



PSYC8863

Research Design and Evaluation

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

School of Psychological Sciences

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General Information

| |
|---|
| Unit convenor and teaching staff Mike Jones mike.jones@mq.edu.au |
| Credit points 10 |
| Prerequisites Admission to MCLinPsych or MCLinNeuro or MOrgPsych |
| Corequisites |
| Co-badged status |
| Unit description This unit exposes students to a range of research methodologies that are useful in research in psychology. The intent of the unit is to explain underlying concepts rather than teach deeper technical detail. Students completing the unit should have an appreciation of when a variety of methods are appropriate, be able to undertake simple analyses, understand how to interpret the results of these analyses and how to assess publications that have used these methods. Content includes a refresher on statistical study design, critical appraisal of published research, common data analysis methods and a number of methods for longitudinal and complex-sampled data, latent variable models as well as meta-analysis and an introduction to qualitative research. |

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: Design a study and formulate appropriate hypotheses and ways of testing them.

ULO2: Select analytic techniques that are appropriate for the data and which allow valid tests of hypotheses, and research questions to be answered.

ULO3: Apply a selection of statistical software commands and procedures to undertake quantitative statistical analyses.

ULO4: Knowledgeably apply the specific analytic methods learnt in their optional

modules.

General Assessment Information

Grade descriptors and other information concerning grading are contained in the [Macquarie University Assessment Policy](#).

All final grades are determined by a grading committee, in accordance with the Macquarie University Assessment Policy, and are not the sole responsibility of the Unit Convenor.

Students will be awarded a final grade and a mark which must correspond to the grade descriptors specified in the [Assessment Procedure](#) (clause 128).

To pass this unit, you must demonstrate sufficient evidence of achievement of the learning outcomes, meet any ungraded requirements, and achieve a final mark of 50 or better.

Further details for each assessment task will be available on iLearn.

Late Submissions

Unless a Special Consideration request has been submitted and approved, a 5% penalty (OF THE TOTAL POSSIBLE MARK) will be applied each day a written 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. Submission time for all written assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical concern.

For example:

| Number of days (hours) late | Total Possible Marks | Deduction | Raw mark | Final mark |
|-----------------------------|----------------------|-----------|----------|------------|
| 1 day (1-24 hours) | 100 | 5 | 75 | 70 |
| 2 days (24-48 hours) | 100 | 10 | 75 | 65 |
| 3 days (48-72 hours) | 100 | 15 | 75 | 60 |
| 7 days (144-168 hours) | 100 | 35 | 75 | 40 |
| >7 days (>168 hours) | 100 | - | 75 | 0 |

For any late submissions of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for Special Consideration.

Assessment Tasks

| Name | Weighting | Hurdle | Due |
|--------------------------|-----------|--------|-------------------|
| <u>Topic Quizzes</u> | 15% | No | Fridays weeks 5-7 |
| <u>Practical Project</u> | 50% | No | 10 May 2024 |
| <u>Final Examination</u> | 35% | No | 30 May 2024 |

Topic Quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 14 hours

Due: **Fridays weeks 5-7**

Weighting: **15%**

3 Compulsory quizzes of 5 questions each delivered via iLearn. The quiz will be comprised of multiple choice, fill-in-the-blank and short answer questions. Each quiz will be available for seven days but once commenced must be completed within 3 hours.

On successful completion you will be able to:

- Design a study and formulate appropriate hypotheses and ways of testing them.
- Select analytic techniques that are appropriate for the data and which allow valid tests of hypotheses, and research questions to be answered.
- Apply a selection of statistical software commands and procedures to undertake quantitative statistical analyses.
- Knowledgeably apply the specific analytic methods learnt in their optional modules.

Practical Project

Assessment Type ¹: Quantitative analysis task

Indicative Time on Task ²: 45 hours

Due: **10 May 2024**

Weighting: **50%**

Each student selects an elective topic and writes a short scientific report.

On successful completion you will be able to:

- Design a study and formulate appropriate hypotheses and ways of testing them.
- Select analytic techniques that are appropriate for the data and which allow valid tests of hypotheses, and research questions to be answered.
- Apply a selection of statistical software commands and procedures to undertake quantitative statistical analyses.
- Knowledgeably apply the specific analytic methods learnt in their optional modules.

Final Examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 34 hours

Due: **30 May 2024**

Weighting: **35%**

Invigilated two-hour multiple choice exam of 30 questions in open book format. Twenty questions are compulsory and a further 10 are student selected.

On successful completion you will be able to:

- Select analytic techniques that are appropriate for the data and which allow valid tests of hypotheses, and research questions to be answered.
- Apply a selection of statistical software commands and procedures to undertake quantitative statistical analyses.

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

As a student enrolled in this unit, you will engage in a range of online and face-to-face learning activities, including readings, online video lectures and face-to-face workshops. Details can be found on the iLearn site for this unit.

Recommended Readings

Each module of the unit has recommended and/or required readings which are listed at the beginning of each video lecture.

Technology Used

Active participation in the learning activities throughout the unit will require students to have access to a tablet, laptop or similar device. Students who do not own their own laptop computer may borrow one from the university library. Use of statistical software is required and while any program can be used, the university provides a free license for the statistical program Stata.

Structure of the unit

Every student will study four (4) learning modules in this unit of which three are compulsory topics and one is selected by the student from three (3) available elective modules. Compulsory modules are selected on the basis of being useful topics for any quantitative research topic, while the student-selected modules allow students to somewhat tailor the unit to their individual needs.

Compulsory modules (all must be undertaken)

1. Research design and sample size determination
2. Revision of the General Linear model
3. Dealing with missing values

Student-selected modules (select one)

1. Latent variable models
2. Multi-level and Longitudinal models
3. Meta-analysis

Format of the unit

The unit is largely delivered by downloadable video lectures that combine a classical lecture with demonstration of practical application using Stata and are available for download at the start of or early in semester. All compulsory topics do, however, have one-hour face-to-face review sessions at which attendance is strongly recommended but not compulsory. All elective modules have an associated in-person workshop at which attendance is strongly recommended but also not compulsory. The purpose of the workshops is to provide an opportunity to address unresolved questions. Important note: To achieve this it will be necessary for each student to have viewed the elective topic module video and to have thought about their project prior to attending the workshop.

The unit is graded using the standard categories of Fail, Pass, Credit, Distinction and High Distinction. Further details concerning the exam will be provided during the unit. The project report will be submitted to the Grademark system that is part of iLearn. You may collaborate in preparatory work for the report; however, the report submitted must be of your own work. NB: Make sure you keep a complete copy of each of your submitted works should it be needed. This unit does not publish previous end-of-semester exam papers due to the assessment format which involves multiple choice questions drawn from a bank of questions which have undergone

a process of development and validation to assess a wide range of concepts in this unit. Assessment quality can only be ensured by maintaining the integrity of the question bank rather than creating entirely new questions every year. However a practice exam will be provided via iLearn near the end of semester.

Unfortunately due to staffing constraints this year, the qualitative topic will not be available.

Unit Schedule

| Week | Week Starting | Workshop content | Assessment |
|------|---------------|--------------------------|--------------------|
| 1 | 19-Feb | Admin & unit overview | |
| 2 | 26-Feb | No class | |
| 3 | 4-Mar | No class | |
| 4 | 11-Mar | Elective topic workshops | |
| 5 | 18-Mar | No class | Quiz 1 due |
| 6 | 25-Mar | Quiz 1 review | Quiz 2 due |
| 7 | 1-Apr | Quiz 2 review | Quiz 3 due |
| 8 | 8-Apr | Quiz 3 review | |
| | 15 & 22 Apr | Mid-session break | |
| 9 | 29-Apr | No class | |
| 10 | 6-May | No class | Project report due |
| 11 | 13-May | Exam preparation session | |
| 12 | 20-May | No class | |
| 13 | 27-May | Final exam (in-class) | Final exam |

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 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.

Inclusion & Diversity

Social inclusion at Macquarie University is about giving everyone who has the potential to benefit from higher education the opportunity to study at university, participate in campus life and flourish in their chosen field. The University has made significant moves to promote an equitable, diverse and exciting campus community for the benefit of staff and students. It is your responsibility to contribute towards the development of an inclusive culture and practice in the areas of learning and teaching, research, and service orientation and delivery. As a member of the Macquarie University community, you must not discriminate against or harass others based on their sex, gender, race, marital status, carers' responsibilities, disability, sexual orientation, age, political conviction or religious belief. All staff and students are expected to display appropriate behaviour that is conducive to a healthy learning environment for everyone.

Professionalism

In the Faculty of Medicine, Health and Human Sciences, professionalism is a key capability embedded in all our courses.

As part of developing professionalism, students are expected to attend all small group interactive sessions including clinical, practical, laboratory, work-integrated learning (e.g., PACE placements), and team-based learning activities. Some learning activities are recorded (e.g.,

face-to-face lectures), however you are encouraged to avoid relying upon such material as they do not recreate the whole learning experience and technical issues can and do occur. As an adult learner, we respect your decision to choose how you engage with your learning, but we would remind you that the learning opportunities we create for you have been done so to enable your success, and that by not engaging you may impact your ability to successfully complete this unit. We equally expect that you show respect for the academic staff who have worked hard to develop meaningful activities and prioritise your learning by communicating with them in advance if you are unable to attend a small group interactive session.

Another dimension of professionalism is having respect for your peers. It is the right of every student to learn in an environment that is free of disruption and distraction. Please arrive to all learning activities on time, and if you are unavoidably detained, please join activity as quietly as possible to minimise disruption. Phones and other electronic devices that produce noise and other distractions must be turned off prior to entering class. Where your own device (e.g., laptop) is being used for class-related activities, you are asked to close down all other applications to avoid distraction to you and others. Please treat your fellow students with the utmost respect. If you are uncomfortable participating in any specific activity, please let the relevant academic know.

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