The Australian School of Business
Information Systems, Technology and Management

INFS1603
BUSINESS DATA MANAGEMENT

COURSE OUTLINE
SESSION 2, 2007

Table of Content

1. COURSE STAFF

Lecturer in charge	Office/Tel	Consultations
Aybuke Aurum aybuke@unsw.edu.au	QUAD2072	Mon 10-11 am Tue 2-3 pm All other times by email appointments only.

1.1 Communication with Staff

WebCT Vista will be utilised for all course communications i.e. notices, questions regarding assignments and course content. Please check WebCT Vista regularly as this is where we communicate urgent notices when needed. PLEASE NOTE – only urgent (and very short) enquiries will be answered via e-mail, or telephone. Please attend consultation times or make an appointment if you need to discuss issues in detail.

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)

2. INFORMATION ABOUT THE COURSE

2.1 Teaching Times and Locations

Lecture	Tue 12:00-14:00	Civil Engineering 713
Tutorial	Mon 09:00-10:00	Quad G026
Tutorial	Tue 09:00-10:00	Quad G025
Tutorial	Thu 09:00-10:00	Quad G026
Tutorial	Thu 17:00-18:00	Goldstein G03

http://www.timetable.unsw.edu.au/current/INFS1603.html

2.2 Units of Credit

This course is worth 6 UOC.

2.4 Relationship of This Course to Other Course Offerings

This course is a prerequisite for:

INFS2603 Systems Analysis and Design
INFS2609 Software Implementation
INFS3609 Advanced Database Systems

2.5 Approach to Learning and Teaching

Apart from learning the fundamental content of the course, there will be several course activities to foster critical thinking, facilitate the acquisition of life-long learning skills, prepare you to function effectively in an information economy, and develop basic problem-solving strategies.

To facilitate learning for those who have never had any exposure to database design, we provide practical assistance through an experienced tutor and would advice that you seek help by taking the initiative to learn the practical components of the course. Learning is achieved not just through

formal lectures and tutorials, but must also incorporate self-initiated learning, and formal and informal feedback and communications with staff and peers. The major assignment is a group project, because this reflects how real-life commercial systems are built. Learning is a continuous process, as knowledge is shared amongst all parties (staff and students) involved.

In addition to the standardized student evaluations that are required by the faculty and university, your lecturer will occasionally solicit informal written feedback also. Please also feel free to email your lecturer short comments/suggestions as to how your learning can be improved.

3. COURSE AIMS AND OUTCOMES

3.1 Course Aims

Information systems are systems that use information technology to capture, transmit, store, retrieve, manipulate or display information used in one or more business process. Databases represent a major component of Information Systems. They frequently contain a collection of information that has been gathered over a long period of time. Database systems are used to store, manipulate and retrieve data in most business sectors, including finance, healthcare, education, government and libraries.

The Business Data Management (INFS1603) course is one of the core courses in Information Systems curriculum, offered by the School of Information Systems, Technology and Management. This course provides an introduction to the concepts, design techniques and technology for the storage and management of data that is essential knowledge for anyone embarking on a career in business analysis, systems analysis, system development, computer programming and system engineering.

I hope this course develops you professionally, challenges you educationally, and offers you some fun and excitement.

3.2 Student Learning Outcomes

This course is developed to help students to achieve the following:

1. Appreciate the role / function of databases in information systems in business.
2. Gain a high level understanding of the different types of classical data models, including hierarchical, network, relational, entity-relationship, and object-oriented models; and the differences between them.
3. Gain an understanding of basic object-oriented concepts / terminologies and simple O-O modelling.
4. Gain an understanding of the duties and role of a database administrator within an organization.
5. Gain an understanding of major trends in databases.
6. Gain skills in entity-relationship (ER) modelling.
7. Understand the importance of validating database designs for ensuring quality of databases.
8. Apply a quality control technique (e.g. design inspection) for validating database design.
9. Learn to use Microsoft Access to develop database applications.
10. Experience the development of a small but realistic user-friendly database using Microsoft Access.
11. Learn to work in small groups.
12. Develop skills in the formal reporting of a database implementation.

3.3 Teaching Strategies

There are 3 components to the learning for this course: lecture, tutorial/laboratory, and self-study (this includes laboratory work on or off campus).

You are required to attend one lecture stream (2 hours) and a one-hour tutorial/laboratory time slot. The self-study component includes the specified readings (textbook and lecture notes) for each week, as well as working through the recommended Microsoft Access workbooks on the computer on campus or at home.

Tutorials

Tutorials are designed to give you feedback on your progress during the course. Substantial portions of the course gradually build fairly complex concepts over a number of weeks. Feedback will be given during the tutorials and during consultation hours if more time is required. "Design" is a problem-solving and creative task, and very often more than one reasonable/good solution may result. You should discuss with your tutor/lecturer the relative goodness or weakness of the solutions, in the light of tasks presented.

Tutorial exercises will be set most weeks, and answers should be prepared by each student for submission the next week. Students are strongly advised to prepare 2 copies for each tutorial, 1 to hand in, and another for discussion. Student responses to three of tutorial exercises will be collected during the session at random (without warning). These exercises will be marked and then returned to students. Only the best two tutorial exercises (out of three) will be counted towards to tutorial assessment. Selected solutions to tutorial exercises will be given in the class in the week they are due, students should rely on these solutions for feedback on correctness.

Lab Exercises

Students will need to become familiar with a range of personal computer software, including Microsoft Access, VisualThought. The Quad lab 5 is available for students to do this on a self-taught basis, using the recommended workbooks or equivalent alternatives. Laboratory 5 in the Quadrangle Building is booked for INFS1603 students at the same time slots as the INFS1603 tutorial times. In some weeks, your tutorial time is also your lab time. Please check Section 9 (Course Schedule) for which week you attend the laboratory sessions instead of going to the tutorial room.

There will be five lab exercises that will help students to develop their MS Access skills. The reference by Shelly, Cashman, Pratt & Last (see the references) will provide an introduction to most concepts required for the assignment. Students are strongly recommended to submit the lab exercises as they provide the necessary skills to them to successfully complete their Access Project. Each lab exercises will also be marked. Late submissions cannot be formally accepted. A *Tutorial-Laboratory Exercise Title Page* is to be attached to work submitted.

4. STUDENT RESPONSIBILITIES AND CONDUCT

4.1 Workload

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, 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.

4.2 Attendance

Your regular and punctual attendance at lectures, tutorial and labs is expected in this course. University regulations indicate that if students attend less than eighty per cent of scheduled classes they may be refused final assessment.

4.3 General Conduct and Behaviour

You are expected to conduct yourself with consideration and respect for the needs of your fellow students and teaching staff. Conduct which unduly disrupts or interferes with a class, such as ringing or talking on mobile phones, is not acceptable and students may be asked to leave the class. More information on student conduct is available at: www.my.unsw.edu.au

4.4 Keeping Informed

You should take note of all announcements made in lectures, tutorials or on the course web site. From time to time, the University will send important announcements to your university e-mail address without providing you with a paper copy. You will be deemed to have received this information.

5. LEARNING ASSESSMENT

5.1 Formal Requirements

To receive a pass grade in this course, you must meet ALL the following criteria:

- Attain an overall mark of at least 50%
- Attend at least 80% of all scheduled classes
- Attain a satisfactory performance in each component of the course. A mark of 50% or higher is normally be regarded as satisfactory
- Attain a mark of 50% at least in the final exam

The objectives are to:

- demonstrate an understanding of database design,
- interpret an organizational scenario and solve a set of given business rules,
- explain the role of data in business, including the quality issues involved,
- develop some skills in developing a working database using Microsoft Access,
- acquire skills in using a commonly used drawing package VT, for depicting ER designs, and
- demonstrate ability to work in teams, including the ability to report effectively, orally and in written form.

5.2 Assessment Details

Component:	**Weight %**	**Due date (subject to change)**	**Method of assessment**	**Student Learning Outcomes (see Section 3.2)**
Assignment	10% 20%	Week 6 Week 11	Reports Reports and oral presentation	9-12
Tutorial work and Lab exercises	5% 2.5% 2.5%	Throughout session	2/3 Tutorial solutions Lab exercises Attendance, and participation	6,8,9
Final Exam	60 %	Exam period	Written exam	1-7

The assessments address a number of key UNSW graduate attributes such as the development of critical, analytical, collaboration, written and communication skills.

Assignment

The assignment is a project which requires the design & implementation of database using Microsoft Access. It consists of two components: Part 1 requires you to develop an Entity Relationship

diagram, relational model and a data dictionary for the project; Part 2 requires the development of a logical design, normalization, implementation of the project and a project management report.

The database design assignment is a team project with a team size of 3-4 people. The mark assigned to each member of the group will be scaled based on peer assessment of each member's contribution to the task. Team members are expected to work in a harmonious and professional fashion. It is up to students to manage the group process so that each person carries out an equal amount of work. Details of the database assignment will be released on the course website early in the course. Students will be required to learn MS Access 2003 by themselves. MS Access 2003 will be used to mark assignments.

The assignment provides an opportunity for students to work as a group, on a practical database design and implementation project. For the more 'experienced' students, we provide an opportunity for the project to be extended beyond the scope specified in the assignment, for example, by adding some realistic, useful functionalities to the database design and implementation. This can be rewarded to a maximum of 5% in bonus marks.

Written skills are assessed through the assignment reports (interim and final), as well as the formal examination. Therefore it is important that these written works be complete, well written (grammatically correct, free of spelling errors), and professionally presented. Oral presentation skills will be tested through the group presentation of the finished assignment. A short professional power point presentation followed by a demonstration of the working database (illustrating its main functionality) will be required.

Tutorial and Lab Exercise

Tutorials provide a forum for diverse issues to be raised. In particular, through critical analysis of business requirements, multiple interpretations, ambiguities, and misunderstandings should be discussed. Students also get the opportunity to argue their preferred choices through tutorial participation. Communication with peers and staff are evaluated through this participation.

Final Exam

A formal closed book examination is conducted during the examination period. You must plan on being available for the full examination period to attend the final exam. In addition, you should also ensure that you will be available for a supplementary examination in the event of illness or misadventure. All material covered in lectures, tutorial and readings are examinable.

5.3 Assignment Submission Procedure

Assignment components will be submitted in a labelled locked box, on the first level of the Quadrangle Building, underneath the School of Information Systems, Technology and Management notice boards.

Tutorial work and Lab exercises will be submitted during your allocated tutorial time.

5.4 Late Submission

Late submission of assignment will incur a penalty of 10% of the maximum assessment mark per day (including weekends and public holidays). An extension in the time of submission will only be granted under exceptional circumstances by the lecturer-in-charge. Work commitments are not considered to be sufficient grounds for an assignment extension. In all cases, documented evidence must be given to your tutor prior to the submission deadline.

5.5 Special Consideration and Supplementary Examinations

If you are ill or suffer a misadventure which you believe adversely impacts on your performance in

the final examination you can apply for special consideration. Applications for special consideration (including supplementary examinations) must be made to UNSW Central within 3 working days of the examination. Applications cannot be accepted by teaching staff. You should note that applying for special consideration does not automatically mean that you will be granted additional assessment or that you will be awarded an amended result. Details of these procedures and polices can be found at:

https://my.unsw.edu.au/student/atoz/SpecialConsideration.html and
http://sistm.web.unsw.edu.au/student/schoolpolicies.html .

A register of applications for Special Consideration is maintained. History of previous applications for Special Consideration is taken into account when considering each case.

5.6 Assignment Format

Information about assignment format will be provided on WebCT Vista.

6. ACADEMIC HONESTY AND PLAGIARISM

The University regards plagiarism as a form of academic misconduct, and has very strict rules regarding plagiarism. For full information regarding policies, penalties and information to help you avoid plagiarism see: http://www.lc.unsw.edu.au/plagiarism/index.html

Plagiarism is the presentation of the thoughts or work of another as one's own.* Examples include:

- direct duplication of the thoughts or work of another, including by copying work, or knowingly permitting it to be copied. This includes copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement;
- paraphrasing another person's work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
- piecing together sections of the work of others into a new whole;
- presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and,
- claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.†

Submitting an assessment item that has already been submitted for academic credit elsewhere may also be considered plagiarism. The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does not amount to plagiarism.

Students are reminded of their Rights and Responsibilities in respect of plagiarism, as set out in the University Undergraduate and Postgraduate Handbooks, and are encouraged to seek advice from academic staff whenever necessary to ensure they avoid plagiarism in all its forms.

The Learning Centre website is the central University online resource for staff and student information on plagiarism and academic honesty. It can be located at:

www.lc.unsw.edu.au/plagiarism

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

- correct referencing practices;
- paraphrasing, summarising, essay writing, and time management;
- appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

* Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle

† Adapted with kind permission from the University of Melbourne.

7. STUDENT RESOURCES

7.1 Course Resources

Textbooks

The major textbook for this course covers most of the material on database modelling, relational theory and design. For the project assignment you will need to learn and use Microsoft Access 2003, running on Windows XP in the Quad labs. Several workbooks are available that provide adequate coverage.

- Rob P and Coronel C. Database Systems: Design, Implementation, and Management. Published by Thomas Course Technology, 7th edition, 2007. ISBN: 1-4188-3593-5. (I*f you have access to the 6th edition, feel free to use it*).
- Shelly GB, Cashman TJ, Pratt PJ, and Last MZ (2003): Access 2003 – Comprehensive Concepts & Techniques. Course Technologies, USA.

Additional References

1. Hoffer, JA., Prescott, MB., McFadden, FR. (2007): *Modern Database Management.* Published by Pearson Education International (Prentice Hall), 8th edition (5-7 editions are also alright)
2. Connolly, T., Begg, C. (2002): Database Systems: A Practical Approach to Design, Implementation, and Management. Pearson Education.
3. Elmasri, R., Navather, SB. (2000): *Fundamentals of Database Systems*. Addison Wesley.
4. Ramakrisnan, R., Gehrke, J. (2000): Database Management Systems. McGraw Hill.
5. Rob, P., Coronel, C. (2000): *Database Systems: Design, Implementation, and Management*. Course Technologies, Thomson Learning.
6. Silberschatz, A., Korth, HF., Sudarshan, S. (1999): *Database System Concepts*. McGraw Hill.
7. Satzinger, JW.; Orvik, TU. (2001): *The Object-Oriented Approach: Concepts, System Development, and Modeling with UML*. Course Technology, Thomas Learning, Australia

7.2 Other Resources, Support and Information

Information about other services available for students. This can be detailed either on a School website and referred to in the course outline or provided as in the example below. The University and the Faculty provide a wide range of support services for students, including:

- Learning and study support
  - FCE Education Development Unit (http://education.fce.unsw.edu.au)
  - UNSW Learning Centre (http://www.lc.unsw.edu.au)
  - EdTec – WebCT information (http://www.edtec.unsw.edu.au)
- Counselling support - http://www.counselling.unsw.edu.au
- Library training and support services - http://info.library.unsw.edu.au
- Disability Support Services – Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the Course Coordinator or the Equity Officer (http://www.equity.unsw.edu.au/disabil.html). Early notification is essential to enable any necessary adjustments to be made.

In addition, it is important that all students are familiar with University policies and procedures in relation to such issues as:

- Examination procedures and advice concerning illness or misadventure https://my.unsw.edu.au/student/academiclife/assessment/examinations/examinationrules.html
- Occupational Health and Safety policies and student responsibilities; http://www.riskman.unsw.edu.au/ohs/Policies%20&%20Procedures/UNSW%20OHS%20Accountability.pdf

8. CONTINUAL COURSE IMPROVEMENT

Each year feedback is sought from students and other stakeholders about the courses offered in the School and continual improvements are made based on this feedback. UNSW's Course and Teaching Evaluation and Improvement (CATEI) Process (http://www.ltu.unsw.edu.au/ref4-5-1_catei_process.cfm) is one of the ways in which student evaluative feedback is gathered. Significant changes to courses and programs within the School are communicated to subsequent cohorts of students.

9. COURSE SCHEDULE

Wk No	Reading (7th ed)	Lecture Topics	Tutorial	Comments and Deadlines
1	Chap 1, 2	Introduction to databases	No tutorial/Lab	
2	Chap 2, 4	Data models & E-R modelling	Week 2: Tutorial on appreciation of databases.	
3	Chap 4, 6	E-R modelling	Week 3: Tutorial on ER Modelling	
4	Chap 3	Relational modeling	Week 4: Tutorial on ER Modelling	Lab Exercise 1 is due (will be collected in tutorial)
5	Chap 5	**EDU class (30 min)** Normalization	Week 5: Tutorial on Relational Modelling	
6	Chap 5	Normalization	Week 6: Students will be in **Quad Lab 3**	Pt 1 assignment due Thu, noon (to be submitted to Assignment Box)
7	Chap 5	Normalization	Week 7 Tutorial: Normalization	Lab Exercise 2 & 3 are due (will be collected in tutorial)
8	Chap 7, 8	SQL	Week 8: Students will be in **Quad Lab 3**	
9	Chap 7, 8	SQL (Guest lecturer)	Week 9: Tutorial on SQL	Lab exercises 4 & 5 due (will be collected in tutorial)
Semester Break				
10	Chap 6 + other	**EDU class (30 min)** Object-oriented modelling	Week 10 Tutorial on SQL	
11	Chap 6 + other	Object-oriented modelling	Week 11: Tutorial on OO Modelling	Pt 2 assignment due Thurs, noon (to be submitted to Assignment Box).
12	Chap 9, 15	The database development process & data administration		Group presentations **(Quad Lab 3)**
13	Chap 13	Data Warehouse		Group presentations **(Quad Lab 3)**
14		Course review		Group presentations **(Quad Lab 3)**

Subject to change (changes will be announced in WebCT Vista).