Nonparametric Statistics – 6545

Unit Outline 2009

Faculty of Information Sciences and Engineering

University of Canberra

Australian Government Higher Education (CRICOS)
Registered Provider number: #00212K

This Unit Outline must be read in conjunction with:

a) *Studying at the University of Canberra: A Guide to Policies and Procedures*, which sets out University-wide policies and procedures, including information on matters such as plagiarism, grade descriptors, moderation, feedback and deferred exams, and is available at http://www.canberra.edu.au/student-services

b) *Guide to Student Services at the University of Canberra*, and is available at http://www.canberra.edu.au/student-services

c) Any additional information specified in section 6f.

1: General Information

1a **Unit title:** *Nonparametric Statistics*
1b **Unit number:** *6545*
1c **Semester and year offered:** *Semester 2, 2009*
1d **Credit point value:** *3*
1e **Unit level:** *3*
1f **Name of Unit Convener and contact details (including telephone and email)**

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1g **Administrative contact details (including name, location, telephone and email)**

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2: Academic Content

2a Unit description and learning outcomes

This unit deals with the analysis of data for which nonparametric methods are indicated. Topics include a revision of statistical inference; the analysis of categorical data using chi-square; and nonparametric methods for single samples and for two-sample comparisons.

A student will be expected to be able to choose the appropriate statistical analysis, for a given data set, from a range of standard methods; use a statistical computer package to carry out chosen analyses; detect and allow for violations of the assumptions on which analyses are based; and present the results of analyses in a form which is suitable for publication.

This unit primarily addresses the UC graduate attributes stated in the following terms.

1. ***Information Literacy and Numeracy***
Graduates are expected to be able to locate, identify, collate, analyse, manipulate, evaluate, interpret and present information and numerical data.

2. ***Information and Communication Technology***
Graduates are expected to be able to select and use appropriate information and communication technology to retrieve, manipulate and present information.

3. ***Problem Solving***
Graduates are expected to be able to:

(a) identify problems and analyse the main features of problems relevant to their professional field;

(b) apply appropriate problem solving processes, arguments, critical and creative thinking;

(c) implement and evaluate strategies for the resolution of problems;

2b Prerequisites and/or co-requisites

Introduction to Statistics or Business Statistics.

3: Delivery of Unit and Timetable

3a Delivery mode

Standard face-to-face teaching at UC Bruce campus**.**

	Day	**Time**	**Room**
Lecture A	Tuesday	11:30 - 13:30	11B24
Tutorial	Thursday	10:30 - 12:30	11A46

There are no computer laboratories/tutorials in week 1 or during the class free period.

3b Schedule of topics/lectures/tutorials/practicals/field classes by week

Week	Activity. Minor variations to the sequence of activities may occur.
1	Introduction and review
2	Single sample
3	Two independent samples
4	Two related samples
5	Chi-square tests
6	Three or more independent samples
7	TEST
8	No classes
9	No classes
10	Three or more related samples
11	Goodness-of-fit tests
12	Rank correlation
13	Other measures of association
14	Simple linear regression
15	Revision

4: Unit Resources

4a Lists of required texts/readings

W.W. Daniel (1990). *Applied Nonparametric Statistics*. Duxbury Classic Series. This book will be available from the Co-op Bookshop for around $90. The University library has 1 copy, on 7 day loan: the call number is QA278.8 D36 1990. It also has a copy of an earlier edition that is not very different.

R.H. Morton (1978). *Comprehensive Statistical Tables - Volume 1: Basic and Volume 2: Advanced*. Canberra: University of Canberra. Volume 1 is available from the UC publications section of the Co-op Bookshop and Volume 2 will be distributed in class.

4b Materials and equipment

Scientific calculator; access to Building 11 PC laboratories.

4c Unit website

The unit website is accessed through Moodle.

5: Assessment

5a Assessment overview

Assessment Item	Material covered	Details	Due	Weighting
Assignment 1	Weeks 1-4	Perform statistical analyses using SPSS or SAS and other methods	Friday of week 5	15%
Mid semester test	Weeks 1-6	Perform statistical analyses, interpret SPSS or SAS output	Thursday of week 7	20%
Assignment 2	Weeks 6-7, 10-12	Perform statistical analyses using SPSS or SAS and other methods	Friday of week 13	15%
Final Examination	Weeks 1-7, 10-15	Perform statistical analyses, interpret SPSS or SAS output	Examination Period	50%

In order to pass this unit you must complete and submit each item of coursework, complete the examination and achieve an overall mark of at least 50 per cent of the total available marks.

Assignment 1
It may be done in pairs. It covers weeks 1-4 and students will use a computer package or calculator to perform statistical analyses.

Mid semester test
It will take place in the PC lab in building 11. It covers weeks 1-6 and students will use a computer package or calculator to perform statistical analyses. Permitted materials are pens, rulers, calculators, handouts and **two A4** sides of notes. Statistical tables will be supplied. No textbooks are allowed (hard copy or electronic).

Assignment 2
It may be done in pairs. It covers weeks 6-12 and students will use a computer package or calculator to perform statistical analyses.

End-of-semester Examination
The three-hour **end-of-semester exam** will be held during the University examination period. This exam covers the whole semester, and students will interpret computer output provided and use a calculator to perform statistical analyses. Permitted materials are pens, rulers, calculators and **four A4** sides of notes. Statistical tables will be supplied. No textbooks are allowed (hard copy or electronic).

5b Details of each assessment item

Provided above.

5c Special assessment requirements

If you meet the condition for a pass, your grade will be awarded on the basis of a possibly scaled unit mark using the weightings given above. As a guide, grades consistent with the descriptors for P, CR, DI and HD are as follows:

Grade	*Numerical Equivalent*
HD	85 – 100
DI	75 – 84
CR	65 – 74
P	50 – 64

5d Supplementary assessment

Students are referred to the University policy at https://guard.canberra.edu.au/cocoon/policydb/downloadSelect?DocumentReferenceId=388

5e Text-matching software

It is not expected that text-matching software will be used in this unit.

6: Student Responsibility

6a Workload

The amount of time you will need to spend on study in this Unit will depend on a number of factors including your prior knowledge, learning skill level and learning style. Nevertheless, in planning your time commitments you should note that for a 3cp Unit the total notional workload over the fifteen week semester is assumed to be 150 hours or an average of 10 hours per week. These hours include time spent in classes. The total workload for Units of different credit point value should vary proportionally. For example, for a 6cp Unit the total notional workload over a fifteen week semester is assumed to be 300 hours or an average of 20 hours per week.

6b Special needs

Students who need assistance in undertaking the unit because of disability or other circumstances should inform their Unit Convener or the Disabilities Office as soon as possible so the necessary arrangements can be made.

6c Attendance requirements

Attendance at lectures and tutorials is not a condition for receiving a Pass grade or better.

6d Required IT skills

Some familiarity with basic computer use is assumed.

6e Costs

Purchase of the textbook and some printing costs are possible. You will be expected to have or to purchase a basic scientific calculator.

6f Additional information

None

7: Student Feedback

All students enrolled in this Unit will have an opportunity to provide anonymous feedback on the Unit at the end of the Semester via the Unit Satisfaction Survey which will be presented to you on OSIS. Your lecturer or tutor may also invite you to provide more detailed feedback through an anonymous questionnaire administered through the University's Centre for the Enhancement of Learning Teaching and Scholarship (CELTS).

8: Authority of this Unit Outline

Any change to the information contained in Section 2 (Academic content), Section 3 (Delivery of Unit and Timetable) and Section 5 (Assessment) of this document, will only be made by the Unit Convener if the written agreement of staff and a majority of students has been obtained; and if written advice of the change is then forwarded to each student enrolled in the Unit at their registered term address. Any individual student who believes him/herself to be disadvantaged by a change is encouraged to discuss the matter with the Unit Convener.