PSYC3001 Research Methods 3 - 2024

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General Course Information

Course Code : PSYC3001
Year : 2024
Term : Term 1
Teaching Period : T1
Is a multi-term course? : No
Faculty : Faculty of Science
Academic Unit : School of Psychology
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

This course builds on the data analysis methods and concepts developed in PSYC2001, providing further essential knowledge in statistical methods for students undertaking a major in psychology. The course will explore various experimental designs involving between- and within-

subjects factors that can be analysed with some form of analysis of variance (ANOVA), which constitutes a staple statistical approach across the breadth of the psychology literature. Particular emphasis is placed on the use of simultaneous test procedures and simultaneous confidence intervals to produce coherent analyses of data from complex experiments. Lectures will provide the theoretical foundations for the various analysis methods, which will then be put into practice in the tutorials.

Course Aims

The aims of the course are to provide students with an understanding of analysis of variance models and procedures which will allow them to 1. choose data analysis strategies for a range of experimental designs and 2. critically evaluate data analyses of published experiments. The course will teach students how to carry out these analyses using statistical packages such as SPSS and PSY and how to interpret analysis outcomes.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Apply best practice in data analysis methods in relation to the requirements and priorities related to the experimental context.
CLO2 : Identify issues relating to error rate control in an experimental context where multiple inference is possible.
CLO3 : Describe, apply and evaluate different inferential data analysis methods appropriate for single factor and two-way factorial designs with between-subjects and/or within-subjects factors.
CLO4 : Analyse data from a factorial design using simple effect contrasts.
CLO5 : Formulate heterogeneity, directional and/or confident inferences based on the outcome of overall tests and contrasts analyses.
CLO6 : Carry out ANOVA and contrasts analyses using statistical packages such as SPSS and PSY.
CLO7 : Analyse data involving one or more quantitative factors using a trend contrasts analysis.

Course Learning Outcomes	Assessment Item
CLO1 : Apply best practice in data analysis methods in relation to the requirements and priorities related to the experimental context.	• Assignment 2 • Final exam
CLO2 : Identify issues relating to error rate control in an experimental context where multiple inference is possible.	• Assignment 1 • Final exam
CLO3 : Describe, apply and evaluate different inferential data analysis methods appropriate for single factor and two-way factorial designs with between-subjects and/or within-subjects factors.	• Assignment 1 • Assignment 2 • Final exam
CLO4 : Analyse data from a factorial design using simple effect contrasts.	• Final exam
CLO5 : Formulate heterogeneity, directional and/or confident inferences based on the outcome of overall tests and contrasts analyses.	• Assignment 1 • Assignment 2 • Final exam
CLO6 : Carry out ANOVA and contrasts analyses using statistical packages such as SPSS and PSY.	• Assignment 1 • Assignment 2
CLO7 : Analyse data involving one or more quantitative factors using a trend contrasts analysis.	• Final exam

Learning and Teaching Technologies

Moodle - Learning Management System | Blackboard Collaborate | Echo 360

Learning and Teaching in this course

The methods covered in this course are relevant for the analysis of data from single-factor and factorial experimental designs. These methods are often used across the range of sub-disciplines of psychology and as such are relevant for the analysis of data from Honours research projects.

Formal teaching in this course is via live lectures with accompanying lecture slides, and a weekly two-hour live tutorial. It is expected that students have attended the lecture for the relevant topic prior to attending the weekly tutorial. Lecture slides, tutorial materials and related activities for each topic will be posted to Moodle in advance on a regular basis.

In order to keep up with this course, you will need to be on track with lecture material. After attending each lecture, you should spend some time reviewing your notes and undertaking additional reading where necessary (such as relevant course notes) to ensure that you fully understand the course material for that topic.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Assignment 1 Assessment Format: Individual	20%	Start Date: 23/02/2024 12:00 AM Due Date: 08/03/2024 12:00 AM
Assignment 2 Assessment Format: Individual	20%	Start Date: Not Applicable Due Date: Not Applicable
Final exam Assessment Format: Individual	60%	Start Date: T1 Exam Period Due Date: Not Applicable

Assessment Details
Assignment 1

Assessment Overview

Assignment 1, due in Week 4, will be focused on the issue of familywise error rate control and inferences related to procedures that do so. The assignment will cover material drawn from Topics 1-5 and require you to carry out and interpret statistical analyses. The expected length of responses to this assignment is approximately 1000-1500 words. Feedback will be provided in the form of personalised comments and general feedback. Marks and feedback will be returned within 10 working days from the due date.

Course Learning Outcomes

- CLO2 : Identify issues relating to error rate control in an experimental context where multiple inference is possible.
- CLO3 : Describe, apply and evaluate different inferential data analysis methods appropriate for single factor and two-way factorial designs with between-subjects and/or within-subjects factors.
- CLO5 : Formulate heterogeneity, directional and/or confident inferences based on the outcome of overall tests and contrasts analyses.
- CLO6 : Carry out ANOVA and contrasts analyses using statistical packages such as SPSS and PSY.

Assessment Length

1000-1500 words

Assessment information

Flexibility in task completion - Short Extension

If you are struggling to meet the deadline for this assessment task, you may apply for a short extension of *2* days.

All short extension applications must be submitted *before* the task's due date.

For details on how to apply, and the conditions on applying, please visit the UNSW Special Consideration website.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Assignment 2

Assessment Overview

Assignment 2, due in Week 9, will cover material drawn from Topics 9 - 13. The assignment will require you, among other things, to design an experiment, construct a set of hypothetical data with certain properties, and use a statistical program to analyze your hypothetical data. Feedback will be provided in the form of personalised comments and general feedback. Marks and feedback will be returned within 10 working days from the due date.

Course Learning Outcomes

- CLO1 : Apply best practice in data analysis methods in relation to the requirements and priorities related to the experimental context.

- CLO3 : Describe, apply and evaluate different inferential data analysis methods appropriate for single factor and two-way factorial designs with between-subjects and/or within-subjects factors.
- CLO5 : Formulate heterogeneity, directional and/or confident inferences based on the outcome of overall tests and contrasts analyses.
- CLO6 : Carry out ANOVA and contrasts analyses using statistical packages such as SPSS and PSY.

Assessment Length

1500-2000 words

Assessment information

Flexibility in task completion - Short Extension

If you are struggling to meet the deadline for this assessment task, you may apply for a short extension of 2 days.

All short extension applications must be submitted *before* the task's due date.

For details on how to apply, and the conditions on applying, please visit the UNSW Special Consideration website.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Final exam

Assessment Overview

A two-hour Final Exam with an emphasis on examining the latter half of the course (analyses of factorial designs) will be held during the examination period. This exam will include questions that will require you to carry out, interpret and/or discuss analyses for various research contexts. Statistical tables will be provided, you are required to provide your own UNSW approved calculator. Feedback is available through inquiry with the Course Convenor.

Course Learning Outcomes

- CLO1 : Apply best practice in data analysis methods in relation to the requirements and priorities related to the experimental context.
- CLO2 : Identify issues relating to error rate control in an experimental context where multiple inference is possible.
- CLO3 : Describe, apply and evaluate different inferential data analysis methods appropriate for single factor and two-way factorial designs with between-subjects and/or within-subjects

factors.

- CLO4 : Analyse data from a factorial design using simple effect contrasts.
- CLO5 : Formulate heterogeneity, directional and/or confident inferences based on the outcome of overall tests and contrasts analyses.
- CLO7 : Analyse data involving one or more quantitative factors using a trend contrasts analysis.

<u>Assessment Length</u>

N/A

<u>Assignment submission Turnitin type</u>

Not Applicable

General Assessment Information

Students should be familiar with the School of Psychology Student Guide, which contains key staff contact details and important information about policies and procedures related to courses and assessment

Special Consideration: Students who experience circumstances outside of their control that prevent them from completing an assessment task by the assigned due date due can apply for Special Consideration. Special Consideration applications should include a medical certificate or other documentation and be submitted within 3 days of the sitting/due date.

Important note: UNSW has a "fit to sit/submit" rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

Once your application has been assessed, you will be contacted via your student email address and advised of the official outcome. If the special consideration application is approved, you may be given an extended due date, or an alternative assessment/supplementary examination may be set. For more information about special consideration, please visit: https://student.unsw.edu.au/special-consideration.

Short Extensions: In Psychology, short extensions (48 hours) may be available on assessments in which students submit a major piece of written work. Assessments that involve low stakes

weekly tasks, quizzes, midterm tests, group work, or presentations are not eligible for short extension provisions. Eligible tasks will be clearly indicated in the course outline. Short extension applications do not require documentation and should be submitted to the online portal before the assessment deadline.

Alternative assessments: will be subject to approval and implemented in accordance with UNSW Assessment Implementation Procedure and Psychology Student Guide.

Supplementary examinations: will be made available for students with approved special consideration application and implemented in accordance with UNSW Assessment Policy and Psychology Student Guide.

All course assessments have been designed and implemented in accordance with UNSW Assessment Policy.

The APA (7th edition) referencing style is to be adopted in this course. Students should consult the publication manual itself (rather than third party interpretations of it) in order to properly adhere to APA style conventions. Students do not need to purchase a copy of the manual, it is available in the library or online. This resource is used by assessment markers and should be the only resource used by students to ensure they adopt this style appropriately: APA 7th edition.

Grading Basis

Standard

Requirements to pass course

A total mark of 50 out of 100 or higher is required to pass the course.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Lecture	Topic 1 - Inference for a comparison between two means Topic 2 - The problem of multiple comparisons
	Tutorial	Topic 1 - Inference for a comparison between two means
Week 2 : 19 February - 25 February	Lecture	Topic 3 - Tukey Honestly Significant Difference multiple comparison procedure Topic 4 - Analysis of Variance (ANOVA)
	Tutorial	Topic 2 - The problem of multiple comparisons Topic 3 - Tukey Honestly Significant Difference multiple comparison procedure
Week 3 : 26 February - 3 March	Lecture	Topic 5 - Contrasts Topic 6 - Post-hoc contrasts analysis - FWER (Scheffé)
	Tutorial	Topic 4 - Analysis of Variance (ANOVA) Topic 5 - Contrasts
Week 4 : 4 March - 10 March	Lecture	Topic 6 - Post-hoc contrasts analysis - FWER (Scheffé) Topic 7 - Planned contrasts analysis controlling FWER (Bonferroni) Topic 8 - Comparison of valid MCPs (Tukey vs Scheffe vs Bonferroni) and examples of invalid MCPs (eg protected t procedure
	Tutorial	Topic 6 - Post-hoc contrasts analysis - FWER (Scheffé) Topic 7 - Planned contrasts analysis controlling FWER (Bonferroni)
Week 5 : 11 March - 17 March	Lecture	Topic 9 - Orthogonal contrasts Topic 10 - Trend contrasts analysis Topic 11 - Factorial contrasts in 2x2 design
	Tutorial	Topic 9 - Orthogonal contrasts Topic 10 - Trend contrasts analysis
Week 6 : 18 March - 24 March	Other	Flex Week
Week 7 : 25 March - 31 March	Lecture	Topic 12 - J x K Planned Standard Factorial Contrasts Analysis (FWER) Topic 13 - J x K Standard Factorial Post hoc Analysis (FWER)
	Tutorial	Topic 12 - J x K Planned Standard Factorial Contrasts Analysis (FWER) Topic 13 - J x K Standard Factorial Post hoc Analysis (FWER)
Week 8 : 1 April - 7 April	Lecture	Topic 13 - J x K Standard Factorial Post hoc Analysis (FWER) Topic 14 - J x K Factorial Contrasts Analysis including Simple Effects
	Tutorial	Topic 14 - J x K Factorial Contrasts Analysis including Simple Effects
Week 9 : 8 April - 14 April	Lecture	Topic 15 - Planned contrasts analysis for single factor within-subjects design Topic 16 - Planned factorial contrasts analyses for mixed B x (W) designs
	Tutorial	Topic 15 - Planned contrasts analysis for single factor within-subjects design Topic 16 - Planned factorial contrasts analyses for mixed B x (W) designs
Week 10 : 15 April - 21 April	Lecture	Topic 16 - Planned factorial contrasts analyses for mixed B x (W) designs Topic 17 - Planned contrasts analysis for (A x B) within-subjects factorial design Course Summary
	Tutorial	Topic 16 - Planned factorial contrasts analyses for mixed B x (W) designs Topic 17 - Planned contrasts analysis for (A x B) within-subjects factorial design

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

General Schedule Information

Schedule is subject to minor adjustments throughout the term - you will be informed of such via Moodle announcements.

Course Resources

Prescribed Resources

See "Learning and Teaching" section of the Course Details and Outcomes tab. In addition, practice activities and selected worked solutions are provided on Moodle for each topic. Students are encouraged to work through these activities after the topic has been covered in lectures and tutorials. If you have course related questions you should ask these in the first instance in your tutorial. You may also email your tutor or Dr Li, or post your question to the Discussion forum.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Sonny Li					No	Yes
Lecturer	Melanie Gleitzman					No	No
Tutor	Nick Kennedy					No	No
	Luisa Saavedra Cardona					No	No
	Nikki Huang					No	No

Other Useful Information

Academic Information

Upon your enrolment at UNSW, you share responsibility with us for maintaining a safe, harmonious and tolerant University environment.

You are required to:

- Comply with the University's conditions of enrolment.
- Act responsibly, ethically, safely and with integrity.
- Observe standards of equity and respect in dealing with every member of the UNSW community.
- Engage in lawful behaviour.
- Use and care for University resources in a responsible and appropriate manner.
- Maintain the University's reputation and good standing.

For more information, visit the UNSW Student Code of Conduct Website.

Academic Honesty and Plagarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.
Further information about referencing styles can be located at https://student.unsw.edu.au/referencing

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage. At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.
Further information about academic integrity, plagiarism and the use of AI in assessments can be located at:

- The Current Students site,
- The ELISE training site, and
- The Use of AI for assessments site.

The Student Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: https://student.unsw.edu.au/conduct

Submission of Assessment Tasks

Penalty for Late Submissions

UNSW has a standard late submission penalty of:

- 5% per day,
- for all assessments where a penalty applies,
- capped at five days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

Any variations to the above will be explicitly stated in the Course Outline for a given course or assessment task.

Students are expected to manage their time to meet deadlines and to request extensions as early as possible before the deadline.

Special Consideration

If circumstances prevent you from attending/completing an assessment task, you must officially apply for special consideration, usually within 3 days of the sitting date/due date. You can apply by logging onto myUNSW and following the link in the My Student Profile Tab. Medical documentation or other documentation explaining your absence must be submitted with your application. Once your application has been assessed, you will be contacted via your student email address to be advised of the official outcome and any actions that need to be taken from there. For more information about special consideration, please visit: https://student.unsw.edu.au/special-consideration

Important note: UNSW has a "fit to sit/submit" rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

Faculty-specific Information

Additional support for students

- The Current Students Gateway
- Student Support
- Academic Skills and Support
- Student Wellbeing, Health and Safety
- Equitable Learning Services
- UNSW IT Service Centre
- Science EDI Student Initiatives, Offerings and Guidelines