



DIVISION OF ECONOMIC AND FINANCIAL STUDIES

**GRADUATE ACCOUNTING
AND COMMERCE CENTRE**

STAT888 APPLIED BUSINESS TECHNIQUES

SECOND SEMESTER 2006

UNIT OUTLINE

Students in this unit should read this unit outline carefully at the start of semester.

ABOUT THIS UNIT

This unit provides the skills necessary to apply the techniques of quantitative analysis in organisational decision-making situations. The approach taken consists of defining the business problem, developing a model, acquiring the necessary data, developing and analysing the solution, and implementing the results. Practical examples taken from a wide variety of business situations will be used and case studies discussed with the emphasis being on applications of the techniques rather than the theory.

The aim of the unit is to provide an appreciation of information requirements within the business and competence in the analysis of management decisions.

The topics covered in this unit are broadly classified as:

- Project management and resource management
- Linear programming
- Inventory and Queuing systems

Stat 888 is a 4 credit point postgraduate unit especially designed for students obtaining a Master of International Business or Master of Commerce.

SOFTWARE

- Microsoft Excel
- Microsoft Project 2003
- QM for windows (supplied with the textbook)

TEACHING STAFF

- | | | | |
|--------------|--|---------------------------------------|-----------------------------|
| • Kj Byun | Office: E4A 509
Consultation Hours: | Tel: 9850 7473
Wednesday 12 – 2 pm | E-mail:kbyun@efs.mq.edu. |
| • Nan Carter | Office: E4A 520
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Please note that any communication with staff via email will only be conducted using your University email address.

CLASSES

- Length: One 3 hour lecture beginning in Week 1
- Location: C5A 226
- Time: Wednesday 6pm – 9pm

The timetable for classes can be found on the University web site at:

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

REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS

- Required Text: Render, B. and R.M. Stair, *Quantitative Analysis for Management*. Prentice Hall, 2006, 9th edition.

Ensure the text you buy has a CD containing the program 'QM for Windows'.

UNIT WEB PAGE

- The web page for this unit can be found at:

<http://www.stat.mq.edu.au/units/stat888/index.htm>

LEARNING OUTCOMES

By the end of this unit students should be able to:

- Provide an introduction to topics pertinent to the application of statistical and quantitative techniques in business. These include business statistics, management science and operations management;
- Prepare the foundation for more advanced treatment of these topics in later subjects.

Students will be expected to gain a reasonable mastery of current implementations of the program *QM for Windows* (supplied with the textbook) and Microsoft Excel.

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:

- Critical analysis skills;
- Problem-solving skills;
- Creative thinking skills;

TEACHING AND LEARNING STRATEGY

LECTURES

- Students should attend all lectures.
- In each week, lecture handout will be provided.
- Lectures will be conducted following the structure of the handout. It will contain additional examples and exercises to textbook.
- The solution to these examples and exercises will be covered in the lecture.
- Students are encouraged to participate in the lecture discussion and ask questions.
- Each week students should practice the material learned by attempting the exercises given at the end of each week's lecture handout.
- The solution to the weekly exercises will be provided in the following week's lecture.

LECTURE SCHEDULE (E2 2006)

<i>Week</i>	<i>Date</i>	<i>Topic</i>
1	2 Aug	Introduction to Business Statistics Describing and Presenting Business Data
2	9 Aug	Discrete probability distributions
3	16 Aug	Business simulation: Random numbers and Monte Carlo techniques
4	23 Aug	Project management: Arrow diagrams, Gantt chart Microsoft project 2000/2003, Critical path method (CPM)
5	30 Aug	Program Evaluation and Review Technique (PERT) Resource management
6	6 Sept	<i>Mid Semester Test (Topics from Week 1 – Week 5)</i>
7	13 Sept	Formulation of linear programming problems Graphical solutions
Mid Semester Break		
8	4 Oct	Linear and integer programming The simplex method
9	11 Oct	Linear and integer programming Sensitivity and duality
10	18 Oct	Inventory systems: EOQ, Reorder point, Quantity discount model
11	25 Oct	Queuing systems Simple and multiple queues
12	1 Nov	Revision Lecture
13	8 Nov	FINAL EXAMINATION (During lecture time)

ASSESSMENT

Formal assessment for this unit will be:

1. Mid-semester examination	20%
2. Individual hand-in assignment	20%
3. Final Examination	60%

In order to pass the unit, **both** the following criteria must be satisfied:

- Submission of the assignment with a satisfactory performance.
- A passing performance in the final examination

MID-SEMESTER EXAMINATION

- The exam will be held during the lecture time on **6 SEPTEMBER** and will commence at **6:10pm**.
- The exam will cover all material up to and including the end of **Week 5**. It will be of **2 hours** duration.
- In the examination you will be provided with relevant tables but no formulae will be given. However, you will be able to bring into the examination **one piece of paper up to A4 size** on which you may write anything you like on **one side only**.

INDIVIDUAL HAND-IN ASSIGNMENT

The assignment provides an opportunity for you to gain experience in the techniques and concepts. The topics covered in the assignment will be linear programming and it will be given out on **13 September (week 7)** and due at the lecture on **18 October (week 10)**.

Assignments must be handed in at the lecture on the due date.

For each day late, 20% of the potential assignment marks will be deducted.

Please keep a copy of your assignment before you submit.

FINAL EXAMINATION

- The final examination will be held during the lecture time on **8 NOVEMBER (week13)**.
- The final examination will cover all topics dealt within the unit.
- In this examination you will be provided with relevant tables but no formulae will be given. However, you will be able to bring into the examination **one piece of paper up to A4 size** on which you may write anything you like on **both sides**. Any photocopied or computer printed sheets are forbidden. No other notes or books are allowed.

The University Examination period in Second Half Year 2006 is from 15th – 29th 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 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.

Note that there is a Division policy regarding requests for special consideration for examinations and the granting of supplementary examinations which can be found at:

<http://www.efs.mq.edu.au/supexams.htm>

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 what plagiarism is, 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 one of these grades plus a standardised numerical grade (SNG).

Your raw mark for a unit (i.e., the total of your marks for each assessment item, including the final examination) 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 be accessed at

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