



ACCG615

Quantitative Methods

MQC S1 Evening 2014

Dept of Accounting & Corporate Governance

Contents

| | |
|--------------------------------|----|
| <u>General Information</u> | 2 |
| <u>Learning Outcomes</u> | 2 |
| <u>Assessment Tasks</u> | 3 |
| <u>Delivery and Resources</u> | 6 |
| <u>Unit Schedule</u> | 7 |
| <u>Policies and Procedures</u> | 8 |
| <u>Research and Practice</u> | 14 |
| <u>Table of Content</u> | 14 |

Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff

Unit Convenor

Balamehala Pasupathy

balamehala.pasupathy@mq.edu.au

Contact via balamehala.pasupathy@mq.edu.au

Moderator

Amy Tung

manamy.tung@mq.edu.au

Contact via manamy.tung@mq.edu.au

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.

On successful completion 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.

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.

On successful completion 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.

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.

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.

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 2, 2013 is from 11 November to 29 November.

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 on the MQC Student Portal at <https://student.mqc.edu.au>

Required and Recommended texts and/or materials

Required Text:

Selvanathan, E.A., Selvanathan, S. & Keller, G. (2014) Business Statistics: Australia/New Zealand (6th Edition). Centage 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 Macquarie University Student Portal.

Unit Webpage

Unit materials, assignments, solutions, announcements and other relevant information can be found on iLearn for the unit at <http://iLearn.mq.edu.au> . Students should visit this site regularly.

Your log-in details for iLearn are the same as your e-student username and password. Should you have any technical difficulties logging in, including password resets, you will need to contact the IT Helpdesk on 9850 4357 or log onto OneHelp via the website <http://mq.edu.au/onehelp/index.html> to log a support request.

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 University 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 |
|-----------------|------|--|--|----------------|
| 3rd March | 1 | Introduction to Statistics Graphical Techniques | 1,2 and 3 4 (omit pp 89-91, 4.2) (4.4 is optional) | PQ1 |
| 10th March | 2 | Numerical Descriptive Summaries | 5 (omit pp 152,153,5.4,5.5) | DQ1 |
| 17th March | 3 | Probability Probability Distributions | 6 (omit 6.5) 7 (omit 7.4, 7.5, 7.7) 8 (omit 8.4) | PQ2 |
| 24th March | 4 | Sampling Distributions | 9 10 | DQ2 |

| | | | | |
|--|----|--|--|----------------------------------|
| 31st March | 5 | Estimation Confidence Intervals | 11 (omit 11.5) 12 (omit 12.3, 12.4) | PQ3 |
| 7th April | 6 | Testing Hypotheses; Single Samples | 13 (omit 13.5, 13.6) 21 (21.2) | DQ3 |
| Semester Break 12th to 27th April | | | | Assignment 1 |
| 28th April | 7 | Testing Hypotheses: Two Samples | 14 (omit 14.3) 21 (21.1) | PQ4 |
| 5th May | 8 | Analysis of Variance | 16 (16.1, 16.2) 21 (21.3: KW test only) | DQ4 |
| 12th May | 9 | Categorical Data Analysis | 13 (13.6) 17 (17.3 is optional) | PQ5 |
| 19th May | 10 | Simple Linear Regression | 18 (omit 18.3, pp728-730, 18.5, 18.6) | DQ5 |
| 26th May | 11 | Assessing Linear Models Multiple Regression | 5 (5.5) 18 (18.4, 18.5, 18.6) 19 (omit pp778,779, 19.4) Lecture notes for model reduction | Assignment 2 |
| 2nd June | 12 | Multiple Regression Continued | 20 (omit 20.4, 20.6) | PQ6 DQ6 |
| 10th June Monday 9th June is a public holiday. Alternative arrangement will be made for this week's Monday class. | 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.ht

[ml](#)

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

Disruption to Studies Policy 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/

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>

For further information, please refer to page 71 of the 2013 Calendar of Governance, Legislation and Rules- Postgraduate Rules at

http://universitycouncil.mq.edu.au/pdfs/2013-Postgraduate_rules.pdf

Grade 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.city.mq.edu.au/reviews-appeals.html>

Special Consideration Policy

The University is committed to equity and fairness in all aspects of its learning and teaching. In stating this commitment, the University recognises that there may be circumstances where a student is prevented by unavoidable disruption from performing in accordance with their ability. A special consideration policy exists to support students who experience serious and unavoidable disruption such that they do not reach their usual demonstrated performance level. The policy is available at: http://www.mq.edu.au/policy/docs/special_consideration/policy.html

The University defines serious and unavoidable disruption to studies as resulting from an event or set of circumstances that:

- could not have reasonably been anticipated, avoided or guarded against by the student; **and**
- was beyond the student's control; **and**
- caused substantial disruption to the student's capacity for effective study and/or the completion of required work; **and**
- substantially interfered with the otherwise satisfactory fulfilment of unit or course requirements; **and**
- was of at least three (3) consecutive days duration within a study period and/or prevented completion of the final examination.

A Special Consideration application is deemed to be valid if all the following criteria have been satisfied:

- The Special Consideration application is completed by the student and submitted online through www.ask.mq.edu.au within five (5) working days after the due date of the associated assessment task / final examination.

- The application contains supporting evidence to demonstrate the severity of the circumstance(s) and that substantial disruption has been caused to the student's capacity for effective study. (The University will not follow up on outstanding evidence, nor contact any person or body on behalf of the student. The application will be considered as submitted.)
- The original supporting documentation has been sighted by MQC reception staff within five (5) working days after the due date of the associated assessment task.
- Where the particular circumstances are medical in nature, a *Professional Authority Form* including the health professional's Medicare Provider Number is included. (If a *Professional Authority Form* cannot be obtained, an original medical certificate indicating the severity (serious / not serious) and impact of the circumstances must be included with the application.)
- Where the particular circumstances are non-medical in nature, appropriate supporting evidence indicating the severity (serious / not serious) and impact of the circumstances is included with the application.
- The student was performing satisfactorily in the unit up to the date of the unavoidable disruption. (If a student's work in the unit was previously unsatisfactory, subsequent unavoidable disruption will not overcome the fact that the earlier work was unsatisfactory).

Unacceptable grounds for Special Consideration

The University has determined that some circumstances are not acceptable grounds for claiming Special Consideration. These grounds include, but are not limited, to:

- routine demands of employment
- routine family problems such as tension with or between parents, spouses, and other people closely involved with the student
- difficulties adjusting to university life, to the self-discipline needed to study effectively, and the demands of academic work
- stress or anxiety associated with examinations, required assignments or any aspect of academic work
- routine need for financial support
- routine demands of sport, clubs and social or extra-curricular activities.

Acute Problems

The University defines acute problems as those involving fewer than three (3) consecutive days within a study period. In these cases, students should not apply for special consideration via ask.mq.edu.au, but contact their Unit Convenor within 5 working days of the assessment due date so that a local solution may be discussed, except where the disruption affects completion of a final examination. (If a final examination is affected, the student should submit a special consideration application via ask.mq.edu.au.)

Prior Conditions Conditions existing prior to commencing a unit of study are not grounds for Special Consideration, except in the event of unavoidable deterioration of the condition. The student is responsible for managing their workload in light of any known or anticipated problems. Students with a pre-existing disability/ chronic health condition may contact the [Disability Service](#) for information on available support.

In submitting a request for Special Consideration, the student is acknowledging that they may be required to undertake additional work and agreeing to hold themselves available so that they can complete any extra work as required. The time and date, deadline or format of any required extra assessable work as a result of an application for Special Consideration is not negotiable.

Attendance

All Students are required to attend at least 80% of the scheduled course contact hours each Session. Additionally MQC monitors the course progress of international students to ensure that the student complies with the conditions of their visa relating to attendance.

This minimum level of attendance includes all lectures and tutorials. Tutorial attendance will be recorded weekly. If any scheduled class falls on a public holiday this will be rescheduled as advised by your Lecturer. Attendance at any mid-Session or in-class test is compulsory unless otherwise stated.

Unavoidable non-attendance due to illness or circumstances beyond your control must be supported by appropriate documentation to be considered for a supplementary test. Other non-attendance will obtain zero for the test. You should refer to the section below on Special Consideration for more details about this.

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) 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

Student Support

Students who require assistance are encouraged to contact the Student Services Manager at Macquarie City Campus. Please see reception to book an appointment.

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at <http://students.mq.edu.au/support/>

At any time students (or groups of students) can book our Student Advising rooms on Level 6 by emailing info@city.mq.edu.au with a day and time and nominated contact person. There are additional student study spaces available on Level 1.

Macquarie University Campus Wellbeing also has a presence on the City Campus each week. If you would like to make an appointment, please email info@city.mq.edu.au or visit their website at: <http://www.campuslife.mq.edu.au/campuswellbeing>

StudyWISE provides:

- Online learning resources and academic skills workshops http://www.mq.edu.au/learning_skills
- Personal assistance with your learning & study related questions

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.

IT Help

If you wish to receive IT help, we would be glad to assist you at <http://informatics.mq.edu.au/help/> or call 02 9850-4357.

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 and it outlines what can be done.

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.

Students are expected to act responsibly when utilising Macquarie City Campus 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 unit 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.

If you would like to borrow headphones for use in the Macquarie City Campus computer labs (210, 307, 311, 608) at any point, please ask at Level 2 Reception. You will be required to provide your MQC Student ID card. This will be held as a deposit while using the equipment.

For assistance in the computer labs, please see a Lab Demonstrator (usually they can be found in Lab 311, otherwise ask at Level 2 Reception).

Research and Practice

This unit uses research from external sources.

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

Table of Content

| | |
|------------------------------------|----------|
| <u>Table of Content</u> | <u>2</u> |
| <u>General Information</u> | <u>3</u> |
| <u>Convenor and teaching staff</u> | <u>3</u> |
| <u>Credit Points</u> | <u>3</u> |
| <u>Prerequisites</u> | <u>3</u> |

| | |
|---|-----------|
| <u>Corequisites</u> | <u>3</u> |
| <u>Co-badged status</u> | <u>3</u> |
| <u>Unit Description</u> | <u>3</u> |
| <u>Learning Outcomes</u> | <u>4</u> |
| <u>Assessment Tasks</u> | <u>5</u> |
| <u>Assignments</u> | <u>5</u> |
| <u>Quizzes</u> | <u>5</u> |
| <u>Class Test</u> | <u>5</u> |
| <u>Final Exam</u> | <u>5</u> |
| <u>Unit Schedule</u> | <u>7</u> |
| <u>Delivery and Resources</u> | <u>9</u> |
| <u>Contacting staff</u> | <u>9</u> |
| <u>Classes</u> | <u>9</u> |
| <u>Required and Recommended texts and/or materials</u> | <u>9</u> |
| <u>Technology Used and Required</u> | <u>9</u> |
| <u>Unit Web Page</u> | <u>9</u> |
| <u>Learning and Teaching Activities</u> | <u>9</u> |
| <u>Policies and Procedures</u> | <u>11</u> |
| <u>Student Code of Conduct</u> | <u>11</u> |
| <u>Grades</u> | <u>11</u> |
| <u>Grading Appeals and Final Examination Script Viewing</u> | <u>11</u> |
| <u>Student Support</u> | <u>11</u> |
| <u>Learning Skills</u> | <u>12</u> |
| <u>Student Enquiry Service</u> | <u>12</u> |
| <u>Equity Support</u> | <u>12</u> |
| <u>IT Help</u> | <u>12</u> |
| <u>Graduate Capabilities</u> | <u>13</u> |
| <u>Effective Communication</u> | <u>13</u> |

| | |
|---|-----------|
| <u>Learning Outcome</u> | 13 |
| <u>Assessment Task</u> | 13 |
| <u>Critical, Analytical and Integrative Thinking</u> | 13 |
| <u>Learning Outcome</u> | 13 |
| <u>Assessment Task</u> | 13 |
| <u>Problem Solving and Research Capability</u> | 14 |
| <u>Learning Outcome</u> | 14 |
| <u>Assessment Task</u> | 14 |
| | |
| <u>Research and Practice</u> | 15 |