

PUB708

Quantitative Research Methods

School: School of Health - Public Health

2024 | Semester 2

Online

ONLINE

You can do this course without coming onto campus.

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

In this course you will develop knowledge, skills and critical thinking in reading, interpreting and conducting quantitative research in the health sciences. The following components of the research process will be addressed: asking research questions, planning quantitative studies, summarising data numerically and graphically, analysis using confidence intervals and hypothesis testing, and reporting the results for an academic audience.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
ONLINE			
Online – 3 hours of structured online learning activities and an optional 1-hour online discussion forum	4hrs	Week 1	13 times

1.3. Course Topics

Introduction to quantitative research

Understanding the format of a quantitative journal article

Gathering and preparing analytical data sets

Introductory use of statistical software (SPSS or Jamovi)

Descriptive statistics (mean, median, standard deviation, interquartile range, bar charts, pie charts, histograms, scatterplots etc)

Confidence intervals and hypothesis testing (proportions, one or two means, chi-squared tests)

Inferential techniques for categorical variables, non-parametric statistics and logistic regression

Analysis of variance

Correlation and regression

Multiple regression basics

2. What level is this course?

700 Level (Specialised)

Demonstrating a specialised body of knowledge and set of skills for professional practice or further learning. Advanced application of knowledge and skills in unfamiliar contexts.

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...	International Union for Health Promotion and Education
1 Develop and plan quantitative studies to answer simple quantitative research questions	Empowered	B.8, 9.1, 9.4
2 Select and produce the appropriate graphical, numerical and statistical analyses (using computer software)	Knowledgeable	6.2, 6.3, 9.1
3 Select, apply and interpret the results of the appropriate statistical technique to analyse quantitative data	Empowered	6.2, 6.3, 9.1
4 Communicate and comprehend the language of research and statistics (including using graphical and numerical information)	Knowledgeable Empowered	4.1
5 Demonstrate professional integrity in planning, interpreting and reporting the results of scientific studies	Ethical	6.2, 9.1, 9.4

* Competencies by Professional Body

CODE	COMPETENCY
INTERNATIONAL UNION FOR HEALTH PROMOTION AND EDUCATION	
B.8	The evidence base and research methods, including qualitative and quantitative methods, required to inform and evaluate health promotion action
4.1	Use effective communication skills including written, verbal, nonverbal, and listening skills
6.2	Use a variety of assessment methods including quantitative and qualitative research methods
6.3	Collect, review and appraise relevant data, information and literature to inform health promotion action
9.1	Identify and use appropriate health promotion evaluation tools and research methods
9.4	Use research and evidence-based strategies to inform practice

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

Students must be enrolled in SC420, SC423 or any PGRD Program

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

SCI110 or SCI201 or CPH261

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

Basic mathematical and statistical skills are assumed.

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

Formative feedback will be provided through weekly practice quizzes.

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%	NA	Refer to Format	Online Submission
All	2	Artefact - Technical and Scientific, and Written Piece	Individual	20%	1000 words	Week 10	Online Submission
All	3	Artefact - Technical and Scientific, and Written Piece	Individual	40%	2000 words	Exam Period	Online Submission

All - Assessment Task 1: Artefact Technical and Scientific (Quiz)

GOAL:	To demonstrate your skills and knowledge in reading and interpretation of quantitative research.				
PRODUCT:	Quiz/zes				
FORMAT:	A mix of short answer and multiple-choice questions in weeks 4 and 8. Further details will be provided on Canvas.				
CRITERIA:	No.				Learning Outcome assessed
	1	Accuracy in interpreting quantitative research			3 4
	2	Accuracy and appropriateness of terminology			4
GENERIC SKILLS:	Problem solving, Information literacy				

All - Assessment Task 2: Research proposal

GOAL:	To demonstrate your knowledge and skills in using the empirical evidence to develop research a question that can be answered through quantitative analysis.		
PRODUCT:	Artefact - Technical and Scientific, and Written Piece		
FORMAT:	A two-page project proposal. Further details will be available on Canvas		
CRITERIA:	No.		Learning Outcome assessed
	1	Quality and accuracy of the research question based on the emperical literature	1
	2	Quality of scholarly communication	4
	3	Quality of the synthesis of the empirical literature to develop a testable research question	1 5
	4	Quality and accuracy of the statistical analyses plan to answer the proposed research question	1 4 5
GENERIC SKILLS:	Communication, Applying technologies, Information literacy		

All - Assessment Task 3: Research report

GOAL:	To demonstrate your knowledge and skills in planning, conducting and reporting quantitative research.		
PRODUCT:	Artefact - Technical and Scientific, and Written Piece		
FORMAT:	Quantitative research report. More details will be made available in Canvas.		
CRITERIA:	No.		Learning Outcome assessed
	1	Quality and accuracy of planning, conducting and reporting quantitative research	1 4 5
	2	Appropriateness and accuracy of descriptive and inferential statistics	2
	3	Quality of scholarly communication	4
GENERIC SKILLS:	Communication, Organisation, 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

You need access to IBM SPSS or Jamovi. If you are familiar with another suitable statistics package, you can contact the Course Coordinator who may approve for you to work with another statistics package; however, under these circumstances no support is likely to be available from USC.

USC supports SPSS on campus computing labs however licensing arrangements do not allow SPSS to be loaded on to student computers. However, it can be accessed online through USC Anywhere. You may wish to explore purchasing an SPSS license from the USC Co-op bookshop, or from other vendors (for example, www.onthehub.com). (At the time of writing, a six-month licence from onthehub for IBM SPSS Statistics Base GradPack version 22 is about \$70.)

Jamovi is an opensource program that can be downloaded for free.

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:

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](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUniSC team by phone [07 5456 3864](tel:0754563864) 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](tel:0754301226) 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