



COURSE OUTLINE

PSY400

Research Methods and Analysis

4

School: School of Health - Psychology

2026 | Trimester 1

UniSC Sunshine Coast
UniSC Moreton Bay

BLENDED
LEARNING

Most of your course is on campus but you may be able to do some components of this course online.

Please go to usc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

This course develops advanced knowledge in multivariate research designs and statistical techniques that can be applied to the psychological sciences. Statistical techniques in this course include data cleaning, assumption testing, power and effect size, MANOVA, advanced regression models, classification models, and factor analysis. This course also provides intermediate knowledge and applied experience in conducting qualitative research using thematic analysis. This course prepares you to undertake research in your honours thesis, in higher degree research programs, and in professional research contexts.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Tutorial/Workshop 1 – Whole of class workshop covering design and methodology	1hr	Week 1	12 times
Tutorial/Workshop 2 – Lab based workshop focusing on skills of statistical analysis using multiple platforms.	2hrs	Week 1	12 times
Learning materials – 7 hour asynchronous learning materials including assessment preparation and revision	7hrs	Week 1	12 times

1.3. Course Topics

- Issues in research design and analysis: sample size, power and effect size
- Univariate, bivariate, and multivariate research design principles
- Creating psychometrically sound measures – Factor Analysis (Confirmatory and Exploratory)
- Data cleaning: missing values, skewed data and use/misuse of data transformation
- Comparing multiple groups and DVs: MANOVA/MANCOVA
- Multiple predictor designs: Multiple/Hierarchical Regression and Logistic Regression
- Classification techniques: Sensitivity, specificity and receiver operating curves
- Exploring multivariate relationships using Mediation/Moderation
- Qualitative research design and thematic analysis
- Data visualisation & science communication

2. What level is this course?

400 Level (Graduate)

Demonstrating coherence and breadth or depth of knowledge and skills. Independent application of knowledge and skills in unfamiliar contexts. Meeting professional requirements and AQF descriptors for the degree. May require pre-requisites where discipline specific introductory or developing knowledge or skills is necessary. Normally undertaken in the third or fourth full-time study year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES	GRADUATE QUALITIES MAPPING	PROFESSIONAL STANDARD MAPPING *
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...	Australian Psychology Accreditation Council
1 Demonstrate knowledge of a range of advanced research designs and methodologies used in psychological research.	Knowledgeable	2, 2.1, 2.5
2 Demonstrate appropriate use of multivariate statistical techniques for the analysis of psychological data.	Creative and critical thinker Empowered	2, 2.5
3 Apply multivariate quantitative techniques and qualitative techniques and to the analysis of psychological data.	Creative and critical thinker Empowered	2, 2.5
4 Write and present complex research findings in a scientific fashion.	Empowered	2, 2.1, 2.5
5 Demonstrate competence in the use of appropriate statistical programs for analysis of psychological data.	Empowered	2, 2.1, 2.5
6 Demonstrate knowledge and application of Bayes theorem and statistical techniques in psychological research		2, 2.5

* Competencies by Professional Body

CODE	COMPETENCY
AUSTRALIAN PSYCHOLOGY ACCREDITATION COUNCIL	
2	PRE-PROFESSIONAL COMPETENCIES: Graduates of programs at this level have basic knowledge and skills in the professional practice of psychology and the independent conduct and evaluation of scientific research. Programs for pre-professional competencies are typically a Bachelor Honours Degree or Graduate Diploma (if the graduate competencies in research can be met).
2.1	Taking into account broad diversity, and consistent with current relevant legal frameworks and codes of ethical practice, graduates apply psychological knowledge to competently and ethically demonstrate successful (prior or concurrent) achievement of foundational competencies.
2.5	Taking into account broad diversity, and consistent with current relevant legal frameworks and codes of ethical practice, graduates apply psychological knowledge to competently and ethically investigate a substantive individual research question relevant to the discipline of psychology.

5. Am I eligible to enrol in this course?

Refer to the [UniSC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

Enrolled in program SC407 or AR403 or (AR405 and PSY300, PSY301, PSY302, PSY303, PSY304, PSY305, PSY306 AND PSY307)

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Weekly practice quizzes will be provided.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Quiz/zes	Individual	40%	90 minutes	Week 6	In Class
All	2	Portfolio	Individual	40%	2500 words maximum	Week 10	Online Assignment Submission with plagiarism check
All	3	Examination - Centrally Scheduled	Individual	20%	2 hours with 10 minutes reading time	Exam Period	Online Test (Quiz)

All - Assessment Task 1: Mid-Trimester Practical Quiz

GOAL:	Demonstrate applied understanding of content from weeks 1-5. This assessment involves an in-class practical test to be undertaken mid-trimester. The test will be taken in the computer laboratory and involve performing data analytical techniques using provided data sets. Students will be assessed on their ability to select appropriate statistical tests, conduct specified analyses (including assumption checks), and interpret outputs in SPSS.	
PRODUCT:	Quiz/zes	
FORMAT:	<p>As students need to use UniSC statistical software, the test will only be available during the scheduled tutorial times (110 minutes) and students must attend their allocated tutorial in order to sit the test. The test will be open-book/lecture notes.</p> <p>This assessment task will be due between weeks 6 - 8 of the teaching trimester. The final date of submission for this task will be determined once public holidays and the course timetable have been published prior to the commencement of trimester. Please refer to your course Canvas site at the commencement of the teaching trimester to confirm the due date for this assessment task.</p>	
CRITERIA:	<p>No.</p> <ol style="list-style-type: none"> 1 Demonstrated understanding of appropriate statistical analyses including their identification/selection and application in SPSS. 2 Correct interpretation of statistical results 3 Correct APA formatting of results 	Learning Outcome assessed
GENERIC SKILLS:	Communication, Problem solving, Applying technologies	

All - Assessment Task 2: Research Portfolio

GOAL:	The goal of this assessment is for students to gain applied experience in conducting and reflecting on qualitative research using thematic analysis, demonstrating understanding of how ontological, epistemological, and axiological assumptions shape qualitative research practice.	
PRODUCT:	Portfolio	
FORMAT:	Portfolio via Cadmus/Canvas.	
CRITERIA:	<p>No.</p> <ol style="list-style-type: none"> 1 Effective presentation of a clear and concise position statement outlining their ontological, epistemological, and axiological assumptions, and explain how these inform their approach to thematic analysis. 2 Demonstrate systematic engagement with the provided data through detailed familiarisation, generation of meaningful codes, and development of coherent, well-defined themes. 3 Demonstrate reflexive awareness of their own assumptions, values, and influence throughout all stages of the analysis including critical reflection on interpretive choices in relation to the researcher's position. 	Learning Outcome assessed
GENERIC SKILLS:		

All - Assessment Task 3: Final Exam

GOAL:	You will demonstrate understanding of multivariate research design and the use and interpretation of advanced research analytic techniques covered in the course between weeks 1-12.
PRODUCT:	Examination - Centrally Scheduled
FORMAT:	Open book, multiple choice and short answer format examination.
CRITERIA:	<p>No.</p> <p>1 Identification of appropriate statistical analyses and research designs</p> <p>2 Correct interpretation of statistical results</p> <p>3 Correct APA formatting of results</p>
GENERIC SKILLS:	Communication, Problem solving, Organisation

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site— Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

Please note that you need to have regular access to the resource(s) listed below. Resources may be required or recommended.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Required	Andy Field	2018	Discovering Statistics Using IBM SPSS Statistics	5th	SAGE Publications Limited

8.2. Specific requirements

Access to UniSC computer laboratory for IBM SPSS Statistics, IBM SPSS AMOS, and NVIVO; and/or access to a stable internet connection to access UniSC's virtual machine environment (which then accesses SPSS and NVIVO remotely)

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the [online induction training for students](#), and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

- (a) The final mark is in the percentage range 47% to 49.4%; and
- (b) The course is graded using the Standard Grading scale

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:

- (a) One day: deduct 5%;
- (b) Two days: deduct 10%;
- (c) Three days: deduct 20%;
- (d) Four days: deduct 40%;
- (e) Five days: deduct 60%;
- (f) Six days: deduct 80%;
- (g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:

Less than 15 minutes: No penalty

From 15 minutes to 30 minutes: 20% penalty

More than 30 minutes: 100% penalty

10.4. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: [07 5430 1168](#) or using the [SafeZone](#) app. For general enquires contact the SafeUniSC team by phone [07 5456 3864](#) or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call [07 5430 1226](#) or email studentwellbeing@usc.edu.au.

10.5. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the [Learning Advisers](#) web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.6. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to [Student Hub](#), email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.7. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, [AccessAbility Services](#) can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to [Student Hub](#), email AccessAbility@usc.edu.au or call 07 5430 2890.

10.8. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit <https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.9. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The [Student Charter](#) sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.10. General Enquiries

In person:

- **UniSC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **UniSC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **UniSC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **UniSC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **UniSC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **UniSC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au