MACQUARIE UNIVERSITY | FACULTY OF BUSINESS AND ECONOMICS

ACCG860
Quantitative Methods

UNIT OUTLINE

Year and Semester: **2010 Semester 1**

Unit convenors: Anne Karpin and Jenny Middledorp

Students in this unit should read this unit outline carefully at the start of semester. It contains important information about the unit. If anything in it is unclear, please consult one of the teaching staff in the unit.

ABOUT THIS UNIT

- Unit Value: Three credit points
- This unit aims to convey an understanding of the quantitative and statistical techniques that are frequently used in accounting and financial studies. The techniques require logical reasoning, objective analysis and inference based on empirical evidence. Essential statistical techniques such as probability, sampling, measurement, correlation, regression, analysis of variance, non parametric methods and hypothesis testing are covered. A statistical package is used to analyse data and produce statistical reports.

TEACHING STAFF

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Students who wish to contact any of the teaching staff should do so in the first instance by email.

CLASSES

- 3 hours face-to-face teaching per week consisting of a mixture of lecture and practical classes
- The timetable for classes can be found on the University web site at:

  http://www.timetables.mq.edu.au/

- Students will only be permitted to change classes if authorised by the administrative staff in accounting and if a computer terminal is available in their desired class time.

REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS

There are no set texts. Lecture notes will be provided on each topic and will be posted on Blackboard. Students should make sure they download the lectures each week and bring them to class.
Reference books available in the library are as follows:

- The Practice of Business Statistics by Moore, McCabe, Duckworth and Alwan
- Introduction to Business Statistics by Weiers, Ronald M.
- Australian Business Statistics by Selvanathan, Selvanathan, Keller and Warrack
- Essentials of Business Statistics by Bowerman, O'Connell and Orris
- Statistics for Business and Economics by McClave, Benson and Sincich
- Business Statistics: A Decision Making Approach by Grobner, Shannon, Fry and Smith
- Statistics for Managers by Levine, Stephan, Krehbiel and Berenson

UNIT WEB PAGE

The web page for this unit can be found at:

http://www.accg.mq.edu.au/postgraduate/course_units/accg860

LEARNING OUTCOMES

An important objective of the unit is to develop written and verbal communication skills of students. In particular, students will:

- Interpret questions which require statistical analysis and recognise the appropriate statistical procedure to apply in each case.
- Interpret statistical output and write up conclusions based on the output which are relevant to the original problem.
- Develop generic skills, in particular analytical, critical, problem-solving, creative thinking and interpersonal skills.

In addition to the discipline-based learning objectives, all academic programs at Macquarie seek to develop students' generic skills in a range of areas. One of the aims of this unit is that students develop their skills in the following:

Foundation skills of literacy, numeracy and information technology
Communication skills
Critical analysis skills
Problem-solving skills

TEACHING AND LEARNING STRATEGY

New material will be introduced in each lecture. During practical classes students are expected to work on problems based on the material presented in lectures and to write up relevant conclusions and summarise results. Students are expected to have read through the material to be covered in lectures each week. Course material will be made available online using Blackboard which can be accessed at:

http://learn.mq.edu.au.

A week-by-week list of the topics to be covered is available at the end of this document.

RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING OUTCOMES

The following weightings apply for unit assessment:

	%
Diagnostic Test	5
Assignments	10
Mid Semester Test	15
Practical Test	10
Final Examination	60
	100

Diagnostic Test
The diagnostic test, which students will be required to complete in Week 5, is designed to give feedback to students regarding their progress. It will cover materials presented in the first four weeks.

Assignments
Each assignment requires students to assimilate the procedures, content and methodology covered in the preceding weeks and to apply these to solving the problems presented. If students have satisfied all the objectives for particular topics they will be able to successfully complete the assignment work based on these topics. Model solutions will be provided.

There will be two assignments. They will be posted on Blackboard two weeks before their due dates. Each assignment is worth 5% and must be completed in groups of three students. Allocation of marks for each assignment is on a pass/fail basis. A mark of at least 70% on an assignment is required for a passing grade, in which case the full percentage will be allocated to each student. If the assignment is given a mark below 70% then no marks are awarded. Each student should work on the entire assignment independently in the first instance and discuss their solutions with their group members before writing up a joint assignment for submission. Assignments must be presented as word-processed documents. Assignments are due at the beginning of your lectures in weeks 6 and 10 and should be submitted to your lecturer. Late assignments will not be accepted without written evidence of illness or misadventure. Assignments will be returned to students within two weeks of submission.

Each assignment that is submitted should be the work of one group of students only. If there is evidence of collusion between assignment groups, this will be considered as plagiarism. Under these circumstances, all students involved will receive a mark of zero for the assignment.

Mid Semester Test
Students will be required to sit a mid semester test which will be held during the mid semester break and it will cover all material up to and including Week 6. The mid semester test is designed to reinforce concepts introduced in the first six weeks of the unit.

Practical Test
The practical test will be held during class in Week 13. It will examine students on the use of the statistical package MINITAB used in this unit.

Examination
A three-hour written final examination will be held during the examination period. Students may bring into the exam two (2) A4 pages of notes hand written on both sides. Note that dictionaries are not allowed in the exam.

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

http://www.timetables.mq.edu.au/exam

The University Examination period in First Half Year 2010 is from 7 June to 28 June.
You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations. http://www.timetables.mq.edu.au/exam

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the special consideration process is available at http://www.reg.mq.edu.au/Forms/APSCon.pdf

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of the official examination period. (Individual Divisions may wish to signal when the Division's Supplementaries are normally scheduled.)

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester that is the final day of the official examination period.

PLAGIARISM

The University defines plagiarism in its rules: "Plagiarism involves using the work of another person and presenting it as one's own." Plagiarism is a serious breach of the University's rules and carries significant penalties. You must read the University's practices and procedures on plagiarism. These can be found in the *Handbook of Undergraduate Studies* or on the web at: http://www.student.mq.edu.au/plagiarism/

The policies and procedures explain plagiarism, how to avoid it, the procedures that will be taken in cases of suspected plagiarism, and the penalties if you are found guilty. Penalties may include a deduction of marks, failure in the unit, and/or referral to the University Discipline Committee.

UNIVERSITY POLICY ON GRADING

Academic Senate has a set of guidelines on the distribution of grades across the range from fail to high distinction. Your final result will include a grade and a standardised numerical grade (SNG).

On occasion your raw mark for a unit (i.e., the total of your marks for each assessment item) may not be the same as the SNG which you receive. Under the Senate guidelines, results may be scaled to ensure that there is a degree of comparability across the university, so that units with the same past performances of their students should achieve similar results.

It is important that you realise that the policy does not require that a minimum number of students are to be failed in any unit. In fact it does something like the opposite, in requiring examiners to explain their actions if more than 20% of students fail in a unit. The process of scaling does not change the order of marks among students. A student who receives a higher raw mark than another will also receive a higher final scaled mark.

For an explanation of the policy see
http://www.mq.edu.au/senate/MQUonly/Issues/Guidelines2003.doc or
http://www.mq.edu.au/senate/MQUonly/Issues/detailedguidelines.doc.

STUDENT SUPPORT SERVICES

Macquarie University provides a range of Academic Student Support Services. Details of these services can accessed at http://www.student.mq.edu.au.

Semester 1 2010
UNIT SCHEDULE

Week commencing	**Week**	**Topics Covered**	**Assessment Due**
22 February	1	Introduction to Statistics	
1 March	2	Data Display and Numerical Summaries	
8 March	3	Probability and Distributions	
15 March	4	Sampling Distributions	
22 March	5	Estimation & Confidence Intervals	**Diagnostic Test**
29 March	6	Testing Hypotheses - Single Samples	Assignment 1
SEMESTER BREAK: 2 April (Easter Friday) – 18 April **Mid Semester Test**			
19 April	7	Testing Hypotheses - Two Samples	
26 April	8	Analysis of Variance	
3 May	9	Correlation and Regression I	
10 May	10	Correlation and Regression II	Assignment 2
17 May	11	Analysing Categorical Data	
24 May	12	Non-parametric Methods	
31 May	13	Revision	**Practical Test**