

THE UNIVERSITY OF
NEW SOUTH WALES



Australian School of Business
School of Information Systems, Technology and
Management

INFS5992
DATA MANAGEMENT

COURSE OUTLINE
SESSION 1, 2008

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1. COURSE STAFF

Lecturer-in-charge	email	Office	Consultations
Aybüke Aurum	aybuke@unsw.edu.au	QUAD 2103	Tue 5-6pm 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 6-9pm	QUAD 1049
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<http://www.timetable.unsw.edu.au/current/INFS5992.html>

2.2 Units of Credit

This course is worth 6 UOC.

2.3 Relationship of This Course to Other Course Offerings

The Data Management (INFS5992) course is one of the core courses in MCom (IS major), and offered by the School of Information Systems, Technology and Management.

This course is very useful for those who are studying Accounting, Finance, Marketing or any other business course in the Australia School of Business as it will help them to understand the use and management of information systems in their own discipline. This course is also useful for students who are studying Computer Science as it will provide them a strong background in database modelling concepts.

This course is a **prerequisite** for INFS5926 (Advance Data Management)

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 Data Management (INFS5992) 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. The aims of this course are to:

- Provide a context or background for the database development process, and in particular relational database design
- Teach the principles of conceptual and logical modelling in database design
- Acquire skills in using database management systems
- Obtain experience in small self-directed groups applying interpersonal communication, project management and quality assurance skills.

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

3.2 Student Learning Outcomes

On successful completion of this course students will:

1. Understand the principles of the high-quality relational database design,
2. Develop skills in visual & conceptual modelling and database design;
3. Recognise different approaches for a data modelling and appreciate their complexity.
4. Understand how database development process fits into overall information systems development process
5. Acquire exercise skills in a number of data modelling and design techniques.
6. Develop a simple system using the Microsoft Access database management system.
7. Appreciate issues and responsibilities surrounding database design, implementation and use
8. Acquire experience and skills in technical writing and systems documentation.
9. Gain experience with working within a team, scheduling, and team management.

3.3 Approach to Learning and Teaching

The course consists of one three hour combined lecture/tutorial session each week. Some weeks the lecture (no tute) may extend to three hours. Some weeks will also include a laboratory session within the three-hour session. The primary vehicle for students to achieve the learning outcomes listed above is lectures, tutorials and laboratory sessions.

Your lecturer will work through short case studies and this will be a unique opportunity for you to observe database design techniques put into practice. You are also encouraged to seek clarification by asking questions during lectures. In general, tutorials provide a short recap of

the key concepts from lecture and the opportunity for you to apply these concepts to your assignment project. In this way, your assignment is considered as both a learning and an assessment opportunity.

In this course students will learn entity relationship modelling. Students are required to learn crow's foot ER notation from the textbook -- other notations are not acceptable. In this course we will use SQL-92 as a database language.

3.4 Teaching Strategies

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

You are required to attend one lecture stream (3 hours). 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.

Class Exercises

Class exercises 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 class participation.

Class exercises 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 lecturer the relative goodness or weakness of the solutions, in the light of tasks presented.

Homework and Laboratory Exercises

Homework and Laboratory exercises will be set most weeks, and answers should be prepared by each student for submission the next week. Student responses to three of homework 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 homework exercises (out of three) will be counted towards tutorial assessment. Selected solutions to homework exercises will be given in the class in the week they are due, students should rely on these solutions for feedback on correctness.

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. Late homework or lab exercises will only be accepted with supporting documentation (doctor's certificate, letter from employer etc).

Homework and laboratory exercises may be discussed in groups, but individual solutions must be prepared and submitted (identical printouts are not acceptable). A *Homework-Laboratory Exercise Title Page* is to be attached to work submitted. The homework and laboratory exercises are due on the day of your normal lecture in the week specified.

4. CONTINUAL COURSE EVALUATION AND IMPROVEMENT

Each session 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.unsw.edu.au/learning/pve/catei.html>) is one of the ways in which student evaluative feedback is gathered. The School also solicits feedback from students during the session. Significant changes to courses and programs within the School are communicated to subsequent cohorts of students

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.

5.2 Assessment Details

	Assessable Components	Weight	Due Date	Method of assessment	Learning Outcomes Assessed
1.	Homework	10%	Random	2/3 Tutorial solutions	1, 2, 3, 4, 5, 8, 9
2.	Database Assignment	Part1: 10% Part2: 20%	Part1: Week 5 Part2: Week10 Demo is in week 11	Reports Reports and oral presentation	1, 3, 4, 5, 6, 7, 8, 9
3.	Final Exam	60%	Examination Period	Written exam	1-9

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

5.3 Assignment Format

This 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 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 2-3 persons. 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 you 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 unless alternative arrangements are made with your lecturer.

The assignment provides an opportunity for students to work as a group, on a practical database design and implementation project. 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.

5.4 Assignment Submission Procedure

Assignment components, homework and Lab exercises will be submitted during your allocated lecturer time.

5.5 Late Submission

- All work submitted is expected to be clear, accurate, well-structured, grammatically correct, neat work, which does not contain spelling errors. All submitted work should be suitable for presentation to senior management in an organization. Handwritten assignments and homework exercises are not acceptable.
- The lab exercises and database assignments are due on the day of your normal lecture in the week specified.
- Late submission of assignments will incur a penalty of 10% of the maximum assessment mark per day including weekends and public holidays. For example, an assignment worth 20% will always attract a 2-mark penalty per day. An extension to the time of submission will only be granted under exceptional circumstances by the Lecturer-in-charge. In all cases documented evidence **must** be provided.
- Partial submission of your assignments, homework or lab exercises will not be accepted

5.6 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.

5.7 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 policies 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.

ASB Policy and Process for Special Consideration and Supplementary Exams

In the ASB, requests for special consideration are determined by a Faculty wide panel which will advise the Lecturer in Charge of appropriate action.

If the Faculty panel (see above) grants a special consideration request, this may entitle the student to sit a supplementary examination. In such cases the following procedures will apply:

- Supplementary exams will be scheduled centrally and will be held approximately two weeks after the formal examination period. Actual date will be advised by mid-semester.
- Where a student is granted a supplementary examination as a result of a request for special consideration, the student's original exam (if completed) will not be marked and only the mark achieved in the supplementary examination will count towards the final grade.

Further information concerning supplementary examinations is available on the ASB website.

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 RESPONSIBILITIES AND CONDUCT

7.1 Workload

Information Systems is a discipline undergoing continuous change. Technologies and practices change frequently and those of use involved in the areas of information technology and information management need to be able to understand fundamental IS concepts and to relate them to changes as they occur. This is a postgraduate course; participants will be expected to prepare thoroughly for the weekly sessions and to read broadly on the course. 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. Students are expected to invest approximately **8-10 hours** per week in the following activities:

- Attend class 3 hrs per week
- Examination preparation & reading2 hrs per week
- Group meetings in addition to class2 hrs per week
- Completing homework, laboratory exercises 1 hr per week
- Contribution to assignments2 hrs per week

7.2 Attendance

The standard university rule applies to class attendance. Namely, you are required to attend at least 80% of classes. In the event of illness or misadventure, you must provide your lecturer with documentary evidence. It is the responsibility of the students to obtain and read all handouts and lecture material.

7.3 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

7.4 Keeping Informed

It is your responsibility to keep informed on breaking news regarding the course. Typically, this information is published on the course website. Occasionally, correspondence of an individual nature is required and e-mail may be sent to your official UNSW e-mail account. For more details refer to the “Course Website”.

You should also be familiar with the specific policies of the school found on the school website. This is particularly important for students seeking post examination consultations with staff or applications for special consideration.

8. STUDENT RESOURCES

8.1 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. Several workbooks are available that provide adequate coverage.

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. Shelly GB, Cashman TJ, Pratt PJ, and Last MZ (2003): *Access 2003 – Comprehensive Concepts & Techniques*. Course Technologies, USA.

Additional References

1. Rob P and Coronel C. *Database Systems: Design, Implementation, and Management*. Published by Thomas Course Technology, 7th edition, 2007. ISBN: 1-4188-3593-5.
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

8.2 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
 - o FCE Education Development Unit (<http://education.fce.unsw.edu.au>)
 - o UNSW Learning Centre (<http://www.lc.unsw.edu.au>)
 - o 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>

Learning and Study Support:

ASB Education Development Unit

The Education Development Unit (EDU) provides learning support and assistance to all students in the ASB, to enable them to enhance the quality of their learning. The EDU services are free, and tailored to meet the academic needs of students in the Australian School of Business. The role of the EDU is to provide

- A range of support initiatives for students from the Australian School of Business in relation to their transition to university;
- Learning skills development, resources and activities for Business students
- Academic writing and skills workshops throughout the session;
- Printed and online study skills resources, such as referencing guides, report writing and exam preparation;
- A drop-in EDU Office containing books and resources that can be borrowed;
- A limited consultation service for students with individual or small group learning needs.

The EDU website www.business.unsw.edu.au/edu contains information, online resources and useful links as well as providing information and dates for workshops. More information about the EDU services including resources, workshop details and registration, and consultation request forms are available from the EDU Office.

EDU Contact Details

Location	Room GO7Ground Floor, West Wing, Australian School of Business Building
Telephone:	02 9385 5584
Email:	Edu@unsw.edu.au
Website	www.business.unsw.edu.au/edu

UNSW Learning Centre (<http://www.lc.unsw.edu.au>)

In addition to the EDU services, the UNSW Learning Centre provides academic skills support services for all UNSW students. The Learning Centre is located on Level 2 of the Library and can be contacted by phone: 9385 3890 or through their website.

Technical support:

For any technical support issues (difficulty logging in to websites, problems downloading documents, etc) you can contact the UNSW IT Service Desk at:
(02) 9385 1333 ; Email: servicedesk@unsw.edu.au

Counselling support - <http://www.counselling.unsw.edu.au>

Students experiencing problems of a personal or academic nature are encouraged to contact the Counselling Service at UNSW. This consultation service is free and confidential and run by professional counsellors. The Counselling Service also conducts workshops on topics such as 'Coping With Stress' and 'Procrastination'. The Counselling Service is located on Level 2, Quadrangle East Wing, and can be contacted on 9385 5418.

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.studentequity.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; <https://my.unsw.edu.au/student/atoz/OccupationalHealth.html>

9. COURSE SCHEDULE

Wk	Reading	Topics	Comment & Deadlines
1	Chap. 1	Database Environment	
2	Chap. 3	Modelling Data in the Organization	
Semester Break			
3	Chap. 4	The Enhanced ER Model and Business Rules	Lab Exercise-1: Visual Thought is due.
4	Chap. 5	Logical Database Design and the Relational Model	Lab Exercise-2: Introduction to Microsoft Access is due
5	Chap. 5	EDU lecture Normalization	Assignment Part-1: ER and DD is due.
6	Chap. 5	Normalization Exercises	Lab Exercise-3: Microsoft Access Practice – Creating Tables is due
7	Chap 7&8	SQL & Advanced SQL	Lab Exercise-4: Exploring Access Queries is due.
8	Chap 6&2	Physical Database and Database Development Process	Lab Exercise-5: Microsoft Access Practice- Queries & Reports, is due
9		Lab	Guest Lecturer on Access
10	Chap 14	Object Oriented Data Modelling	Assignment Part-2: Database Implementation and Report is <i>due</i>
11		Lab	Demonstration
12		Overview & Sample Exam	

***The order of topics is subject to change