



# PSYU2248

## Design and Statistics II

Session 2, Special circumstance 2020

*Department of Psychology*

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#### Disclaimer

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#### Notice

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group learning activities on campus for the second half-year, while keeping an online version available for those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face and online activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

## General Information

Unit convenor and teaching staff

Rachel Kallen

[rachel.kallen@mq.edu.au](mailto:rachel.kallen@mq.edu.au)

Credit points

10

Prerequisites

(PSYC104 or PSYU1104 or PSYX104 or PSYX1104) and (PSYC105 or PSYU1105 or PSYX105 or PSYX1105) ) or (STAT170 or STAT1170) or (STAT171 or STAT1371)

Corequisites

Co-badged status

Unit description

This is an intermediate statistics unit, which covers both the design and statistical components of experiments common to psychological research. The importance of interpretation based on both the design and statistics components is emphasised, together with concepts of power and sample size requirements for efficient research. Statistical methods covered include: descriptive statistics; one-way and two-way analysis of variance; correlation; and regression and non parametric equivalents of ANOVA. The unit includes instruction on the presentation of statistical results in report format. Practical classes are based on the use of the Stata statistical software.

## 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:** Develop and demonstrate an appreciation of the way statistical techniques are used to support theory in psychology.

**ULO2:** Perform statistical analyses of experimental and non-experimental designs in psychology.

**ULO3:** Critically evaluate designs and analyses in experimental and non-experimental psychology.

## General Assessment Information

There are 3 forms of assessment for PSY 248: quizzes, two assignments, and two exams. Overall grades for the unit will be determined by adding together marks for each of the assessments described in this guide. See the university policy on grading for more information.

In PSY 248, you are encouraged to form study groups to revise course material and practice using STATA. However, any work you submit for assessment **must be your own**, including calculations and written expression. In recent years we have had a number of problems with students copying other students' work and submitting it as their own work. While we encourage students to discuss their work with each other, and working together can be especially beneficial for statistics, cheating or plagiarism will not be tolerated. Please check your University Handbook of Undergraduate Studies and the Psychology Department's Policy on plagiarism for the consequences attached to copying others' work and claiming it as your own.

It is in your best interest to keep a (hard or electronic) copy of your submitted work. Firstly, to be able to produce the copy if your original goes missing, and, secondly, to be able to produce an unmarked copy in the case of requesting a re-mark. If you request a re-mark, you will need to submit an unmarked copy of your work, which will be marked by a different marker, and you will receive the revised mark which may be either higher or lower than the original mark. If you wish to request a re-mark you will need to collect a Department of Psychology Application for Re-mark form from the Faculty.

### Assignments:

- A practical assignment involving use of STATA, data analysis, interpretation of results, and communication of findings.
- Details of assignments will be made available approximately three to four weeks prior to the due date. Marks/feedback will be released to students via iLearn.
- Assignments must be submitted online via iLearn/Turnitin. Assignments submitted by post or emailed to tutors/lecturers will not be accepted. Marked assignments will be released via iLearn/Turnitin.
- Late penalties will be applied to assignments that are received after the due time, at the rate of 10% mark per day beginning one minute after the due date and time.
- *All requests for extensions must be made prior to the due date for the assignment.* Ordinarily, no extensions of time for submission of written work will be granted because ample time for preparation will have been given. If an extension is required for medical or other extenuating circumstances, students may request this in writing through [ask.mq.edu.au](mailto:ask.mq.edu.au) with supporting documentary evidence (such as medical certificate, counsellor note, or similar).

### Quizzes:

Two non-cumulative quizzes will be used to test your understanding of the topics as we proceed

through the unit. These should act as a guide to how well you are learning the material, and to identify any areas in which you may require more study or assistance.

- Quiz 1 will cover material from weeks 1 - 3; Quiz 2 will cover material from weeks 8-10.
- Both quizzes will be conducted during your scheduled Practical (tutorial) session either in person or online. Students are expected to take their quizzes during their scheduled time for the practical and will not be allowed to swap practical sessions. Requests to switch sections or attend any sessions that you are not registered for will not be granted without formal documentation/justification submitted through [ask.mq.edu.au](mailto:ask.mq.edu.au).
- **For quizzes conducted online**, minimum technical requirements include: (a) a computer/laptop, with a stable internet connection; (b) an updated web browser (Google Chrome or Firefox are recommended); (c) access to the iLearn site; and (d) a calculator.

### Exams:

- The Midterm Exam will include all material from weeks 2 -7, and the Final Exam will include all material covered in the unit.
- The Midterm Exam will be conducted during your scheduled Practical (tutorial) session either in person or online. Students are expected to take their Midterm during their scheduled time for the practical and will not be allowed to swap practical sessions. Requests to switch sections or attend any sessions that you are not registered for will not be granted without formal documentation/justification submitted through [ask.mq.edu.au](mailto:ask.mq.edu.au).
- The Final exam will be a 2-1/2 hour exam conducted during the official university examination period. The exam period for Session 2, 2020 is 9th November to 27th November, 2020. This exam will assess all new course material that has been covered in PSY248, including lecture content, tutorial content, and required readings.

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Students who experience serious and unavoidable disruption, must apply for special consideration via **[ask.mq.edu.au](mailto:ask.mq.edu.au)**. If a Supplementary Examination is granted, the examination will be scheduled after the conclusion of the official examination period. The format of a supplementary examination is at each unit convener's discretion and is subject to change from the original final examination. Supplementary Exams are only offered to students who have satisfactorily completed all other assessments for the unit and were unable to sit the final exam because of documented illness or unavoidable disruption. You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester, which is the final day of the official examination period.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Quiz 1</a>	10%	No	Week 4 Practical
<a href="#">Mid-term examination</a>	20%	No	Week 7 Practical
<a href="#">Assignment 1</a>	10%	No	11/9/20 (Week 7)
<a href="#">Quiz 2</a>	10%	No	Week 11 Practical
<a href="#">Assignment 2</a>	10%	No	6/11/20 (Week 13)
<a href="#">Final examination</a>	40%	No	TBA

### Quiz 1

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 5 hours

Due: **Week 4 Practical**

Weighting: **10%**

Multiple choice quiz to be completed within tutorials in approximately 50 minutes

On successful completion you will be able to:

- Develop and demonstrate an appreciation of the way statistical techniques are used to support theory in psychology.
- Perform statistical analyses of experimental and non-experimental designs in psychology.
- Critically evaluate designs and analyses in experimental and non-experimental psychology.

### Mid-term examination

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

Indicative Time on Task <sup>2</sup>: 10 hours

Due: **Week 7 Practical**

Weighting: **20%**

Multiple choice mid-term examination to be completed within tutorials in approximately 50

minutes

On successful completion you will be able to:

- Develop and demonstrate an appreciation of the way statistical techniques are used to support theory in psychology.
- Perform statistical analyses of experimental and non-experimental designs in psychology.
- Critically evaluate designs and analyses in experimental and non-experimental psychology.

## Assignment 1

Assessment Type <sup>1</sup>: Quantitative analysis task

Indicative Time on Task <sup>2</sup>: 9 hours

Due: **11/9/20 (Week 7)**

Weighting: **10%**

Students submit an assignment involving use of STATA, data analysis, interpretation of results, and communication of findings up to 2 pages.

On successful completion you will be able to:

- Develop and demonstrate an appreciation of the way statistical techniques are used to support theory in psychology.
- Perform statistical analyses of experimental and non-experimental designs in psychology.
- Critically evaluate designs and analyses in experimental and non-experimental psychology.

## Quiz 2

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 5 hours

Due: **Week 11 Practical**

Weighting: **10%**

Multiple choice question quiz to be completed within tutorials in approximately 50 minutes

On successful completion you will be able to:

- Develop and demonstrate an appreciation of the way statistical techniques are used to support theory in psychology.
- Perform statistical analyses of experimental and non-experimental designs in psychology.
- Critically evaluate designs and analyses in experimental and non-experimental psychology.

## Assignment 2

Assessment Type <sup>1</sup>: Quantitative analysis task

Indicative Time on Task <sup>2</sup>: 9 hours

Due: **6/11/20 (Week 13)**

Weighting: **10%**

Students submit an assignment involving use of STATA, data analysis, interpretation of results, and communication of findings up to 2 pages.

On successful completion you will be able to:

- Develop and demonstrate an appreciation of the way statistical techniques are used to support theory in psychology.
- Perform statistical analyses of experimental and non-experimental designs in psychology.
- Critically evaluate designs and analyses in experimental and non-experimental psychology.

## Final examination

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

Indicative Time on Task <sup>2</sup>: 25 hours

Due: **TBA**

Weighting: **40%**

Final examination held within the University's formal exam period, in accordance with relevant requirements.

On successful completion you will be able to:

- Develop and demonstrate an appreciation of the way statistical techniques are used to support theory in psychology.
- Perform statistical analyses of experimental and non-experimental designs in psychology.
- Critically evaluate designs and analyses in experimental and non-experimental psychology.

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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

**There are three hours of lecture per week. These lectures will be recorded and will be available on the iLearn page at the beginning of the designated lecture meeting.**

You will not be required to attend campus for any of the lectures, but the lectures are considered essential to understanding the unit material so you must be sure to watch each lecture and stay up to date on the materials.

### Practicals (tutorials)

The unit's tutorial program is *vital* for students to have a first-hand understanding of the material and its application in psychology research.

The names 'tutorials' and 'practicals' are used interchangeably in this unit. Students should attend 1 x tutorial class per week. Tutorials commence in Week 2 and continue throughout the semester. The last tutorial is in week 13. Students will be assigned to tutorials via the automated enrolment procedure. EACH TUTORIAL HAS A MAXIMUM LIMIT for both safety and pedagogical reasons. Placing students into practical classes that pleases both students' preferences and the above limitation is a difficult logistical exercise.

Most weeks (starting Week 1) there will be a set of practical exercises **to complete before** the next week's Practical Meeting. Most weeks this will involve a data analysis task (involving STATA) and an interpretation task, although in some weeks outputs may be provided for interpretation. Practical assignments will end with a series of questions that you should be able to answer from the analysis task that you were asked to perform. Completing the practical tasks will help ensure that students keep up with the unit material week-by-week. Tutors will then work



through the solution during tutorial sessions in the subsequent week. ***Solutions will NOT be made available outside of tutorial classes.*** Tutors are instructed not to do the practical exercises for you, but rather to discuss your work, resolve difficulties, etc. throughout tutorial classes. Practical exercises for each tutorial class will be available on the unit's web page.

Attendance at tutorials is not compulsory (with the exception of Weeks 4, 7, and 11 for quizzes and exams), but attendance is strongly recommended, as success in the unit is unlikely with our revision of practical materials.

Managing Classes: Official changes to all units can be done on-line via eStudent, including tutorials. Students will NOT be allowed to informally move between tutorial classes. Please note that if you are enrolled as a full-time student, work commitments need to be structured around your study, not vice versa. Changes of practical times will only be sanctioned where unresolved clashes have occurred and free spaces in a practical class exist.

## **Technology**

Students must have access to STATA, a statistical software package, for this unit. STATA can be accessed on University computers (e.g. laptops on loan from the Library), and/or accessed on students' own computer online via AppStream. See <https://students.mq.edu.au/support/technology/service-desk/appstream> for more information about accessing STATA via AppStream.

You will also be expected to access the PSY248 unit Web Page at least weekly for unit notices and information regarding data files, etc.

You are expected to have had prior experience in the use of STATA before coming into PSYC248, and be able to read raw data files, access pre-existing data files and retrieve STATA data files. You are also expected to have some knowledge of syntax in STATA.

## ***Technical Support***

If you experience technological difficulties with iLearn or AppStream, make sure you take a screenshot of any error messages or difficulties that occur, and contact the university's technical support team via OneHelp. Raise and track requests directly at [onehelp.mq.edu.au](https://onehelp.mq.edu.au). Alternatively, you can log an issue by calling the IT HelpDesk on (02) 9850 HELP (4357), email [onehelp@mq.edu.au](mailto:onehelp@mq.edu.au), or visit the IT HelpDesk. Because AppStream and use of STATA are fundamental to PSY248, it is your responsibility to make sure you can access both throughout the semester. See <http://www.mq.edu.au/onehelp/FAQ.html> for more information.

## **Required Textbook**

- Weinberg, S. L. & Abramowitz, S. K. (2020). Statistics using Stata: An Integrative Approach (2nd ed.). New York: Cambridge University Press.

The textbook is available through [Booktopia](https://booktopia.com.au) in both paperback and e-book formats:

Text: <https://www.booktopia.com.au/statistics-using-stata-sharon-lawner-weinberg/book/9781108725835.html>

E-book: <https://www.booktopia.com.au/statistics-using-stata-sharon-lawner-weinberg/ebook/9781108808224.html>

## Course notes

All slides and unit notes will be made available weekly, by topic, on the PSY248 iLearn page.

### **Additional Computing and Statistics References will be posted to iLearn**

- Howell, D. C. (2013) (8th ed.) Statistical methods for psychology. Belmont, CA: Wadsworth Cengage Learning.

This is comprehensive introductory to intermediate level text that overlaps to a reasonable level with this course.

**Computing References - Please look to iLearn for more STATA resources**

## Unit Schedule

### Proposed lecture schedule (subject to change)

Weeks	Topics
1 – 2	Introduction to Course Revision: Psychological Design & Methods; Summarising Data & Descriptive Statistics
2 – 3	Revision of Correlation Simple Linear Regression
4	Introduction to Multiple Regression
5 – 6	Revision: Independent t-test One-Way Analysis of Variance (ANOVA)
6 – 7	One-way ANOVA Mid-session Summary
8 – 10	Factorial ANOVA
11 - 12	Non-parametric Tests Power & Effect Size Revisited
13	Summary and Revision

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). 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](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/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)

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [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

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## 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

Please note some practicals, quizzes, assignments, and exams have been changed from previous offerings. As such, sample or previous examples will not always be available.