

THE UNIVERSITY OF NEW SOUTH WALES
SCHOOL OF INFORMATION SYSTEMS, TECHNOLOGY AND
MANAGEMENT



INFS5926 ADVANCED DATA MANAGEMENT
INFS4810 ADVANCED DATA MANAGEMENT
COURSE OUTLINE, S1, 2005

1. Course Overview

Aims and Objectives

The primary aim of this subject is to provide students a deeper understanding of the relational database model by exposing students to a variety of important issues of database management.

After successful completion of this course, students should be able to have detailed understanding of:

- Database administration issues and activities
- Data distribution and replication
- Database security control, backup, recovery, and database performance tuning
- Distributed database systems and administration of innovative database applications
- Management of data in a data warehousing environment

Pre-Requisites

INFS5992 Data Management

Course Arrangements

The subject will consist of:

- One two-hour lecture per week.
- One one-hour tutorial/laboratory session per week.

The lecture time for ADM is: Monday 18:00 to 21:00 in AS G01

Consultation Arrangements

Consultation with the lecturer will be held after the lecture, appointments can be made to meet at other times.

If you experience problems during the course (related to course materials or assignments, your work commitments, health or any other reason) that is likely to interrupt your attendance in class or delay submission of assignments please discuss this with the lecturer.

Academic Staff

Zixiu Guo is the lecturer responsible for ADM. Her contact details are: Phone: 9385 7174, Room: Quad 2108, Email: z.guo@unsw.edu.au

Students should note that it is school policy to only respond to email messages that are clearly identifiable as having originated from legitimate accounts. Legitimate email accounts are:

- A UNSW student account
- An identifiable employer provided account
- An identifiable ISP account (bigpond, ozemail, etc)

Messages from Hotmail, Yahoo, Google and other similar services will not be replied to.

2. Course Resources

Course Website

The website is an integral part of the course and is used as the primary repository for all information about the course. You should check it at least twice a week. The course website can be accessed via WebCT (www.webct.unsw.edu.au). Login is the same as for Student Online (student id and unipass). Access to the course website is restricted to students enrolled in the course.

Lecture Slides & Other Course Materials

Slides, weekly study objectives, discussion questions, tutorials, labs, sample answer of tutorials and labs, and other materials used in the lectures will be placed on the website on a weekly basis.

Announcements and Other Information

All announcements concerning the course are posted on the website as required. Important announcements will also be made at the commencement of each lecture.

All information regarding tutorials/labs, examinations, administration and various policies are also posted on the website.

Course Textbook

The textbook for this subject is:

Silberschatz, Korth and Sudarshan (2002), Database System Concepts (4th edition), McGraw Hill, International edition, ISBN 0 - 07-112268 - 0.

References for this subject are:

R. Elmasri and S.B. Navathe, "Fundamentals of Database Systems", Fourth Edition, Addison-Wesley, 2003

Morrison J. and Morrison M., "Guide to Oracle9i", Thomson Learning, 2003

Carol McCullough – Dieter, "Oracle 9i Database Administrator: Implementation and Administration", Thomson Learning, 2003

3. Course Schedule

Lecture Schedule

Week		Topic	Ref*
1	28/2	Introduction	
2	7/3	Advanced SQL	Ch 4
3	14/3	Relational Algebra	Ch 3
4	21/3	Client/Server Databases, Database System Architectures and Components (I)	Ch 18
Mid Session Break			
5	4/4	Database System Architectures and Components (II)	Ch 18
6	11/4	Transaction Processing	Ch 15
7	19/4	Concurrency Control	Ch 16
8	25/4	Public Holiday	
9	2/5	Database Integrity and Security	Ch 6
10	9/5	Indexing & Database Performance Tuning	Ch 12
11	16/5	Database Backup and Recovery	Ch 17
12	23/5	Query Processing and Optimisation	Ch 13 & 14
13	30/5	Data Warehousing, Distributed Databases, and Administration of innovative Database Applications	Ch 19, 22 & 23
14	6/6	Revision	

*Lectures are subject to alteration and not all materials in chapters listed will be covered.

Laboratory/Tutorials Schedule

Lab Number	Week	Lab Topic
Laboratory 1	4	DB creation and documentation
Laboratory 2	6	Basic DB administration tasks
Laboratory 3	7	More DB administration tasks
Laboratory 4	10	User management and security
Laboratory 5	12	Database backup and recovery

Tut Number	Week	Tut Topic
Tutorial 1	3	Advanced SQL
Tutorial 2	5	Relational algebra
Tutorial 3	9	Transactions and concurrency control
Tutorial 4	11	Indexing
Tutorial 5	13	Query optimisation

Laboratory and tutorial topics are subject to alteration.

Laboratory/Tutorial Enrolment

All labs and tutorials will be operated in group of **no more than 4** individuals. Students are required to form their groups during the Week 1 lecture time. In Weeks 2 and 3 changes can only be made in person with the lecturer in charge. There will not be any changes after Week 3.

4. Assessment

Component	%
Tutorial exercises – Group work (At least two of the tutorial exercises will be selected at random and assessed.)	15
Laboratory exercises – Group work (At least two of the laboratory exercises will be selected at random and assessed.)	10
Final Examination (a formal 2 hour, closed book exam)	75

Criteria to Pass the Course

In order to pass this course, you must attain an overall mark of at least 50%, subject to the following requirements:

- A satisfactory performance is required in each component of the assessment. A mark of 45% or lower in a component would normally be regarded as unsatisfactory. Each component of the course may be scaled.
- You are expected to attend at least 80% of your lectures.

Penalties for Late Submissions

The late submission of your tutorial work will incur a penalty of 1.5 marks per day of lateness; the late submission of your group lab exercise will incur a penalty of 1 mark per day of lateness. Extensions are only granted in exceptional circumstances and supporting documentation is required. Computer related problems and work commitments are not grounds for extensions.

Penalties for Plagiarism

Plagiarism will absolutely not be tolerated in this course. All discovered instances of plagiarism will be penalised. The minimum penalty for plagiarism is the 100% of the marks.

5. Expectations

ADM is running for fourth year and postgraduate students. As such, there are certain expectations about your approach to your studies and your behaviour in class.

Thinking and Learning

You are expected to have a high level of engagement with the subject area. That is, not only analysing and interpreting the ideas and work of others, but also making sense of it within your own work/learning environment. This means sharing ideas, drawing on your experiences and looking at new information in light of the existing knowledge.

Integrity of Submitted Work

It is expected that you will give your best effort when completing the various assignments for this course. It is also expected that your work is of the highest integrity, completed in an honest and open manner, and not including any work which is not your own (unless appropriately referenced – see section on plagiarism).

Prioritisation and Time Management

It is expected that you will spend at least ten hours per week studying this course. This time should be made up of reading, research, working on exercises and problems, performing computer tasks and attending classes. In periods where you need to complete assignments or prepare for examinations the workload may be greater.

Over commitment has been a cause of failure for many students. You should take the required workload into account when planning how to balance study with employment and other activities.

Weekly Preparation

Your weekly preparation for the lecture should include reviewing the learning objectives, reading the set readings, reviewing the slides, and reviewing other notes listed on the website. The lectures will proceed on the expectation that you have adequately prepared for each week.

Behaviour in Class and Towards Fellow Students

You are expected to behave in a considerate, polite and courteous manner at all times. Those few students who are unable to conduct themselves in an appropriate fashion will find themselves excluded from course activities.

6. School Policies

Special Consideration and Supplementary Exams

It is recommended that you familiarise yourself with the school policies regarding Special Consideration and Supplementary examinations. They can be found at the SISTM web site: <http://sistm.web.unsw.edu.au/student/schoolpolicies.html>

Academic Misconduct

Statement on academic misconduct from the University Calendar

Students are reminded that the University regards academic misconduct as a very serious matter. Students found guilty of academic misconduct are usually excluded from the University for 2 years. Because of the circumstances in individual cases, the period of exclusion can range from one session to permanent exclusion from the University.

The following are some of the actions, which have resulted in students being found guilty of academic misconduct in recent years:

- Taking unauthorised materials into an examination;
- Submitting work for assessment knowing it to be the work of another person;
- Improperly obtaining prior knowledge of an examination paper and using that knowledge in the examination; and
- Failing to acknowledge the source of material in an assignment.

Plagiarism

Student discussion and comparison of the ideas and concepts raised in this course is encouraged. However, students may not submit the work of anyone else in an individual assignment unless full credit for the source is given. Use of another person's work from any source without proper acknowledgement is considered to be plagiarism - this is a serious academic offence. In the case of group work, any material from outside the group should also be referenced and credited to the appropriate author.

Citations and Referencing

If you are uncertain about how to cite/reference the work of others please refer to the collection of resources about citations and referencing located on the UNSW Library Web Site. This can be found at the following location:

http://www.library.unsw.edu.au/links/Research_and_Study_Skills/Citing_References/

7. Education Development Unit

Additional learning support, tailored to the needs of FCE students, is available from the Education Development Unit (EDU) in the Faculty. The EDU offers a range of services for FCE students including:

- Academic skills workshops run throughout the session;
- Printed and on-line study skills resources e.g. referencing guide, report writing and exam preparation;
- A drop-in resource centre containing books and audio visual material that can be borrowed;
- A limited consultation service for students with individual or small group learning needs.

More information about the EDU services including on-line resources, workshop details and consultation request forms are available from the EDU website.

Contacts and Location:

EDU Web: <http://education.fce.unsw.edu.au>

EDU Location: Room 2039, Level 2 Quadrangle Building

Group:

Photocopy this page and attach it to each Tutorial or Lab Project.

The University of New South Wales
School of Information Systems, Technology and Management
INFS5926 / INFS 4810 - Advanced Data Management

TUTORIAL / LAB EXERCISE TITLE PAGE

Session 1, 2005

Title of Exercise:

Date Due:

Student Details:

ID	Name	Rating	Signature
		0 1 2 3 4 5 6 7 8 9 10	
		0 1 2 3 4 5 6 7 8 9 10	
		0 1 2 3 4 5 6 7 8 9 10	
		0 1 2 3 4 5 6 7 8 9 10	

This form has to be completed and signed by ALL members in the group for each tutorial/lab exercise. Circle the appropriate rating for each member (0 - no contribution; 10 - highly contributive).