PSY 863
Research Design and Evaluation
S1 Day 2015
Department of Psychology

Contents

General Information 2
Learning Outcomes 2
Assessment Tasks 3
Delivery and Resources 4
Unit Schedule 5
Policies and Procedures 6
Graduate Capabilities 7

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General Information

Unit convenor and teaching staff
Prof Mike Jones
mike.jones@mq.edu.au
C3A516

Credit points
4

Prerequisites
Admission to DClinPsych or MClinPsych or DClinNeuro or MClinNeuro or DOrgPsych or MOrgPsych or PGDipOrgBeh

Corequisites

Co-badged status

Unit description
This unit exposes students to a range of advanced quantitative statistical methods 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 advanced statistical methods are appropriate, 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 as well as meta-analysis.

Important Academic Dates
Information about important academic dates including deadlines for withdrawing from units are available at http://students.mq.edu.au/student_admin/enrolmentguide/academicedates/

Learning Outcomes

1. Design a study and formulate appropriate hypotheses and ways of testing them
2. Select analytic techniques that are appropriate for the data and which allow valid tests of hypotheses, and research questions to be answered
3. Read research literature in an informed and sophisticated manner
4. Reach a basic level of competence in handling SPSS commands and procedures
5. Draw on a selection of quantitative analysis methods/approaches/techniques
6. Knowledgeably apply the specific analytic methods they used in their optional modules
Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study design project</td>
<td>35%</td>
<td>23 May</td>
</tr>
<tr>
<td>Take-home exam</td>
<td>35%</td>
<td>25 April</td>
</tr>
<tr>
<td>Invigilated exam</td>
<td>30%</td>
<td>Exam period</td>
</tr>
</tbody>
</table>

**Study design project**

**Due:** 23 May  
**Weighting:** 35%

The sample size and study design compulsory topics will be applied to a practical project that accounts for 35% of the overall course grade. Details of the project will be posted separately on iLearn but will take the form of a competitive grant research proposal.

This Assessment Task relates to the following Learning Outcomes:
- Design a study and formulate appropriate hypotheses and ways of testing them

**Take-home exam**

**Due:** 25 April  
**Weighting:** 35%

The data manipulation and missing value compulsory topics will be assessed via a take-home exam that will account for 35% of the overall course grade. The exam will be available and completed in the form of an online iLearn quiz. The exam may involve multiple choice, fill-in-the-blank or short answer questions.

This Assessment Task relates to the following Learning Outcomes:
- Select analytic techniques that are appropriate for the data and which allow valid tests of hypotheses, and research questions to be answered
- Read research literature in an informed and sophisticated manner
- Reach a basic level of competence in handling SPSS commands and procedures
- Draw on a selection of quantitative analysis methods/approaches/techniques

**Invigilated exam**

**Due:** Exam period  
**Weighting:** 30%
This may be composed of multiple choice and/or short answer style questions and will be held in the regular exam period after week 13 (exact date/time/location to be advised by the university). The exam will cover all of the elective topics plus critical appraisal and students will choose to answer questions on any two topics.

This Assessment Task relates to the following Learning Outcomes:

- Select analytic techniques that are appropriate for the data and which allow valid tests of hypotheses, and research questions to be answered
- Reach a basic level of competence in handling SPSS commands and procedures
- Knowledgeably apply the specific analytic methods they used in their optional modules

**Delivery and Resources**

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

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture date</th>
<th>Topic</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25-Feb</td>
<td>Admin &amp; sample size/design</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4-Mar</td>
<td>No class</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>11-Mar</td>
<td>Compulsory topic tutorials*</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>18-Mar</td>
<td>No class</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>25-Mar</td>
<td>Elective topic workshops*</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1-Apr</td>
<td>Elective topic workshops*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-17 April</td>
<td>Mid-semester break</td>
<td>Take-home exam due</td>
</tr>
<tr>
<td>7</td>
<td>22-Apr</td>
<td>Project advising**</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>29-Apr</td>
<td>No class</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6-May</td>
<td>No class</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>13-May</td>
<td>No class</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>20-May</td>
<td>No class</td>
<td>Project report due</td>
</tr>
<tr>
<td>12</td>
<td>27-June</td>
<td>No class</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>3-June</td>
<td>Exam revision class§</td>
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Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central. Students should be aware of the following policies in particular with regard to Learning and Teaching:


In addition, a number of other policies can be found in the Learning and Teaching Category of 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/support/student_conduct/]

Results

Results shown in iLearn, 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].

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]) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Enquiry Service

For all student enquiries, visit Student Connect at [ask.mq.edu.au]
Equity 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.

IT Help

For help with University computer systems and technology, visit http://informatics.mq.edu.au/help/. When using the University's IT, you must adhere to the Acceptable Use Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- 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
- Read research literature in an informed and sophisticated manner
- Reach a basic level of competence in handling SPSS commands and procedures
- Draw on a selection of quantitative analysis methods/approaches/techniques
- Knowledgeably apply the specific analytic methods they used in their optional modules

Assessment tasks

- Study design project
- Take-home exam
- Invigilated exam

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:
**Learning outcomes**

- 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

**Assessment tasks**

- Study design project
- Take-home exam

**PG - Research and Problem Solving Capability**

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

**Learning outcomes**

- 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

**Assessment task**

- Study design project

**PG - Effective Communication**

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

**Learning outcomes**

- Design a study and formulate appropriate hypotheses and ways of testing them
- Read research literature in an informed and sophisticated manner

**Assessment task**

- Study design project
PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

**Learning outcomes**

- Select analytic techniques that are appropriate for the data and which allow valid tests of hypotheses, and research questions to be answered
- Read research literature in an informed and sophisticated manner
- Draw on a selection of quantitative analysis methods/approaches/techniques
- Knowledgeably apply the specific analytic methods they used in their optional modules

**Assessment tasks**

- Study design project
- Invigilated exam