

**EDUC6050: Educational Research Methodology 1:
Quantitative**

Online

Semester 1 - 2024



OVERVIEW

Course Description Offers students skill development in quantitative methods of the collection, analysis and reporting of research data, including introduction to the statistical software package SPSS. Analyses of data and hypothesis testing are undertaken using basic descriptive and inferential statistical procedures.

Assumed Knowledge EDUC6048

Contact Hours **Online Integrated Learning Session**
Online
2 hour(s) per Week for Full Term

Unit Weighting 10

Workload Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

COURSE OUTLINE

CONTACTS

Course Coordinator **Online**
Dr Zara Ersozlu
zara.ersozlu@newcastle.edu.au

Consultation: Please email for an appointment

Teaching Staff N/A

School Office **School of Education**
V Building
Callaghan
Education@newcastle.edu.au
+61 2 4921 6428

SYLLABUS

Course Content

- Collection and coding of data.
- Descriptive analyses using frequency tables and graphs, and cross tabulations.
- Use of summary measures such as the mean and median, and measures of dispersion, skew and kurtosis of distributions.
- Differences between means using t-tests and simple analysis of variance.
- Interpretation of analyses, and report writing using tables and graphical presentations.

Course Learning Outcomes

On successful completion of this course, students will be able to:

1. Decide an appropriate approach to and method of data collection.
2. Determine an appropriate method of analysis.
3. Describe and analyse group data using the statistical package SPSS.
4. Interpret the results of analysis and write reports of results.

Course Materials

Other Resources:

- SPSS software

Required Text:
Field, A. (2013). Discovering statistics using IBM SPSS Statistics (5th ed.). London: Sage

SCHEDULE

Week	Week Begins	Topic	Learning Activity	Assessment Due
1	26 Feb	Introduction: Types of measurement and variables, central tendencies, dispersion, distributions	Chapter 1* Weekly recorded 'tutorials' will be provided online at a time to be determined.	
2	4 March	Theory testing, standard error, confidence intervals	Chapter 2	
3	11 March	NHST tests, Effect Sizes, introduction to Bayesian logic	Chapter 3	
4	18 March	SPSS introduction & exploring data using graphs	Chapters 4 & 5	
5	25 March	Bias	Chapter 6	
6*	1 April	Introduction to non-parametric models	Chapter 7	
7	8 April	Correlation	Chapter 8	Assignment 1 due
Mid Term Break				
Mid Term Break				
8	29 April	Linear model: Regression 1	Chapter 9	Formative Draft Plan for Final Assignment (submit for feedback no later than week 8)
9	6 May	Comparing two means (t-tests, boot strapping)	Chapter 10	
10	13 May	Mediation, Moderation, Regression 2	Chapter 11	
11	20 May	Comparing several independent means: GLM1	Chapter 12	
12	27 May	GLM 2- GLM 5	Chapters 12-16	
13	3 June	Categorical outcome data	Chapter 19-20	Assignment 2 Due
Examination Period				
Examination Period				

*Easter Monday and Tuesday.

ASSESSMENTS

This course has 2 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Assignment 1	End of Week 7	Individual	50%	2, 3, 4
2	Assignment 2	End of Week 13	Individual	50%	1, 2, 3, 4

Late Submissions

The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

*Students are encouraged to begin self-introduction to using the software package, SPSS, as soon as possible. Chapter 4 of the text provides that introduction. Chapter designation here based on the 5th edition

Assessment 1 - Assignment 1

Assessment Type Purpose

Written Assignment

Analyse a data set and respond to research questions provided. Produce a research report with supporting statistical evidence.

Description

Using a data set (provided, access via Canvas), you are required to produce a report that responds to prescribed questions that require basic descriptive statistical analysis.

	For each question, use both numeric and graphic representations to present what you find, and explain your results and interpretations textually (in prose exposition).
Weighting	50%
Length	2250 words or equivalent
Due Date	End of Week 7
Submission Method	Online Via Turnitin Portal
Assessment Criteria	Appropriate application of methods for whole sample results; Descriptive Analysis of Group Data; Interpretation
Return Method	Online
Feedback Provided	Online - As per University policy.

Assessment 2 - Assignment 2

Assessment Type	Written Assignment
Purpose	To provide students with the opportunity to apply an intermediate statistical analysis in a substantive report.
Description	Use either the data set provided or one of your own. There are four steps to this task:

- 1) Select a data set for analysis (a data set will be made available for those who don't have their own data set)
- 2) Devise research questions
- 3) Analyse data set to obtain answers
- 4) Produce a report supported by statistical evidence

Weighting	50%
Length	2250 words or equivalent
Due Date	End of Week 13
Submission Method	Online Via Turnitin Portal
Assessment Criteria	Rationale for selection of dataset; Quality of devised research questions; Data analysis; Reporting
Return Method	Online
Feedback Provided	Online - As per University policy.

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.

0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.
------	-----------	---

*Skills are those identified for the purposes of assessment task(s).

Communication Methods

Communication methods used in this course include:

- Email: Students will receive communications via their student email account.
- Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site.

Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

Oral Interviews (Vivas)

As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the [Oral Examination \(viva\) Procedure](#). In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the [Student Conduct Rule](#).

Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to <https://policies.newcastle.edu.au/document/view-current.php?id=35>.

Adverse Circumstances

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:

1. the assessment item is a major assessment item; or
2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system;
3. you are requesting a change of placement; or
4. the course has a compulsory attendance requirement.

Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at:

<https://policies.newcastle.edu.au/document/view-current.php?id=236>

Important Policy Information

The 'HELP for Students' tab in UoNline contains important information that all students should be familiar with, including various systems, policies and procedures.

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.

© 2024 The University of Newcastle, Australia

