Course Outline

PSYC5003

Graduate Diploma in Psychology

Data Analysis and Methods of Psychological Inquiry

School of Psychology

Faculty of Science

1. Staff

Position	Name	Email	Consultation times and locations	Contact Details
Course Convenor			Email	Email

2. Course information

Units of credit: 6

Pre-requisite(s): Program Pre-requisite: Bachelor's Degree of any kind (Australian Qualification standard or equivalent), PSYC5001 and PSYC5002

Teaching times and locations: **GD Psych Session 6 2020**

2.1 Course summary

This course provides students with knowledge about the characteristics of science, scientific method, experimental design and data analysis in behavioural sciences. It provides a comprehensive foundation in critical thinking, enabling students to design and execute experiments, analyse and interpret the results, scrutinise and critically evaluate published research and discriminate between evidence-based information and pseudoscience. The course progresses from a discussion of different methodological approaches and data collection techniques to descriptive statistics, foundation of hypothesis testing and the introduction of specific statistical tests.

2.2 Course aims

This course deals with the foundational knowledge about research methods and statistics in psychology. It aims to provide the tools necessary to develop systematic, critical and analytical scientific thinking to understand the basic research methods in psychology. The course aims to introduce students to be able to perform basic statistical analysis procedures, draw defensible conclusions and assess the validity of conclusions based on statistical analysis of experimental data.

2.3 Course learning outcomes (CLO)

At the successful completion of this course the student should be able to:

1. Demonstrate knowledge and understanding of psychology as a scientific discipline including the principles of evidence-based research in psychology and the major concepts and historical trends in statistics and research methods for behavioural sciences.
2. Demonstrate an advanced understanding of current research methods and statistics in behavioural sciences enabling you to appropriately design, analyse and makeappropriate evidence-based conclusions.
3. Demonstrate advanced critical thinking skills with a focus on evidence-based researchand data analysis enabling you to scrutinise information based on research methods and statistical analysis of experimental results.

4. Develop an understanding of the values, experimental and professional ethics in behavioural sciences research, enabling you to reflect on values that are the underpinnings of psychology as a scientific discipline

5. Develop effective communication skills enabling you to clearly describe anddiscuss the outcomes of experimental research and data analysis.

6. Demonstrate and apply knowledge about statistics and research methods in behavioural sciences to a broader framework, enabling you to apply principles of empirical research in behavioural sciences to problem solving in everyday life

2.4 Relationship between course and program learning outcomes and assessments

	Program Learning Outcomes						
CLO	1. Knowledge	2. Research Methods	3. Critical Thinking Skills	4. Values and Ethics	5. Communication, Interpersonal and Teamwork	6. Application	**Assessment**
1.	Lectures Tutorials Online activities Readings Formative revision quizzes	Tutorials Online activities Readings Formative revision quizzes	Tutorials Online activities Readings	Tutorials Online activities	Tutorials Q and A forum		Secured quizzes Research Article Critique Research Study Design
2.		Tutorials Online activities Readings Formative revision quizzes	Tutorials Online activities	Tutorials Online activities	Tutorials	Tutorials	Secured quizzes Research Article Critique Research Study Design
3.	Tutorials Online activities		Tutorials Online activities Readings	Tutorials Online activities			Secured quizzes Research Article Critique Research Study Design
4.		Tutorials Online activities		Tutorials Online activities			Secured quizzes Research Article

							Critique Research Study Design
5.			Tutorials		Tutorials Online activities		Research Article Critique Research Study Design
6.	Online activities Readings Formative revision quizzes				Tutorials	Tutorials	Secured quizzes Research Article Critique Research Study Design

3. Strategies and approaches to learning

3.1 Learning and teaching activities

This is a fully online course, all materials, lectures and tutorials are delivered through Moodle.

The course web page is available through the e-learning Moodle site: https://moodle.telt.unsw.edu.au/login/index.php. Login with your student number and password, and follow the links to the PSYC page.

The course will be delivered over six weeks, covering six major topic areas. The major topics will be delivered in Weeks 1 to 6, with a new topic presented each week. Students are expected to engage with all materials delivered each week. There will be a combination of formative and summative assessments throughout the course. The expected level of engagement is 18-19 hours per week, including preparation for the "secured" quizzes and written assessments.

Each week students can expect the following:

Lectures will be digitally recorded. Links to the lecture recordings will be available on the course web page. Lecture slides will be also available on the Moodle course page. This will be broken down into 6 x 20-minute lectures covering the main concepts for each sub-topic of the week

Online Tutorials will be held in weeks 1-6. There are six (6), two (2) hour tutorials delivered through Blackboard Collaborate on the Moodle course page each week. All tutorials will be live streamed for synchronous participation and recorded for asynchronous participation, should a student be unable to join the synchronous tutorial at the designated time. Students will be able access the recorded tutorials, for the remainder of the course. Tutorial discussions are based on lecture content and readings. In order to participate in class discussions, you will need to prepare for tutorials by reviewing the available materials.

Online activities: Each week there will be a range of online activities, including formative revision quizzes, interactive learning modules using a range of adaptive learning platforms, including Smart Sparrow, H5P and MindTap textbook resources. These activities will allow students to explore the topics of the week in greater depth and provide formative assessment for the students and revision opportunities.

Readings: There will be assigned readings each week that cover the major topic of the week. Students will need to complete the readings in order to prepare for the online tutorials. (**4.5 hours**).

The Q and A Discussion Forum provides students with an opportunity to question and clarify the concepts and ideas mentioned in the lectures. Students are strongly encouraged to engage with this forum by posting questions or comments, and reading, answering, or replying to other student's posts to enhance understanding of the content, critical thinking, and written communication skills.

Formative topic revision quizzes are available for students that provide an opportunity to evaluate understanding of course material on a weekly basis. Timely completion of the weekly quizzes will assist students in gaining a proper understanding of each topic so that this knowledge can be built on in future content. The formative revision quizzes will be available through the MindTap section available on the Moodle course page. **NB: These formative quizzes do not contribute to the student's final grade and are not to be confused with the "secured weekly quizzes".**

3.2 Expectations of students

Moodle contains lectures, tutorials, content topic materials, assessment materials, and any updated information. You are expected to check Moodle regularly. You are also expected to regularly check your UNSW email. All news updates and announcements will be made on the 'Announcements' forum on the Moodle page and/or by email. It is the student's responsibility to check Moodle and their student emails regularly to keep up to date.

Given that the course content and all assessable components are delivered online, it is the responsibility of the student to ensure that they have access to a computer with a stable internet connection and a browser capable of handling the features of the Moodle eLearning website and any of its content. There will be no special consideration granted due to internet connection or computer issues arising from personal technical issues. If an internet disconnection takes place during an assessment/exam, there will be no way of changing a mark and these will be allocated according to the progress that was saved. To help students establish whether or not their computer/internet access is suitable for the online exam/s, a test quiz is available. This quiz will not contribute to final marks and will be able to be completed multiple times in order to test computer/internet connection prior to assessments/exams.

NOTE: THIS COURSE REQUIRES SIGNIFICANT WEEKLY ASSESSABLE ENGAGEMENT THROUGH MOODLE. Students are expected to engage with all materials delivered each week. There will be a combination of formative and summative assessments throughout the course. **The expected level of engagement is on average 18-19 hours per week** (in the 6-week term). Average engagement levels are as follows (a) **2 hours** of engagement with the lecture content (6 x 20-minute lectures per week); (b) Tutorial attendance, **3 hours** per week including preparation for the tutorial discussion. Note we recommend that you complete the synchronous tutorial, however completion of the recorded asynchronous tutorial will also be accepted; (c) **4.5 hours** to complete the assigned activities, including revision modules; (d) **4.5 hours** to complete the assigned weekly readings that accompany the content for each lecture topic; (e) **4-5 hours** to complete the weekly assessments (secured quizzes) and prepare for the major assessments.

Under no circumstances will employment be accepted as an excuse not to meet expectations for class participation or assessments. Remember, the term times are very short, so it is your responsibility to ensure that you do not fall behind with the ongoing assessment demands of the course.

Tutorial Attendance: Attendance and participation in tutorials is compulsory, and a register will be recorded at the beginning of each tutorial. All tutorials will be delivered in an online mode, through Blackboard Collaborate, given that this is a fully online course, it is understood that some students may be unavailable at the designated live tutorial time. Therefore, students will be required to participate in the tutorial in either a synchronous (as the tutorial is streamed live) or asynchronous (a recorded version of the tutorial).

NB: Engagement with online tutorials and timely completion of asynchronous online tutorials is essential in accordance with UNSW Assessment Implementation Procedure.

It is expected that students are aware of UNSW Assessment policy and understand how to apply for special consideration within the framework of the Graduate Diploma Special consideration policies and procedures if they are unable to complete an assignment/exam due to illness and/or misadventure.

It is expected that students have read through the Graduate Diploma in Psychology (5331) Guide.

4. Course schedule and structure

Each week this course typically consists of 2 hours of lecture material, 2 hours of face to face tutorials, and 4.5 hours of online activities. Students are expected to take an additional 5-6 hours each week of self-determined study to complete assessments, readings, and exam preparation.

Week	Lecture topic/s	Tutorial/lab topics	Online modules	Self-determined activities
Week 1	**Research Methods: Introduction to research** Lecture 1 and 2: Critical thinking and The Scientific Method Lecture 3 and 4: The Assumptions and Goals of Science Lecture 5 and 6: Is all Science created equal? Applying the Scientific Method	Online tutorial discussion based on lectures and readings. Students will discuss the nature of critical thinking, the scientific method and its application in behavioural sciences. In addition, students will define and identify independent and dependent variables in experiments	Online activities based on lectures and assigned readings	Formative revision quizzes Additional textbook readings Additional textbook resources (Mindtap)
Week 2	**Research Methods:** Lecture 1 and 2: Reliability Lecture 3 and 4: Validity Lecture 5 and 6: Threats to Validity	Online tutorial discussion based on lectures and readings. Students will discuss the concepts of reliability, validity and the treats to validity. Students will understand the difference between reliability and validity. Students will understand the confounding variable problem in scientific research.	Online activities based on lectures and assigned readings	Formative revision quizzes Additional textbook readings Additional textbook resources (Mindtap)
Week 3	**Research Methods:** Lecture 1 and 2: Types of research designs and Non-experimental research Lecture 3 and 4: Types of experimental designs Lecture 5 and 6: Types of experimental designs	Online tutorial discussion based on lectures and readings. Students will discuss the selection of participants for research studies and different types of experiments. Students will be able to identify the strengths and weaknesses of these research designs.	Online activities based on lectures and assigned readings	Formative revision quizzes Additional textbook readings Additional textbook resources (Mindtap)

Week 4	**Statistics: Descriptive statistics** Lecture 1 and 2: Measures of central tendency and measures of variability Lecture 3 and 4: z-scores and standardised distributions Lecture 5 and 6: Samples, populations and the distribution of sample means	Online tutorial discussion based on lectures and readings. Students will discuss how to place data in a frequency distribution table or graph that shows the exact number of scores in each category on the scale of measurement. Various types of graphs used to summarise and organise data will also be introduced	Online activities based on lectures and assigned readings	Formative revision quizzes Additional textbook readings Additional textbook resources (Mindtap)
Week 5	**Summarising and Presenting Data** Lecture 1 and 2: Frequency distributions Lecture 3 and 4: Histograms for nominal and ordinal data Lecture 5 and 6: Types of graphs	Online tutorial discussion based on lectures and readings. Students will discuss the concepts and definitions of probability that are needed for an introduction of inferential statistics, including how to use probability to demonstrate that some outcomes are more likely than others.	Online activities based on lectures and assigned readings	Formative revision quizzes Additional textbook readings Additional textbook resources (Mindtap)
Week 6	**Statistics: Inferential statistics and hypothesis testing** Lecture 1 and 2: Uncertainty and errors in hypothesis testing Lecture 3 and 4: p-values, effect sizes and confidence intervals Lecture 5 and 6: Sample size and statistical significance	Online tutorial discussion based on lectures and readings. In this module the Students will discuss the foundations of inferential statistics and procedures that are used in behavioural science research	Online activities based on lectures and assigned readings	Formative revision quizzes Additional textbook readings Additional textbook resources (Mindtap)

5. Assessment

5.1 Assessment tasks

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

Assessment task	Length	Weight	Mark	Due date (normally midnight on due date)
Assessment 1: "Secured" Quizzes (cumulative assessment)	20 MCQ questions per quiz	50%	50	Sunday 11:59pm week of release (Weeks 1,2,3,4,5,6)
Assessment 2: Research Article Critique	750 words	20%	100	Sunday Week 3
Assessment 3: Research Study Design	1500 words	30%	100	Sunday Week 6

Assessment 1: "Secured" Quizzes (cumulative assessment): Students will be required to complete 5 quizzes under official exam conditions. These quizzes will cover the content of the lectures and readings. The quizzes will be held in weeks 1-6 and will cover content presented in the current week. The "Secured" quizzes form part of a cumulative assessment. Each Quiz will include 20 multiple choice questions. The five highest marks will be counted towards the final grade.

Assessment 2: Research Article Critique: Students will be given a study that they will have to critically evaluate for its methodological soundness. Through open ended questions they will be asked to identify a number of concepts presented in the research methods lectures including; the research question and hypothesis, experimental design, independent and dependent variables and confounding variables.

Assessment 3: Research Study Design: Students will be required to produce a document outlining a proposed research design to investigate an assigned research question based on a set of descriptive statistics. This will include an appropriate experimental design and how to collect the data. Students will be required to provide a justification for their chosen research study design based on the existing descriptive data, Students will need to present and summarise the provided descriptive data as part of their justification

UNSW grading system: https://student.unsw.edu.au/grades

UNSW assessment policy: https://student.unsw.edu.au/assessment

5.2 Assessment criteria and standards

Further details and marking criteria for each assessment will be provided to students closer to the assessment release date (see 4.1: UNSW Assessment Design Procedure).

5.3 Submission of assessment tasks

Written assessments: In accordance with UNSW Assessment Policy written pieces of assessment must be submitted online via Turnitin. No paper or emailed copies will be accepted.

Late penalties: deduction of marks for late submissions will be in accordance with School policy (see: Graduate Diploma in Psychology (5331) Guide).

Special Consideration: Students who are unable to complete an assessment task by the assigned due date can apply for special consideration. Special consideration applications must be submitted through the special consideration portal available through myUNSW. *UNSW operates under a Fit to Sit/ Submit rule for all assessments. If a student wishes to submit an application for special consideration for an exam or assessment, the application must be submitted* ***prior to the*** *start of the exam or before an assessment is submitted. If a student sits the exam/ submits an assignment, they are declaring themselves well enough to do so.*

Students who have experienced significant illness or misadventure during the assessment period may be eligible. Only circumstances deemed to be outside of the student's control are eligible for special consideration (see - https://student.unsw.edu.au/special-consideration). In the case of take-home assessment tasks, misadventure must occur for at least 3 consecutive days during the assessment period. If approved, students may be given an extended due date to complete take-home assessments

Alternative assessments: there will be no alternative assessments due to the intensive nature of the course. Please refer to the Graduate Diploma in Psychology (5331) for policies and procedures relating to misadventure.

Supplementary examinations: Students may apply for a supplementary exam, providing that this is not an ongoing issue. If students are unable to engage in all aspects of the course for two weeks or longer, the will be required to submit an application to withdraw from the course without penalty. Please refer to the Graduate Diploma in Psychology (5331) Guide for policies and procedures relating to misadventure.

5.4. Feedback on assessment

Feedback on all pieces of assessment in this course will be provided in accordance with UNSW Assessment Policy.

Assessment	When	Who	Where	How
"Secured" Quizzes (cumulative assessment)	Monday following quiz submission	Course convenor	Gradebook	Moodle
Research Article Critique	Monday Week 6	Tutor	Online	Moodle
Research Study Design	10 days after due-date	Tutor	Online	Moodle

6. Academic integrity, referencing and plagiarism

The APA (6th 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 6th edition.

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.[1] 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 and **plagiarism** can be located at:

- The *Current Students* site https://student.unsw.edu.au/plagiarism**,** and
- The *ELISE* training site http://subjectguides.library.unsw.edu.au/elise/presenting

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

7. Readings and resources

Textbook	Research Methods for the Behavioral Sciences, 6th Edition. Gravetter &Forzano (2019). E-book copies of the textbook will be provided to students through Moodle along with MindTap additional resources
Course information	Available on Moodle
Required readings	Graduate Diploma in Psychology (5331) Guide
Recommended internet sites	UNSW Library UNSW Learning centre ELISE Turnitin Student Code of Conduct Policy concerning academic honesty Email policy UNSW Anti-racism policy statement

1 International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

	UNSW Equity and Diversity policy statement UNSW Equal opportunity in education policy statement

8. Administrative matters

The Graduate Diploma in Psychology (5331) Guide contains School policies and procedures relevant for all students enrolled in Graduate Diploma in Psychology course, such as:

- Attendance requirements
- Assignment submissions and returns
- Assessments
- Special consideration
- Student code of conduct
- Student complaints and grievances
- Disability Support Services
- Health and safety

It is expected that students familiarise themselves with the information contained in this guide.

9. Additional support for students

- The Current Students Gateway: https://student.unsw.edu.au/
- Academic Skills and Support: https://student.unsw.edu.au/academic-skills
- Student Wellbeing, Health and Safety: https://student.unsw.edu.au/wellbeing
- Disability Support Services: https://student.unsw.edu.au/disability-services
- UNSW IT Service Centre: https://www.it.unsw.edu.au/students/index.html