics Project I

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

School of Mathematical and Physical Sciences

Contents

Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff
Maurizio Manuguerra
maurizio.manuguerra@mq.edu.au

Nan Zou
nan.zou@mq.edu.au

Karol Binkowski
karol.binkowski@mq.edu.au

Credit points
10

Prerequisites
STAT6110 and STAT6175

Corequisites
STAT8101

Co-badged status

Unit description
Part one of a two part extended applied statistics project. The two unit sequence provides students with the opportunity to strengthen their exploratory data analysis, research methods and analytical skills by applying these to real-world data and context. Part one involves formulating research questions and evaluating the data necessary to answer these research questions. Preliminary findings based on exploratory data analysis are formally presented as well as written up in a report.

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: Plan a significant applied statistical analysis project.

ULO2: Apply appropriate exploratory data analysis in starting a significant applied statistical analysis project.

ULO3: Demonstrate a deep understanding of exploratory data analysis and statistical

graphical methods.

ULO4: Use modern statistical software packages in exploratory data analysis.

ULO5: Demonstrate the ability to undertake an extensive exploratory data analysis.

General Assessment Information

Requirements to Pass this Unit

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

Project Report Submission

This unit (STAT8180) constitutes the first half of a 20cp learning experience which will be concluded with STAT8181. The final outcome of the complete learning experience (STAT8180+STAT8181) will be a Project Report, which wil be preceeded by the submission of two drafts, one in each unit.

The First Draft of the Project Report is the final outcome of STAT8180. Its submission will be online via the appropriate assignment link on the iLearn page.

A title page is required which includes your name and Student ID as well as your project title. Read the submission statement carefully before accepting it as there are substantial penalties for making a false declaration.

- Project Report submission is via iLearn.
- Please make sure that your Project Report is word processed.
- You should upload one single PDF file.
- Please note the quick guide on how to upload your assignments provided on the iLearn page.
- If there are technical obstructions to your submission online, please email us to let us know.

You may submit as often as required prior to the due date/time. Please note that each submission will completely replace any previous submissions. It is in your best interest to make frequent submissions of your partially completed work as insurance against technical or other problems near the submission deadline.

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.

Assessments where Late Submissions will be accepted

- Research questions proposal – YES, Standard Late Penalty applies
- Plan presentation – NO, unless Special Consideration is granted
- Literature review – YES, Standard Late Penalty applies
- Log book – YES, Standard Late Penalty applies
- Project Report – YES, Standard Late Penalty applies

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.

Assessment Tasks

Name	Weighting	Hurdle	Due
Research questions proposal	5%	No	Week 3 on Monday
Plan presentation	10%	No	Week 4 during SGTA or seminar, as allocated
Literature review	10%	No	Week 7 on Monday
Log book	15%	No	Week 13 on Friday
First draft of final project report	60%	No	Week 13 on Sunday

Research questions proposal

Assessment Type [1]: Plan
Indicative Time on Task [2]: 5 hours
Due: **Week 3 on Monday**
Weighting: **5%**

Come up with two research questions. Maximum of 500 words including rationale for your choice.

On successful completion you will be able to:
- Plan a significant applied statistical analysis project.

Plan presentation

Assessment Type [1]: Presentation
Indicative Time on Task [2]: 10 hours
Due: **Week 4 during SGTA or seminar, as allocated**
Weighting: **10%**

Presentation of plan.

On successful completion you will be able to:

- Plan a significant applied statistical analysis project.

Literature review

Assessment Type [1]: Literature review
Indicative Time on Task [2]: 15 hours
Due: **Week 7 on Monday**
Weighting: **10%**

Overview of existing knowledge for the two research questions.

On successful completion you will be able to:

- Plan a significant applied statistical analysis project.

Log book

Assessment Type [1]: Log book
Indicative Time on Task [2]: 13 hours
Due: **Week 13 on Friday**
Weighting: **15%**

Weekly log book.

On successful completion you will be able to:

- Plan a significant applied statistical analysis project.
- Apply appropriate exploratory data analysis in starting a significant applied statistical

analysis project.

- Demonstrate a deep understanding of exploratory data analysis and statistical graphical methods.

- Use modern statistical software packages in exploratory data analysis.

- Demonstrate the ability to undertake an extensive exploratory data analysis.

First draft of final project report

Assessment Type [1]: Report
Indicative Time on Task [2]: 81 hours
Due: **Week 13 on Sunday**
Weighting: **60%**

First draft of the final project report, it should include an introduction (one chapter which includes a revised literature review) and the exploratory data analysis (at least one chapter).

On successful completion you will be able to:

- Plan a significant applied statistical analysis project.

- Apply appropriate exploratory data analysis in starting a significant applied statistical analysis project.

- Demonstrate a deep understanding of exploratory data analysis and statistical graphical methods.

- Use modern statistical software packages in exploratory data analysis.

- Demonstrate the ability to undertake an extensive exploratory data analysis.

---

[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

Classes

Every student enrolled in this offering of the unit should attend two classes every week: a 1-hour seminar and a 1-hour SGTA. Both of these classes begin in Week 1.

Communication

We will communicate with you via your university email or through announcements on iLearn. Queries to the convenor can be emailed to your lecturer from your university email address.

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 semester. If there are any changes to this unit in relation to COVID, these will be communicated via iLearn.

Unit Schedule

Week	SGTA	Seminar	Assessment	Day Due	Weight
1	Work on Research questions	Unit Guide – Assessments - Expectation Data			
2	EDA exercises	EDA / Data Cleaning	Draft of Research Questions proposal	Monday	0%
3	Data cleaning exercises	EDA / Data Cleaning *continued* Presentation guidelines	Research questions proposal	Monday	5%
4	Plan presentation	Plan presentation	Plan presentation	SGTA/ Seminar	10%
5	Work on literature review	Conducting a literature review			
6	Students show progress to date	WIL – direct to resources for writing a CV	Draft of literature review	Monday	0%
7	Missing Data Exercises	Missing data	Literature Review	Monday	10%
8	Students show progress to date	Alumni talks			
9	Students show progress to date	Report writing			
10	Students show progress to date	WIL – Applying for jobs			
11	Students show progress to date	WIL – Preparing for job interview			

12	Students show progress to date	Rubric for marking report discussed	Draft of report	Monday	0%
13	Last minute questions	Last minute questions	Log book	Friday	15%
			Final report	Sunday	60%

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). 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) 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 an d maths support, academic skills development and wellbeing consultations.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://stu dents.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.

Changes from Previous Offering

This is the first offering of the unit.

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.

Unit information based on version 2024.01 of the Handbook