COURSE OUTLINE

PSY300 Advanced Methods in Psychology

School: School of Health - Psychology

2023 | Semester 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 acquaints you with a range of advanced statistical techniques used in psychological research, including analysis of variance and covariance, correlation, and simple and hierarchical regression. You will be required to formulate null and alternative hypotheses, identify and describe appropriate statistical techniques and correctly interpret statistical results, including identifying violation of appropriate assumptions and understanding choices for alternative statistical tests or data manipulation strategies. Statistical computing using the SPSS statistical package is an essential part of the course.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – 1 hour online learning materials	1hr	Week 1	13 times
Tutorial/Workshop 1 – 2 hour on campus computer workshop	2hrs	Week 1	13 times

1.3. Course Topics

1. Methods: Research ethics; Stats content: 2-way ANOVA
2. Methods: Assumption testing; Stats content: 2-way ANCOVA
3. Methods: Scales and reliability analysis; Stats content: 2-way repeated measures ANOVA
4. Methods: NHST approach; Stats content: Standard multiple regression
5. Methods: Bayesian approach; Stats content: ANOVA and regression
6. Methods: Qualitative methods; Stats content: Textual analysis
7. Methods: Power, effect size and sample size; Stats content: Odds ratio
8. Methods: Type I error, Type II error and family-wise error, Stats content: Likelihood ratio
9. Methods: Pre-registered studies using Bayses analyses; Stats content: Syntaxt
10. Methods: Types of research (Clinical: OR, Sn/Sp, LR)
11. Methods: Types of research (Observational, correlational, experimental)
12. Methods: Research hypothesis

Summary of Course Competensies:

Design and methodology

1. **NHST testing approaches:**

a. Comparing samples (experimental, quasi-experimental, group differences)

b. Relationships between variables (experimental, non-experimental)

c. Interpretative factors – power, effect size, confidence intervals, sampling, type I and II errors

2. **Non-NHST testing approaches – introductory level**
3. **Qualitative approaches – introductory level**

Analytical techniques (highest level of complexity reached)

1. **ANOVA**

a. 2 way (within, between, interactions and mixed)

b. Covariate (ANCOVA)

c. Repeated measures

2. **Multiple regression**

a. Standard, hierarchical, stepwise, forward and backward

3. **Non-NHST approaches**

a. Odds ratio

b. likelihood ratio

4. **Qualitative – thematic analysis**
5. **Non-parametric analyses**

a. Chi square

6. **Effect size calculation and understanding relationship between power and sample size**

2. What level is this course?

300 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 On successful completion of this course, you should be able to...		GRADUATE QUALITIES Completing these tasks successfully will contribute to you becoming...
1	Demonstrate knowledge of a range of statistical techniques used in psychological research.	Knowledgeable
2	Demonstrate knowledge and competence of SPSS.	Knowledgeable Empowered
3	Select and apply statistical techniques appropriate for the analysis of specific psychological data.	Creative and critical thinker
4	Justify the selection and use of appropriate statistical techniques.	Knowledgeable Empowered
5	Write and present research findings in a scientific fashion.	Empowered

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

PSY200 and PSY201 OR PSY207

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

Practice quizzes, with access to answers, will be provided online in Canvas, aligned appropriately with the content material to be assessed in the first Task assessment in Week 5, in earlier weeks.

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	20%	50 minutes	Week 5	Online Test (Quiz)
All	2	Practical / Laboratory Skills, and Written Piece	Individual	30%	Data analysis and short answer questions (provide the correct statistical result), interpretation through correct response choice.	Week 11	Online Submission
All	3	Examination - Centrally Scheduled	Individual	50%	2 hours	Exam Period	Exam Venue

All - Assessment Task 1: Class test

GOAL:	Demonstrate an understanding of hypothesis testing, statistical techniques and interpretation of statistical results. You will be required to formulate null and alternative hypotheses, identify and describe appropriate statistical techniques and correctly interpret statistical results, including identification of violations of appropriate statistical assumptions
PRODUCT:	Quiz/zes
FORMAT:	The multiple choice test will be open in week 5 through Canvas, Assessments. Once begun, the test will have a limit of 50 minutes for completion. The test will comprise 20 multiple choice questions relating to the coursework presented during weeks 1 to 5.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Correct formulation of null and alternative hypotheses. — 1, 4 2 Identification of appropriate statistical techniques. — 1 3 Correct interpretation of statistical results. — 4
GENERIC SKILLS:	Problem solving, Applying technologies, Information literacy

All - Assessment Task 2: Data Analysis Assignment

GOAL:	Demonstrate the ability to conduct data analysis using SPSS and interpret the findings
PRODUCT:	Practical / Laboratory Skills, and Written Piece
FORMAT:	You will be provided with a data set and instructions via Canvas and required to answer structured questions worth a total of 30 percent of the total marks for the course. Each of the questions/sub-questions will require you to analyse data, provide answers in correct APA format and to interpret the results appropriately. The Assignment instructions and data set will be provided in Week 8.
CRITERIA:	

No.		Learning Outcome assessed
1	Selection of the correct statistical analyses.	1
2	Correct application of analyses chosen.	2 3
3	Correct interpretation of the results of the analyses.	4 5

GENERIC SKILLS:	Communication, Problem solving, Applying technologies, Information literacy

All - Assessment Task 3: Final examination

GOAL:	Demonstrate the ability to select appropriate statistical techniques to data types; demonstrate the ability to interpret statistical output provided. The exam will require the selection of appropriate statistical techniques for analysing different types of data, and the interpretation of statistical output. The examination will cover material drawn from all lectures and computer workshops.
PRODUCT:	Examination - Centrally Scheduled
FORMAT:	You will sit a two-hour examination during the end of semester examination period.
CRITERIA:	

No.		Learning Outcome assessed
1	Selection of the correct statistical analyses.	1 4
2	Correct interpretation of the results of the analyses.	3 4

GENERIC SKILLS:	Communication, Problem solving, Applying technologies, Information literacy

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

There are no required/recommended resources for this course.

8.2. Specific requirements

Access to UniSC laboratories to use SPSS or access to a stable internet connection to use the online laboratory to access SPSS from outside UniSC

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

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

The final mark is in the percentage range 47% to 49.4%
The course is graded using the Standard Grading scale
You have not failed an assessment task in the course due to academic misconduct.

10.3. Assessment: Submission penalties

Late submission of assessment tasks may be penalised at the following maximum rate:
- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day - 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task. Weekdays and weekends are included in the calculation of days late. To request an extension you must contact your course coordinator to negotiate an outcome.

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