SISAT
School of Information Systems & Technology
Faculty of Informatics

ISIT112 Database
Subject Outline
Spring Session 2008

Head of School – Associate Professor Peter Hyland, Student Resource Centre, Tel: (02) 4221 3606

GENERAL INFORMATION

Subject Coordinator
Professor Peter Eklund
Telephone Number: 4221 3874
Email: peklund@uow.edu.au
Location: 39.213

Professor Eklund’s consultation times during session:
Day             Time
Monday (Eklund – weeks 7-13)      9.30-11.30
Friday (Eklund – weeks 7-13)      10.30-12.30

Lecturer
Dr Sim Kim Lau
Telephone Number: 4221 4132
Email: simlau@uow.edu.au
Location: 39.220

Dr Lau’s consultation times during session:
Day               Time
Thursday (Week 1 – 6)        12.30-2.30pm
Friday (Week 1 – 6)          10.30-12.30pm

Subject Organisation
Session: Spring Session, Wollongong Campus
Credit Points: 6 credit points
Contact hours per week: 2 hours lectures, 2 hours Computer lab
Lecture Times & Location: Friday 12.30-2.30pm 35.G45
Tutorial Day, Time and Location can be found at: http://www.uow.edu.au/student/timetables/index.html

Students should check the subject's web site regularly as important information, including details of unavoidable changes in assessment requirements will be posted from time to time via e-Learning space http://www.uow.edu.au/student/lol. Any information posted to the web site is deemed to have been notified to all students.

Content
This subject aims to provide a concise and modern treatment of introductory database topics that are useful for information systems professionals. The goal of this subject is to learn the fundamental database concepts including conceptual data modelling, the relational data model and relational algebra and develop skills in the design and manipulation of relational databases using Structured Query
Language (SQL). The subject will also briefly introduce advanced database concepts and emerging database technologies.

**Objectives**

On successful completion of this subject, students should be able to demonstrate an understanding of fundamental database concepts, the typical database system components and functions; understand the role of high-level conceptual data modelling in database design and develop the ability to design and implement conceptual schemas for database applications; demonstrate knowledge of the relational database model and its basic characteristics and the relational algebra; develop the ability to use SQL to create a database and specify retrieval queries and develop skills in database programming by using PL/SQL; advanced database concepts including enhanced data models and emerging database technologies will also be covered.

**Graduate Qualities**

All Schools in the Faculty of Informatics have adopted the UOW Graduate Qualities. On completion of their course graduates will be informed, independent learners, problem solvers, effective communicators and responsible. Further information can be found at http://www.uow.edu.au/about/teaching/qualities/

**Attendance Requirements:**

It is the responsibility of students to attend all lectures/tutorials/labs/seminars/practical work for subjects for which you are enrolled. It should be noted that the amount of time spent on each 6 credit point subject should be at least 12 hours per week, which includes lectures/tutorials/labs etc.

Students MUST attend their allocated tutorial unless they have the written permission of the subject coordinator.

**Method of Presentation:**

In order to maximize learning outcomes, it is strongly recommended that students attend all lectures.

This is a subject based on laboratories and tutorials. Concepts and examples are presented in lectures. Some of them are explored and trained in tutorials, some are practised in the laboratories. Lectures include slides, and working through concepts and problems on the whiteboard. The slides will also be posted on E-Learning.

**Lecture Schedule:**

A proposed Lecture schedule for the subject is as follows:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Laboratory Topics</th>
<th>Lecturer</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Subject overview organization assessment criteria, staffing and personal, schedule and expectations</td>
<td>No labs in week 1</td>
<td>SKL, PWE</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>2</td>
<td>Introduction to Databases</td>
<td>No Lab in week 2</td>
<td>SKL</td>
<td>Chapter 1,2</td>
</tr>
<tr>
<td>3</td>
<td>Data Modelling - ER</td>
<td>Assignment 1 ER Modelling</td>
<td>SKL</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>4</td>
<td>The ER Model</td>
<td>Assignment 1 (cont) ER Modelling</td>
<td>SKL</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>5</td>
<td>Enhanced ER Model and Business Rule</td>
<td>Assignment 2 E-ER Modelling</td>
<td>SKL</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>6</td>
<td>Enhanced ER Model and Business Rule</td>
<td>Assignment 2 (cont) E-ER Modelling</td>
<td>SKL</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>7</td>
<td>Logical RDBMS design and Relational Model</td>
<td>Assignment 3 SQL and MS-Access</td>
<td>PWE</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>8</td>
<td>Mid Term Exam in Lecture</td>
<td>Assignment 3 (cont) SQL and MS-Access</td>
<td>PWE</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Logical RDBMS design and Relational Model</td>
<td>Assignment 4 Data Modelling and MS-</td>
<td>PWE</td>
<td>Chapter 5</td>
</tr>
</tbody>
</table>
Physical database design
Assignment 4 (cont)
Data Modelling and MS-Access
PWE
Chapter 6

Physical database design
Assignment 5
Transformation from RDB model to data model
PWE
Chapter 6

Advanced Concepts
Assignment 5 (cont)
Transformation from RDB model to data model
PWE
Chapter 9-11

Subject Review and Exam Preparation
No Lab in Week 13
SKL, PWE
All

Changes to the above schedule will be posted via e-Learning space http://www.uow.edu.au/student/lol.
Any information posted to the web site is deemed to have been notified to all students.

Subject Materials:
Any readings/references are recommended only and are not intended to be an exhaustive list. Students are encouraged to use the library catalogue and databases to locate additional readings.

Textbook(s):

This textbook is available online from the University Bookshop at:
http://unishop.uow.edu.au/textbooks/

Recommended background and Further Readings

Other Resources:

Additional Readings
Assessment:
This subject has the following assessment components.

<table>
<thead>
<tr>
<th>ASSESSMENT ITEMS &amp; FORMAT</th>
<th>% OF FINAL MARK</th>
<th>GROUP/INDIVIDUAL</th>
<th>DUE DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the week’s specified, lab work will be assigned, students will have two weeks to complete the lab work. Lab sessions are of 2 hours and are supervised</td>
<td>30 %</td>
<td>individual</td>
<td>Week 3, 5, 7, 9, 11 work will be assessed in the lab by your instructor or TA and based on criteria published with the assignment task</td>
</tr>
<tr>
<td>The week 8 – midterm exam.</td>
<td>20 %</td>
<td>individual</td>
<td>90 minute exam instrument, long and short answer questions on material covered in both lecture and lab work</td>
</tr>
<tr>
<td>Final Exam</td>
<td>50 %</td>
<td>individual</td>
<td>120 minute long and short answer questions on all material covered in the subject held during the Formal Examination Period</td>
</tr>
</tbody>
</table>

The final exam will be held during the formal University exam period. It examines all aspects of the material covered in all previous weeks by way of a short and long answer questions. The final exam counts 50% of the total mark.

Notes on Assessment:
All assignments are expected to be completed independently. Plagiarism may result in a FAIL grade being recorded for that assignment.

Electronic Submission of Assessment Items:
Unless otherwise notified by the subject coordinator, all written assignments must be submitted electronically.

To be eligible for a Pass in this subject a student must achieve an overall mark of at least 45% and at least 40% in the final exam. Students who fail to achieve this minimum mark will be given a TF (Technical Fail) for this subject.

Penalties for late submission of assessment items:
Penalties apply to all late work, except if special consideration has been granted. Late submissions will attract a penalty of 20% of the assessment mark per day including weekends. Work more than four (4) days late will be awarded a mark of zero.

Assessed work must be handed in by the date and time given. Assessed work handed in late can be penalised by the deduction (from the mark given to the assessed work) of 20 percentage points per 24 hours of the weekday or part thereof. The operation of this rule will not result in a negative mark being carried forward.

Supplementary Exams
Supplementary Exams will be dealt with in accordance with student academic consideration policy (http://www.uow.edu.au/handbook/courserules/specialconsideration.html) 6.2 Timing of Supplementary Exams.

While the School normally grants supplementary exams when the student does not sit the standard exam for an acceptable reason, each case will be assessed on its own merit and there is no guarantee a supplementary exam will be granted. If a supplementary exam is granted, you will normally be notified via SOLS Mail the time and date of this supplementary exam. You must follow the instructions given in the email message.

Please note that if this is your last session and you are granted a supplementary exam, be aware that your results will not be processed in time to meet the graduation deadline.
Special Consideration Policy
The School recognises that it has a responsibility to ensure equity and consistency across its subjects for all students. Sometimes, in exceptional circumstances, students need to apply for student special consideration in order to complete all assessable work.

The University applies strict criteria to the granting of special consideration. Before applying for student special consideration, students should carefully read the University’s policy which can be found at: http://www.uow.edu.au/handbook/courserules/specialconsideration.html

As an example: If a student requires an extension of time for the completion of an assignment this may be granted in certain circumstances. A request for an extension must be made to the Subject Coordinator via SOLs before the due date.

Plagiarism
When you submit an assessment task, you are declaring the following
1. It is your own work and you did not collaborate with or copy from others.
2. You have read and understand your responsibilities under the University of Wollongong's policy on plagiarism.
3. You have not plagiarised from published work (including the internet). Where you have used the work from others, you have referenced it in the text and provided a reference list at the end of the assignment.

Students must remember that:

Plagiarism will not be tolerated.

Students are responsible for submitting original work for assessment, without plagiarising or cheating, abiding by the University’s policies on Plagiarism as set out in the University Handbook under University Policy Directory and in Faculty handbooks and subject guides. Plagiarism has led to the expulsion from the University.

Student Academic Grievance Policy
The School aims to provide a fair, equitable and productive learning environment for all its students. The Student Academic Grievance Policy seeks to support the achievement of this goal by providing a transparent and consistent process for resolving student academic grievances.

Any student who has a grievance over a result should obtain a Faculty of Informatics Appeal Against Decision or Action Affecting Academic Experience form from the Informatics Student Enquiry Centre. (http://www.uow.edu.au/content/groups/public/@web/@inf/@faculty/documents/doc/uow017433.pdf) The student should firstly take the form to the marker/lecturer to discuss the matter and, if the student is still not satisfied, s/he should take the next step as outlined on the form.

Once the grievance has been considered by the Faculty, if the student still feels the situation has not been fully resolved s/he may consult the Dean of Students. However, the Dean of Students can have no input into the academic judgment of the lecturer and can only review the grievance to ensure proper procedure has been followed.

Relevant University Policies, procedures and students services:
For more information students must refer to the Faculty handbook, online references or consult the UOW policy in full at http://www.uow.edu.au/handbook/courserules/studacgrievpol.html which contains a range of policies on educational issues and student matters.

This outline should be read in conjunction with the following documents:
<table>
<thead>
<tr>
<th>Code of Practice - Teaching and Assessment</th>
<th>Code of Practice - Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code of Practice-Honours</td>
<td>Acknowledgement Practice Plagiarism will not be tolerated:</td>
</tr>
<tr>
<td>Key Dates</td>
<td>Special Consideration Policy:</td>
</tr>
<tr>
<td>Course Progress Policy:</td>
<td>Graduate Qualities Policy:</td>
</tr>
<tr>
<td>Academic Grievance Policy (Coursework and honours students)</td>
<td>Non-Discriminatory Language Practice and Presentation</td>
</tr>
<tr>
<td>Occupational Health and Safety</td>
<td>Intellectual Property Policy</td>
</tr>
<tr>
<td>Human Research Ethics:</td>
<td>Rules for student conduct and discipline:</td>
</tr>
<tr>
<td>Information Literacies Introduction Program</td>
<td>Informatics Faculty Librarian, Ms Annette Meldrum, phone: 4221 4637, email: <a href="mailto:ameldrum@uow.edu.au">ameldrum@uow.edu.au</a></td>
</tr>
<tr>
<td>Student Support Services:</td>
<td>SCSSE SISAT Internet Access &amp; Student Resource Centre</td>
</tr>
<tr>
<td>SCSSE SISAT Computer Usage Rules</td>
<td>SCSSE SISAT Subject Outlines</td>
</tr>
</tbody>
</table>