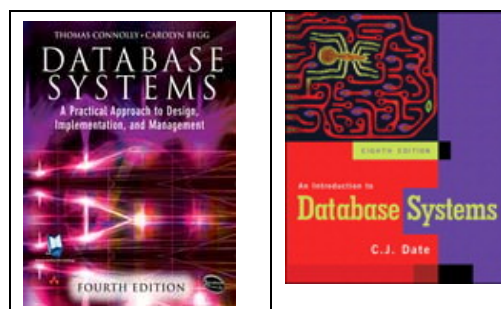




**DIVISION OF ECONOMIC AND FINANCIAL
STUDIES
STAT812: ADVANCED INFORMATION
MANAGEMENT**

Second Semester, 2008

Unit Outline



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

This unit introduces a practical approach to the design and development of relational database systems. We will also learn how to create, store, analyse, and manage spatial data using a Geographical Information System (GIS). Most ABS data comes in MapInfo files and we will use this software for GIS.

Software:

Microsoft SQL Server, Microsoft Access, Microsoft Excel

Prerequisite:

Know how to use a computer and computer packages.

TEACHING STAFF**Lecturer In Charge**

Dr Tania Prvan
Room: E4A 518
Phone: 9850 8561
e-mail: tprvan@efs.mq.edu.au
Consultation hours: 4pm-6pm Monday

Tutor:

TBA

UNIT WEB PAGE

The web page for this unit can be found at: <http://www.stat.mq.edu.au/units/stat812>.

CLASSES**Lectures**

Lectures begin in Week 1. For weeks 1 to 7 and week 13 lectures are held on Mondays between 6:00pm and 8:30pm in room E4B 102. For weeks 9 to 12 lectures are held on Mondays between 6:00pm and 8:00pm in room E7B 164.

Tutorials

Tutorials also begin in Week 2. For weeks 1 to 7 and week 13 tutorials are held in E4B 102 on Monday between 8:30pm and 10:30pm. For weeks 9 to 12 tutorials are held in E4B 308 on Monday between 8:00pm and 10:00pm. The aim of tutorials is to practise techniques learnt in lectures. They are designed so that students work through the exercises and ask as many questions as they need to improve their understanding. Tutors are the facilitators in the tutorial groups.

REQUIRED AND RECOMMENDED TEXTS**Required Text**

1. Thomas Connolly and Carolyn Begg. DATABASE SYSTEMS A Practical Approach to Design, Implementation, and Management FOURTH EDITION, Addison- Wesley, 2005, ISBN 978-0-321-21025-8.

Recommended Texts

1. Date, C.J. *Introduction to Database Systems (8th edition)*, Addison-Wesley, 2004, ISBN 0-321-19784-4. (Not available in the library)
2. Date, C.J. *Introduction to Database Systems (7th edition)*, Addison-Wesley, 2000. (Library call number QA76.9.D3 .D37/2000.)

There aren't big differences between the 7th and 8th editions for the first three chapters.

LEARNING OUTCOMES

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

- have an understanding of the principles and the concepts of databases
- set up a database efficiently
- organise data which is suitable to display as a map
- create active earth maps with hyperlinks
- use MapInfo Software to create region boundaries for a chosen region

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:

- problem solving skills;
- written communication skills, particularly report writing;
- critical analysis skills.

TEACHING AND LEARNING STRATEGY

The unit is taught in traditional mode; that is, on campus in standard semesters with weekly lectures and tutorials.

Students are expected to

- attend all the lectures and the tutorials;
- prepare their own solutions to selected weekly practical exercises for individual assessment of lab tasks
- hand in assignments and homework to ERIC (Economic Resource & Information Centre) E4B106;
- Collect their marked assessment from ERIC (Economic Resource & Information Centre) E4B106.
- if for any reason, students cannot hand in their assessment tasks on time, they have to contact one of the teaching staff in advance

Refer to the end of handout for week-by-week list of topics to be covered.

WEB ACCESS

There is a web site for this subject. All students should log on to STAT812 web site <http://www.stat.mq.edu.au/units/stat812>.

Weekly lecture notes will be put on the web site during the week of the lecture.

RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING OUTCOMES

While attendance at classes is important it is only a small proportion of the total workload for the unit: reading, completing assignments and other assessments, using the computer and private study are all part of the work involved. At Macquarie it is expected that the average student should spend four hours per week per credit point including attending lectures and tutorials.

The assessment is based on the performance in the tutorials (including homework), class test (MIST811 students only), assignments, and the final examination.

Assessment	Weighting	Due
Assignment 1	10%	6pm 1 Sept
Assignment 2	10%	6pm 20 Oct
GIS Project	10%	6pm 3 Nov
Homework and Tutorial Participation	10%	Each weeks
Final Examination (STAT812)	60%	As timetabled

Marked assignments and homeworks will be available for collection from ERIC (Economic Resource & Information Centre) E4B106 approximately two weeks after the due date.

Late assessments will only be accepted with the agreement of the lecturer and may be subject to the deduction of some marks. Students who are unable to submit any assignment on time, because of illness or other valid cause, will need to report the circumstances in writing to the unit convenor, and documentation must also be provided to the Registrar.

Examination

Date and venue to be advised. The examination will examine any material covered throughout the course. Students may bring two A4 sized sheets of **hand written** notes, formulae, etc., which may be written on both sides and is easily readable. This summary must be submitted with your exam paper and is marked. No other materials such as lecture notes and textbooks are permitted. Calculators will be needed but must not be of the text/programmable type.

The final examination is three hours long plus 10 minutes reading time.

NOTE: To obtain a passing grade, both coursework and exam performance must be satisfactory.

The University Examination period in Second Half Year 2008 is from 19th November to 5th December.

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.

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.

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>.

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).

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>.

COMPUTER LABS AND THEIR CONDITIONS OF USE

PROBLEMS WITH LAB COMPUTERS?

Problems with lab computers should be reported as follows:

1. if the problem occurs during a class report problem to your tutor
2. if the problem occurs outside class time, then report the problem by phone or e-mail to the lab administrator

Mr Alfred Wong awong@efs.mq.edu.au (ext 6138)
using your *Macquarie University E-MAIL BROWSER ACCOUNT* and no other account (staff are instructed to ignore e-mails from Hotmail accounts, etc). **BE SURE TO INCLUDE YOUR NAME, CLASS, LAB ROOM, PC NUMBER AND A BRIEF DESCRIPTION OF THE PROBLEM.**

Unit Schedule

Week	Topic	Software	Assignment Out	Due
1 (4 Aug)	Introduction to Databases Database Environment			
2 (11 Aug)	The Relational Model Relational Algebra and Relational Calculus		Ass 1	
3 (18 Aug)	SQL: Data Manipulation & Data Definition			
4 (25 Aug)	Query-By-Example using Microsoft Office Access 2003 DBMS	Access		
5 (1 Sep)	Commercial RDBMS: Office Access Database Planning, Design, and Administration			Ass 1
6 (8 Sep)	Fact-Finding Techniques Entity-Relationship Modelling Enhanced Entity-Relationship Modelling			
7 (15 Sep)	Normalization Advanced Normalization Methodology <ul style="list-style-type: none"> • Conceptual Database Design • Logical Database Design for the Relational Model 	Access	Ass 2	
TWO WEEK BREAK				
8 (6 Oct)	PUBLIC HOLIDAY			
9 (13 Oct)	GIS: Introduction – presenting business geographic data		GIS project	
10 (20 Oct)	GIS: Active earth maps			Ass 2
11 (27 Oct)	GIS: Maps with hyperlinks			
12 (3 Nov)	GIS: Contour maps			
13 (10 Nov)	Practice Exam Paper will be discussed during the lecture. Tutorial time will be used for presentations.			GIS project