School of Education

UNSW Arts, Design and Architecture

EDST5033, EDST5101

Advanced Quantitative Research

Term 1, 2022

Course Overview

Staff Contact Details

Convenors

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Acknowledgement of Country

UNSW Arts, Design and Architecture Kensington and Paddington campuses are built on Aboriginal Lands. We pay our respects to the Bidjigal and Gadigal peoples who are the Custodians of these lands. We acknowledge the Aboriginal and Torres Strait Islander peoples, the First Australians, whose lands, winds and waters we all now share, and pay respect to their unique values, and their continuing and enduring cultures which deepen and enrich the life of our nation and communities.

Image courtesy of the Office of the Pro Vice-Chancellor Indigenous [UNSW's Indigenous strategy]

Course Details

Units of Credit 6

Workload

150 hours including class contact hours, readings, class preparation, assessment, follow up activities, etc.

Summary of the Course

In this course you will learn about quantitative research methods and data analysis at an advanced level. The course will cover research design, population/sampling selection, construction of data collection tools, various types of data collection methods, and data analysis such as multiple regression and factor analysis. Emphasis will be given to the selection of statistical analyses that would be appropriate for different types of quantitative data.

Course Learning Outcomes

1. Create a set of research questions that can be addressed by quantitative data
2. Select and apply appropriate statistical methods to analyse specific types of quantitative data
3. Use computer software programs to analyse quantitative data
4. Understand key concepts and terminology associated with various quantitative data analysis

Teaching Strategies

Teaching strategies:

The teaching approach attempts to actively engage students as they discuss major issues related to quantitative research design, data collection methods and process, and data analyses. Students will learn statistics not just by mathematical formula but also by understanding how statistical concepts are formulated. Concepts will be presented with plenty of examples. Students will be given problems to solve by calculating statistics by hand for simple data while analyzing complex data using computer software packages.

Rationale:

Quantitative data analysis can be hard for many students. In this course, the attempts will be made to demonstrate how statistical concepts are formulated so that students have deeper appreciation of statistical methods beyond the numbers and outputs typically generated by computer package software. Calculation by hand is essential for students to gain a good sense of how quantitative data are analyzed by a particular method.

Assessment

Assessment task	Weight	Due Date	Course Learning Outcomes Assessed
1. Online quiz	40%	11/03/2022 05:00 PM	1, 2, 4
2. Report	60%	29/04/2022 05:00 PM	3, 4

Assessment 1: Online quiz

Start date: 01/03/2022 05:00 PM
Due date: 11/03/2022 05:00 PM

Task description: Online quiz

Feedback: Students will receive immediate feedback following the quiz.

This is not a Turnitin assignment

Additional details

Students will take an online quiz. There will be 25 items (item format: multiple choices). Most of the questions will be based on the lecture content and the textbook (Field, 2018): Chapters 1 (Introduction) and 8 (Correlation), Carefully read these chapters to do well in the quiz.

Assessment 2: Report

Due date: 29/04/2022 05:00 PM

Task description: Write a report based on a quantiative data analysis

Length: 1500 words

Feedback: Students will receive feedback within 10 business days of submission.

This is the final assessment.

Additional details

- This assessment task will require students to produce output and writing based on SPSS exercises.
- Based on the content covered in class, three sets of data analysis problems will be presented to students to analyse.
- It is expected that students will present descriptive statistics (e.g., Means and Standard deviation) and inferential statistics (e.g., t-test, ANOVA).
- A format of this report is write-up in the results sections of a typical journal article.
- The results should be presented in a couple of tables (in the APA style: American Psychological Association) as well.
- The assessment should include SPSS output files as an appendix.

- Description and interpretation of the data should be accurate, appropriate, concise, and readable.

RUBRIC/FEEDBACK SHEET
EDST5101 ADVANCED QUANTITATIVE RESEARCH
UNSW SCHOOL OF EDUCATION

Assessment Task 1: Online quiz

Specific Criteria	(-)——————————>(+)				
Understanding of the question or issue and the key concepts involved • Demonstrate a clear understanding of statistical testing • Demonstrate a clear understanding of the t-test • Demonstrate a clear understanding of the F-test • Use of appropriate statistical terminology					
Depth of analysis and critique in response to the task • Demonstrate the ability to apply to practical situations • Demonstrate the ability to distinguish the correct and incorrect use of analysis and research design • Alignment between research design and analysis					
Familiarity with and relevance of professional and/or research literature used to support response • Draws upon correct analysis techniques • Understand statistical terminology • Apply statistical terminology to practical scenarios					
Structure and organisation of response • N/A					
Presentation of response according to appropriate academic and linguistic conventions					

Specific Criteria	(-)——————————>(+)				
• N/A					
General comments/recommendations for next time:					

Recommended: **/20 (FL PS CR DN HD)** **Weighting:** **40%**

NB: The ticks in the various boxes are designed to provide feedback to students; they are not given equal weight in determining the recommended grade. Depending on the nature of the assessment task, lecturers may also contextualise and/or amend these specific criteria. The recommended grade is tentative only, subject to standardisation processes and approval by the School of Education Learning and Teaching Committee.

RUBRIC/FEEDBACK SHEET
EDST5101 ADVANCED QUANTITATIVE RESEARCH
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Assessment Task 2: Report

Specific Criteria	(-)——————————>(+)				
Understanding of the question or issue and the key concepts involved • Demonstrate a clear understanding of statistical testing • Demonstrate a clear understanding of the t-test • Demonstrate a clear understanding of the F-test • Use of appropriate statistical terminology					
Depth of analysis and critique in response to the task • Demonstrate a well-thought-out analysis plan • Correct and appropriate analysis design • Alignment between the constructs, research design, and the analysis					
Familiarity with and relevance of professional and/or research literature used to support response • Draws upon correct analysis techniques • Produces correct and appropriate analysis results (in numbers) • Produces correct and appropriate interpretations of the results (in words)					
Structure and organisation of response • Present your ideas clearly • Present your ideas in logical and coherent order					

Specific Criteria	(-)——————————>(+)				
Presentation of response according to appropriate academic and linguistic conventions • Use of language with clarity and coherence • Use of academic writing conventions (e.g., punctuation, spelling, grammar, use of full sentences, capitalization) • Appropriate sentence structure • Appropriate paragraph structure • Appropriate use of headings and subheadings • Appropriate use of tables • APA style: American Psychological Association (tables, references, texts)					
General comments/recommendations for next time:					

Recommended: **/20 (FL PS CR DN HD)** **Weighting:** **60%**

NB: The ticks in the various boxes are designed to provide feedback to students; they are not given equal weight in determining the recommended grade. Depending on the nature of the assessment task, lecturers may also contextualise and/or amend these specific criteria. The recommended grade is tentative only, subject to standardisation processes and approval by the School of Education Learning and Teaching Committee.

Attendance Requirements

School of Education Attendance Requirement

The School of Education (SED) requires students meet a minimum attendance requirement of 80% of all scheduled classes (i.1. lectures, tutorials, workshops, seminars) for all courses. Attendance in person is required for tutorials, seminars, and workshops when course are delivered in face-to-face mode. It is the responsibility of students to ensure that their attendance is recorded for the face to face either by electronic means or via an attendance register. Attendance in online or blended mode will be assessed through digital. Further information can be found here.

Course Schedule

View class timetable

Timetable

Date	Type	Content
Week 1: 14 February - 18 February	Lecture	Introduction: Fundamentals of statistics & Introduction to SPSS **Field (2018) Textbook** • Chapter 1: Why statistics? • Chapter 4: The IBM SPSS Statistics environment
Week 3: 28 February - 4 March	Lecture	Research design and statistical testing using: Correlation & Regression **Field (2018) Textbook** • Chapter 8: Correlation • Chapter 9: The Linear Model (Regression)
Week 5: 14 March - 18 March	Lecture	Research design and statistical testing using: t-tests **Field (2018) Textbook** • Chapter 10: Comparing two means
Week 7: 28 March - 1 April	Lecture	Research design and statistical testing using: Analysis of Variance: Part 1 **Field (2018) Textbook** • Chapter 12: GLM 1: Comparing several independent means
Week 9: 11 April - 15	Lecture	Research design and statistical testing using:

April		Analysis of Variance: Part 2 **Field (2018) Textbook** • Chapter 12: GLM 1: Comparing several independent means

Resources

Prescribed Resources

Readings

Main Textbook

Field, A. (2018). *Discovering statistics using SPSS.* London; Sage.

Supplementary Textbook

Heiman, G. (2011). *Basic statistics for the behavioural sciences*. Belmont, CA: Wadsworth, Cengage Learning

Morgan, G., Leech, N., Gloeckner, G., & Barrett, K. (2011). *IBM SPSS for introductory statistics: Use and interpretation*. New York: Routledge.

Pallant, (2010). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS*. Allen & Unwin.

Recommended Resources

Further Readings

Copies of articles and book chapters will be provided during the lectures.

Submission of Assessment Tasks

Turnitin Submission

If you encounter a problem when attempting to submit your assignment through Turnitin, please telephone External Support on 9385 3331 or email them on externalteltsupport@unsw.edu.au . Support hours are 8:00am – 10:00pm on weekdays and 9:00am – 5:00pm on weekends (365 days a year). If you are unable to submit your assignment due to a fault with Turnitin you may apply for an extension, but you must retain your ticket number from External Support (along with any other relevant documents) to include as evidence to support your extension application. If you email External Support you will automatically receive a ticket number, but if you telephone you will need to specifically ask for one. Turnitin also provides updates on their system status on Twitter.

Generally, assessment tasks must be submitted electronically via either Turnitin or a Moodle assignment. In instances where this is not possible, it will be stated on your course's Moodle site with alternative submission details.

For information on how to submit assignments online via Moodle: https://student.unsw.edu.au/how-submit-assignment-moodle

Academic Honesty and Plagiarism

Plagiarism is using the words or ideas of others and presenting them as your own. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement.

UNSW groups plagiarism into the following categories:

Copying: Using the same or very similar words to the original text or idea without acknowledging the source or using quotation marks. This includes copying materials, ideas or concepts from a book, article, report or other written document, presentation, composition, artwork, design, drawing, circuitry, computer program or software, website, internet, other electronic resource, or another person's assignment without appropriate acknowledgement.

Inappropriate paraphrasing: Changing a few words and phrases while mostly retaining the original information, structure and/or progression of ideas of the original without acknowledgement. This also applies in presentations where someone paraphrases another's ideas or words without credit and to piecing together quotes and paraphrases into a new whole, without appropriate referencing.

Collusion: Working with others but passing off the work as a person's individual work. Collusion also includes providing your work to another student for the purpose of them plagiarising, paying another person to perform an academic task, stealing or acquiring another person's academic work and copying it, offering to complete another person's work or seeking payment for completing academic work.

Inappropriate citation: Citing sources which have not been read, without acknowledging the "secondary" source from which knowledge of them has been obtained.

Duplication ("self-plagiarism"): Submitting your own work, in whole or in part, where it has previously been prepared or submitted for another assessment or course at UNSW or another university.

Correct referencing practices

The UNSW Academic Skills support offers resources and individual consultations. Students are also reminded that careful time management is an important part of study. One of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and proper referencing of sources in preparing all assessment items.

UNSW Library has the ELISE tool available to assist you with your study at UNSW. ELISE is designed to introduce new students to studying at UNSW but it can also be a great refresher during your study. Completing the ELISE tutorial and quiz will enable you to:

- analyse topics, plan responses and organise research for academic writing and other assessment tasks
- effectively and efficiently find appropriate information sources and evaluate relevance to your needs
- use and manage information effectively to accomplish a specific purpose
- better manage your time
- understand your rights and responsibilities as a student at UNSW
- be aware of plagiarism, copyright, UNSW Student Code of Conduct and Acceptable Use of UNSW ICT Resources Policy
- be aware of the standards of behaviour expected of everyone in the UNSW community
- locate services and information about UNSW and UNSW Library

Academic Information

Due to evolving advice by NSW Health, students must check for updated information regarding online learning for all Arts, Design and Architecture courses this term (via Moodle or course information provided.)

For essential student information relating to:

- requests for extension;
- late submissions guidelines;
- review of marks;
- UNSW Health and Safety policies;
- examination procedures;
- special consideration in the event of illness or misadventure;
- student equity and disability;
- and other essential academic information, see

https://www.unsw.edu.au/arts-design-architecture/student-life/resources-support/protocols-guidelines

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