

## PSYC4000: Advanced Methodology

Callaghan and Ourimbah  
Semester 1 - 2024



THE UNIVERSITY OF  
NEWCASTLE  
AUSTRALIA

## OVERVIEW

### Course Description

In this course, you will cover advanced topics in research methodology and statistics relevant to the projects undertaken by students at this level. You will further develop knowledge and skills related to core conceptual, statistical, and analytical approaches, with emphasis placed on statistical decision-making. You will also cover advanced statistical techniques as well as critical evaluation and interpretation of research data.

The course forms part of a sequence of courses that have been approved by the Australian Psychology Accreditation Council (APAC).

### Requisites

This course is only available to students enrolled in: Bachelor of Psychological Science (Honours) [40100], Bachelor of Psychology (Honours) [12362], Bachelor of Arts (Honours) (pre-2020) [10214], or Bachelor of Science (Honours) [10496].

### Contact Hours

#### Lecture

Online  
2 hour(s) per Week for 13 Weeks starting Week 1

#### Workshop

Face to Face on Campus  
2 hour(s) per Week for 13 Weeks starting Week 1

### Unit Weighting

10

### Workload

Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10-unit course.

# COURSE OUTLINE

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# CONTACTS

<b>Course Coordinator</b>	<b>Callaghan and Ourimbah</b> Dr Alexandra Adams <a href="mailto:Alexandra.Adams@newcastle.edu.au">Alexandra.Adams@newcastle.edu.au</a> 02 4985 4908 Consultation: By appointment.
<b>Teaching Staff</b>	Other teaching staff will be advised on the course Canvas site.
<b>School Office</b>	<b>School of Psychological Sciences</b> W210 - Behavioural Sciences Building Callaghan <a href="mailto:psyc-admin@newcastle.edu.au">psyc-admin@newcastle.edu.au</a> +61 2 4921 5505  <b>School of Psychological Sciences</b> Room HO 143 - Humanities Building Ourimbah <a href="mailto:asu-ourimbah@newcastle.edu.au">asu-ourimbah@newcastle.edu.au</a> +61 2 4349 4934

# SYLLABUS

<b>Course Content</b>	In this course, you will cover a variety of advanced topics in research methods, such as analytic strategy, design planning, data handling, and Bayesian analysis.
<b>Course Learning Outcomes</b>	<b>On successful completion of this course, students will be able to:</b> <ol style="list-style-type: none"><li>1. Evaluate and critique a range of research methods and techniques.</li><li>2. Formulate and justify appropriate research questions and analytical strategies.</li><li>3. Apply various advanced research methods, including indigenous research methods.</li><li>4. Demonstrate advanced skills in preparing, analysing, and interpreting data and communicating outcomes.</li></ol>
<b>Course Materials</b>	<b>Multi-Media Resource:</b> <ul style="list-style-type: none"><li>- Freely available digital resources to assist with the course will be advised on the course Canvas site.</li></ul>

# SCHEDULE

Week	Week Begins	Online Lecture Content	Workshop Content	Assessment Due	Expected Study Activities
1	Feb 26 <sup>th</sup>	Analytic Choices	Analytic Choices		Watch lecture videos.
2	Mar 4 <sup>th</sup>	Effect Sizes & Power Calculations	Effect Sizes & Power Calculations		Watch lecture videos.
3	Mar 11 <sup>th</sup>	Basic Data Cleaning & Missing Data	Basic Data Cleaning & Missing Data		Watch lecture videos. Conduct data cleaning for Written Assignment 1.
4	Mar 18 <sup>th</sup>	Assumptions, Transformations, & Non-Parametric Tests	Assumptions, Transformations, & Non-Parametric Tests		Watch lecture videos. Revise for Quiz 1 (opens Mar 22 <sup>nd</sup> ). Conduct frequentist analyses for Written Assignment 1.
5	Mar 25 <sup>th</sup>	Bayesian Reasoning, T-Test, & Correlation	Bayesian Reasoning, T-Test, & Correlation <b>Ourimbah students only</b>		Watch lecture videos. Continue working on Written Assignment 1.
6	Apr 1 <sup>st</sup>	<i>No new content</i>	Bayesian Reasoning, T-Test, & Correlation <b>Callaghan students only</b>	<b>Quiz 1</b> due Wed 3 <sup>rd</sup> Apr 11.59pm	Conduct Bayesian analyses for Written Assignment 1 where possible.
7	Apr 6 <sup>th</sup>	Bayesian ANOVA & Regression	Bayesian ANOVA & Regression		Watch lecture videos. Revise for Quiz 2 (opens Apr 12 <sup>th</sup> ). Conduct remaining Bayesian analyses for Written Assignment 1.
<b>Mid-Semester Break</b>					
8	Apr 29 <sup>th</sup>	Making Sense of Complex Data	Making Sense of Complex Data	<b>Quiz 2</b> due Wed 1 <sup>st</sup> May 11.59pm	Watch lecture videos. Finalise Written Assignment 1.
9	May 6 <sup>th</sup>	Understanding Relationships Between Variables	Understanding Relationships Between Variables	<b>Written Assignment 1</b> due Wed 8 <sup>th</sup> May 11.59pm	Watch lecture videos. Brainstorm ideas for Written Assignment 2.
10	May 13 <sup>th</sup>	Multivariate Data	Multivariate Data		Watch lecture videos. Work on Written Assignment 2.
11	May 20 <sup>th</sup>	Systematic Reviews & Meta-Analyses	Systematic Reviews & Meta-Analyses		Watch lecture videos. Work towards finalising Written Assignment 2.
12	May 27 <sup>th</sup>	Qualitative Methods	Qualitative Methods	<b>Written Assignment 2</b> due Wed 29 <sup>th</sup> May 11.59pm	Watch lecture videos. Film self-reflection video Revise for Quiz 3 (opens May 31 <sup>st</sup> ).
13	Jun 3 <sup>rd</sup>	<i>No lecture videos</i>	<i>No workshop</i>	<b>Self-reflection video</b> due Wed 5 <sup>th</sup> Jun 11.59pm <b>Quiz 3</b> due Fri 7 <sup>th</sup> Jun, 11.59pm	

# ASSESSMENTS

This course has 4 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Online Quizzes	Quiz 1: Wed 3rd Apr 11.59pm (15%) Quiz 2: Wed 1st May 11.59pm (15%) Quiz 3: Fri 7th June 11.59pm (15%)	Individual	45%	1, 4
2	Written Assignment 1	Wed 8th May 11.59pm (30%)	Individual	30%	1, 2, 3, 4
3	Written Assignment 2	Wed 29th May 11.59pm (20%)	Individual	20%	1, 2
4	Yarning reflection	Wed 5th June 11.59pm (5%)	Individual	5%	1, 3

**Late Submissions** The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

## Assessment 1 - Online Quizzes

<b>Assessment Type</b>	Quiz
<b>Purpose</b>	<b>Quiz 1</b> will assess understanding of content from Weeks 1, 2, 3, & 4 <b>Quiz 2</b> will assess understanding of content from Week 5, 6, & 7 <b>Quiz 3</b> will assess understanding of content from Weeks 8, 9, 10, 11, & 12
<b>Description</b>	Three multiple choice quizzes.
<b>Weighting</b>	45%
<b>Due Date</b>	<b>Quiz 1:</b> Wed 3rd April 11.59pm (15%) <b>Quiz 2:</b> Wed 1st May 11.59pm (15%) <b>Quiz 3:</b> Fri 7 <sup>th</sup> June 11.59pm (15%)
<b>Submission Method</b>	Online Canvas Quiz
<b>Return Method</b>	Online
<b>Feedback Provided</b>	Online - Feedback for each question will be provided via the online quiz report once all students (including those with extensions) have completed the quiz

## Assessment 2 - Written Assignment 1

<b>Assessment Type</b>	Written Assignment
<b>Purpose</b>	<b>Written Assignment 1</b> will assess the conceptual and practical knowledge covered in Weeks 1-7.
<b>Description</b>	This assessment item consists of extracting data, cleaning data, and performing various statistical analyses using both frequentist and Bayesian methods.
<b>Weighting</b>	30%
<b>Length</b>	1500 words. Word limits include headings, sub-heading, in-text citations, quotes and referencing but does not include the list of references, appendices, and footnotes. The word limit will allow a tolerance of 10% and any work after the maximum word limit will not be included within the allocation of marks. In other words, the marker will STOP reading at 1650 words.
<b>Due Date</b>	Wed 8th May 11.59pm
<b>Submission Method</b>	Online
<b>Assessment Criteria</b>	According to the assessment rubrics provided on Canvas.
<b>Return Method</b>	Online
<b>Feedback Provided</b>	Online - Students will be able to view their marked assessments on SpeedGrader. The assessment reports will include marks for each question and comments as required according to the assessment rubric. Assessment rubrics to be provided on Canvas before the due date.

## Assessment 3 - Written Assignment 2

<b>Assessment Type</b>	Written Assignment
<b>Purpose</b>	<b>Written Assignment 2</b> will assess the conceptual and transferrable knowledge covered in Week 9.
<b>Description</b>	This assessment item consists of two sets of tasks which require you to apply your understanding of the ways in which a third variable can influence the association between a predictor and an outcome.
<b>Weighting</b>	20%
<b>Length</b>	1300 words. Word limits include headings, sub-heading, in-text citations, quotes and referencing but does not include the list of references, appendices, and footnotes. The word limit will allow a tolerance of 10% and any work after the maximum word limit will not be included within the allocation of marks. In other words, the marker will STOP reading at 1430 words.
<b>Due Date</b>	Wed 29th May 11.59pm
<b>Submission Method</b>	Online
<b>Assessment Criteria</b>	According to the assessment rubrics provided on Canvas.
<b>Return Method</b>	Online
<b>Feedback Provided</b>	Online - Students will be able to view their marked assessments on SpeedGrader. The assessment reports will include marks for each question and comments as required according to the assessment rubric. Assessment rubrics to be provided on Canvas before the due date.

## Assessment 4 – Yarning Reflection

<b>Assessment Type</b>	Presentation
<b>Description</b>	This assessment item consists of producing a short self-reflection video on the experience of applying yarning methodology.
<b>Weighting</b>	5%
<b>Length</b>	5 minutes. This time limit allows a tolerance of 10% (30 seconds) and any work after the maximum time limit will not be included within the allocation of marks. In other words, the marker will STOP watching at 5 minutes 30 seconds.
<b>Due Date</b>	Wed 5th June 11.59pm
<b>Submission Method</b>	Online
<b>Assessment Criteria</b>	According to the assessment rubrics provided on Canvas.
<b>Return Method</b>	Online
<b>Feedback Provided</b>	Online - Students will be able to view their marked assessments on SpeedGrader. The assessment reports will include marks for each question and comments as required according to the assessment rubric. Assessment rubrics to be provided on Canvas before the due date.

## ADDITIONAL INFORMATION

### Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an

		adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

\*Skills are those identified for the purposes of assessment task(s).

### Artificial Intelligence

Artificial Intelligence (AI) may be used as a learning tool in PSYC4000 (e.g., it can be used to clarify complex concepts during periods of revision) but must **not** be used in the course of completing assessments (e.g., it **cannot** be used to generate ideas or answers for any assessments).

AI detection software will be used to review any written work you submit. Any assessment suspected of using AI will be referred to the Student Academic Conduct Officer.

### Communication Methods

Communication methods used in this course include:

- Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site.
- Email: Students will receive communications via their student email account.
- Face to Face: Communication will be provided via face-to-face meetings or supervision.

### Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

### Oral Interviews (Vivas)

As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the [Oral Examination \(viva\) Procedure](#). In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the [Student Conduct Rule](#).

### Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students at the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to <https://policies.newcastle.edu.au/document/view-current.php?id=35>.

### Adverse Circumstances

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:

1. the assessment item is a major assessment item; or
2. the assessment item is a minor assessment item, and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system.
3. you are requesting a change of placement; or
4. the course has a compulsory attendance requirement.

Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at:

<https://policies.newcastle.edu.au/document/view-current.php?id=236>

### Reasonable Adjustment Plan (RAP)

If you are registered with Accessibility and have been provided with a Reasonable Adjustment Plan (RAP), please ensure that you provide your Course Coordinator with a copy as soon you can or let your Course Coordinator know that you are still waiting for your RAP.

### Important Policy Information

The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at

<https://www.newcastle.edu.au/current-students/no-room-for/policies-and-procedures> that support a safe and respectful environment at the University.

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*This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified, and an amended course outline will be provided in the same manner as the original.*

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