



# ACCG615

## Quantitative Methods

S1 Day 2014

*Dept of Accounting & Corporate Governance*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

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Credit points

4

Prerequisites

Admission to MAcc(CPA) or MAcc(Prof) or MAcc(Prof)MCom

Corequisites

Co-badged status

Unit description

This unit is intended to provide a sophisticated level of understanding and application of the quantitative and statistical techniques which are frequently used in accounting and financial studies. This unit develops logical reasoning, objective analysis, and inferences based on empirical evidence. Statistical techniques such as probability, sampling, measurement, correlation, regression and hypothesis testing are covered and applied.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

Understand the general principles of sampling and study design.

Summarise data graphically and numerically using appropriate techniques.

Interpret questions which require statistical analysis and recognise the appropriate statistical procedure to apply in each case.

Use a statistical package to analyse data and answer research questions. Interpret statistical output and write up reports based on the output.

Use critical thinking and problem solving skills to deal with scenarios involving statistics.

Work cooperatively as a team member to develop communication and problem solving skills.

## Assessment Tasks

| Name               | Weighting | Due                           |
|--------------------|-----------|-------------------------------|
| <u>Assignments</u> | 10%       | Semester break and Week 11    |
| <u>Quizzes</u>     | 10%       | Weekly                        |
| <u>Class Test</u>  | 20%       | Week 13                       |
| <u>Final Exam</u>  | 60%       | University Examination Period |

### Assignments

Due: **Semester break and Week 11**

Weighting: **10%**

These assignments are due during the break and in week 11. Each assignment is worth 5%. Each assignment is to be completed in a group of three or four students. It is expected that each student will work on each assignment independently in the first instance and discuss their solution with their group members before writing up a joint assignment for submission. Each student will need to identify their contribution to each of the assignments.

Assignments must be submitted as word processed documents and submitted online.

Model solutions will be available on iLearn.

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- Use a statistical package to analyse data and answer research questions. Interpret statistical output and write up reports based on the output.
- Use critical thinking and problem solving skills to deal with scenarios involving statistics.
- Work cooperatively as a team member to develop communication and problem solving skills.

### Quizzes

Due: **Weekly**

Weighting: **10%**

There will be 12 online quizzes.

Six of the online quizzes are Practical Quizzes. Practical Quiz 1 will be due in Week 1 and will

not count towards the final assessment. Practical Quizzes 2 to 6, which are each worth 1%, will be due in weeks 3, 5, 7,9 and 12. These quizzes are designed to test students' use of the statistical package, MINITAB.

The other six online quizzes are Diagnostic Quizzes. These are short answer quizzes. Diagnostic Quiz 1 will be due in Week 2 and will not count towards the final assessment. Diagnostic Quizzes 2 to 6, which are each worth 1%, will be due in weeks 4, 6, 8, 10 and 12. These quizzes provide feedback on students' progress.

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- Use a statistical package to analyse data and answer research questions. Interpret statistical output and write up reports based on the output.
- Use critical thinking and problem solving skills to deal with scenarios involving statistics.

## Class Test

Due: **Week 13**

Weighting: **20%**

This is an online practical test using the statistical package, MINITAB. The test will be held during class in Week 13. Students will be assessed and graded on topics from Weeks 1 to 12. Marks will be provided on iLearn.

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- Interpret questions which require statistical analysis and recognise the appropriate statistical procedure to apply in each case.
- Use a statistical package to analyse data and answer research questions. Interpret statistical output and write up reports based on the output.

## Final Exam

Due: **University Examination Period**

Weighting: **60%**

A final examination is included as an assessment task for this unit to provide assurance that:

- i. the product belongs to the student and
- ii. the student has attained the knowledge and skills tested in the exam.

A three hour final examination for this unit will be held during the University Examination period. Students are permitted to take one A4 page of notes, handwritten on both sides, into the exam. Students are permitted to take any calculator into the final exam.

It should be noted that students must pass the final exam in order to pass the unit, regardless of their performance on other assessment tasks.

The University Examination period in Session 1, 2014 is from 16 June to 4 July.

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 exams.

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. A link to the University's policy on special consideration process is available in the Policies and Procedures section in this Unit Guide.

If a supplementary examination is granted as a result of the Special Consideration process the examination will be scheduled as per the supplementary examination period of the faculty. Please note that the supplementary examination will have a similar format to the final examination.

The Macquarie university examination policy details the principles and conduct of examinations at the University. Links to all relevant policies may be found in the Policies and Procedures section of the Unit Guide.

On successful completion you will be able to:

- Summarise data graphically and numerically using appropriate techniques.
- Interpret questions which require statistical analysis and recognise the appropriate statistical procedure to apply in each case.
- Use a statistical package to analyse data and answer research questions. Interpret statistical output and write up reports based on the output.
- Use critical thinking and problem solving skills to deal with scenarios involving statistics.

## **Delivery and Resources**

### **Contacting staff**

Where possible, staff will answer questions by email. Students experiencing significant difficulties with any topic in the unit should seek assistance immediately. Staff will advise their consultation hours at the beginning of semester.

### **Classes**

There are three hours face-to-face teaching per week consisting of a mixture of lecture and practical classes. The timetable for classes can be found at:

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

Monday 9 June in week 13 is a public holiday. Students who normally attend Monday classes will need to attend an alternative class in that week and this will be arranged by the lecturers.

## **Required and Recommended texts and/or materials**

Required Text:

Selvanathan, E.A., Selvanathan, S. & Keller, G. (2014) Business Statistics: Australia/New Zealand (6th Edition). Cengage Learning Australia

The textbook is also available as an ebook at:

<http://www.cengagebrain.com.au/shop/en/AU/storefront/australia?cmd=CLHeaderSearch&fieldValue=9780170237000>

Recommended Texts:

Statistics for Management and Economics by Keller, G.

The Practice of Business Statistics by Moore, McCabe, Duckworth & Alwan

Australasian Business Statistics by Black, et al

## **Technology Used and Required**

The statistical package MINITAB will be used and students will learn to analyse data using MINITAB. The package can be downloaded onto students' home computers from the Student Portal.

## **Unit Web Page**

The web page for this unit can be found at:

[http://www.accg.mq.edu.au/postgraduate/course\\_units/accg615](http://www.accg.mq.edu.au/postgraduate/course_units/accg615)

Unit materials, assignments, solutions, announcements and other relevant information can be found on iLearn and students should visit this site regularly at:

<http://iLearn.mq.edu.au>

## **Learning and Teaching Activities**

New material will be introduced in each lecture. During practical classes students will work on problems based on the material presented in lectures and write up relevant summaries of results. These summaries will be used by students to complete the online Practical Quizzes. Students are expected to have read through the material to be covered in class each week. Course material will be available on iLearn.

A week-by-week list of topics is provided in this Unit Guide

## **IT Conditions of Use**

Access to all student computing facilities within the Faculty of Business and Economics is restricted to authorised coursework for approved units. Student ID cards must be displayed in the locations provided at all times.

Students are expected to act responsibly when using University IT facilities. The following regulations apply to the use of computing facilities and online services:

Accessing inappropriate web sites or downloading inappropriate material is not permitted. Material that is not related to coursework for approved units is deemed inappropriate.

Downloading copyright material without permission from the copyright owner is illegal, and strictly prohibited. Students detected undertaking such activities will face disciplinary action, which may result in criminal proceedings.

Non-compliance with these conditions may result in disciplinary action without further notice.

Students must use their Macquarie University email addresses to communicate with staff as it is University policy that the University issued email account is used for official University communication.

## Unit Schedule

| Week Commencing | Week | Topics Covered   | Textbook Chapter  | Assessment Due |
|-----------------|------|--|---|----------------|
| 3 March         | 1    | Introduction to Statistics<br><br>Graphical Techniques | 1, 2 and 3<br><br>4 (omit pp89-91, 97-99, 4.2)<br><br>(4.4 is optional) | PQ1            |
| 10 March        | 2    | Numerical Descriptive Summaries                        | 5 (omit pp152-153, 5.4, 5.5)  | DQ1            |
| 17 March        | 3    | Probability<br><br>Probability Distributions           | 6 (omit 6.5)<br><br>7 (omit 7.4, 7.5, 7.7)<br><br>8 (omit 8.4)          | PQ2            |
| 24 March        | 4    | Sampling Distributions                                 | 9<br><br>10   | DQ2            |
| 31 March        | 5    | Estimation<br><br>Confidence Intervals                 | 11 (omit 11.5)<br><br>12 (omit 12.3, 12.4)                              | PQ3            |

|  |    |  |  |                                  |
|--|----|--|--|----------------------------------|
| 7 April  | 6  | Testing Hypotheses:<br>Single Samples          | 13 (omit 13.5, 13.6)<br>21 (21.2)  | DQ3                              |
| Semester Break:<br>12 - 27 April   |    |  |  | Assignment 1                     |
| 28 April   | 7  | Testing Hypotheses:<br>Two Samples             | 14 (omit 14.3)<br>21 (21.1)  | PQ4                              |
| 5 May  | 8  | Analysis of Variance                           | 16 (16.1, 16.2)<br>21 (21.3: KW test only)   | DQ4                              |
| 12 May   | 9  | Categorical Data Analysis                      | 13 (13.6)<br>17 (17.3 is optional)   | PQ5                              |
| 19 May   | 10 | Simple Linear Regression                       | 18 (omit 18.3, pp728-730, 18.5, 18.6)  | DQ5                              |
| 26 May   | 11 | Assessing Linear Models<br>Multiple Regression | 5 (5.5)<br>18 (18.4, 18.5, 18.6)<br>19 (omit pp778-779, 19.4)<br><br>Lecture notes for model reduction | Assignment 2                     |
| 2 June   | 12 | Multiple Regression continued                  | 20 (omit 20.4, 20.6)   | PQ6<br>DQ6                       |
| 10 June<br><br>Monday 9 June is a public holiday. Please see the Delivery and Resources section for more information regarding class arrangements for that week. | 13 | Revision                                       | 22   | Class test using MINITAB package |

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to



Learning and Teaching:

Academic Honesty Policy [http://mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy [http://mq.edu.au/policy/docs/grievance\\_management/policy.html](http://mq.edu.au/policy/docs/grievance_management/policy.html)

Disruption to Studies Policy [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of Policy Central.

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: [https://students.mq.edu.au/support/student\\_conduct/](https://students.mq.edu.au/support/student_conduct/)

## Grades

Macquarie University uses the following grades in coursework units of study:

HD - High Distinction

D - Distinction

CR - Credit

P - Pass

F - Fail

Grade descriptors and other information concerning grading are contained in the Macquarie University Grading Policy which is available at:

<http://www.mq.edu.au/policy/docs/grading/policy.html>

## Grading Appeals and Final Examination Script Viewing

If, at the conclusion of the unit, you have performed below expectations, and are considering lodging

an appeal of grade and/or viewing your final exam script please refer to the following website which

provides information about these processes and the cut off dates in the first instance. Please read

the instructions provided concerning what constitutes a valid grounds for appeal before appealing

your grade.

[http://www.businessandconomics.mq.edu.au/new\\_and\\_current\\_students/undergraduate\\_current\\_students/how\\_do\\_i/grade\\_appeals/](http://www.businessandconomics.mq.edu.au/new_and_current_students/undergraduate_current_students/how_do_i/grade_appeals/)

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

## IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use Policy](#). The policy applies to all who connect to the MQ network including students.

## Research and Practice

This unit uses research from external sources.

This unit gives you practice in applying research findings in your assignments.

## Changes since First Published

| Date       | Description  |
|------------|--|
| 04/03/2014 | Dates for 2014 Session 1 examination period have been corrected. |

