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# SISAT

School of Information Systems & Technology  
Faculty of Informatics

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## ISIT112 Database Subject Outline Spring Session 2009

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

### GENERAL INFORMATION

#### Subject Coordinator

Telephone Number:

Email:

Location:

Dr Reza Zamani

42213648

reza@uow.edu.au

39.106

Dr Zamani's consultation times during session:

Day

Tuesday

Friday

Time

10:00 am – 12:00 noon

10:00 am – 12:00 noon

#### Subject Organisation

Session:

Credit Points

Contact hours per week:

Lecture Times & Location:

Tutorial Day, Time and Location can be found at:

Spring Session, Wollongong Campus

6 credit points

2hr lectures, 2hr labs

Monday 10:30 AM – 12:30 PM 20.L3

<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/>. Any information posted to the web site is deemed to have been notified to all students.

#### Subject Description

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.

#### Subject 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

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technologies will also be covered.

### **Graduate Qualities**

This subject will continue to the following graduate qualities:

- Informed
- Independent Learners
- Problem Solvers
- Effective Communicators
- Innovation and Design

Further information can be found at:

<http://www.uow.edu.au/informatics/sisat/current/SubjectInformation/UOW051055.html>

### **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.

Satisfactory attendance is deemed by the University, to be attendance at approximately 80% of the allocated contact hours.

Attendance rolls will be kept for lectures and laboratories. If you are present for less than 80% and would have otherwise passed you need to apply for student academic consideration, otherwise a TF (technical fail) grade will be recorded.

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:

<b>Week</b>	<b>Topic</b>	<b>Reading</b>
<b>1</b>	Database Systems & Data Models	Chapters 1 & 2
<b>2</b>	Relational Database Models & Structured Query Language (SQL)	Chapters 3 & 7
<b>3</b>	Entity Relationship Modelling	Chapter 4
<b>4</b>	Normalization of database Tables	Chapter 5
<b>5</b>	Data Modelling (Part 2)	Chapter 6
<b>6</b>	SQL (Part 2)	Chapter 8
<b>7</b>	Database Design	Chapter 9
<b>8</b>	Transaction Management & Tuning SQL commands	Chapters 10 & 11
<b>9</b>	Distributed Database Management	Chapter 12
<b>10</b>	Databases and Business Intelligent	Chapter 13
<b>11</b>	Database Connectivity	Chapter 14
<b>12</b>	Database Administration & Security	Chapter 15
<b>13</b>	Review	All

Based on the class progress, there may be some changes to the above schedule. In case of any changes, they will be posted via e-Learning space <http://www.uow.edu.au/student/>. 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):**

P. Rob & C. Cornel, Database Systems, Design, Implementation, and Management (Eights Edition), 2009, Thomson Course Technology

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

### **Recommended background and Further Readings**

### **Other Resources:**

- 1 P. Wilton, Beginning SQL, Wiley Pub.,2005
- 2 C. Churcher, Beginning SQL queries from Novice to Professional, Springer-Verlag, 2008
- 3 Jeffrey A. Hoffer, Mary B. Prescott and Fred R. McFadden. "Modern Database Management", 9th edition, Pearson Prentice Hall.
- 4 Silberschatz, A., Korth, H.F. and Sudarshan, S. "Database System Concepts", 4th edition, McGraw-Hill, 2002.
- 5 Ramakrishnan, R. and Gehrke, J. "Database Management Systems", 3rd edition, McGraw-Hill, 2003.
- 6 Morrison, J., Morrison, M. and Conrad, R, "Guide to oracle 10g", Thomson, 2006
- 7 Connolly and Begg. "Database Systems: A Practical Approach to Design, Implementation, and Management", 2nd edition, Addison Wesley, 1998.
- 8 Date, C.J. "An Introduction to Database Systems", 8th edition, Addison Wesley, 2004.
- 9 Elmasri, R and Navathe, S. "Fundamentals of Database Systems", 4th edition, Benjamin/Cummings, 2004.

**Assessment:**

This subject has the following assessment components.

ASSESSMENT ITEMS & FORMAT	% OF FINAL MARK	GROUP/ INDIVIDUAL	DUE DATE
Assessment 1: Title (Minor 1)	3%	INDIVIDUAL	Posted on the e-learning space in Week 2 and Due in Week 3 in the computer lab
Assessment 2: Title (Minor 2)	3%	INDIVIDUAL	Posted on the e-learning space in Week 3 and Due in Week 4 in the computer lab
Assessment 3: Title (Minor 3)	3%	INDIVIDUAL	Posted on the e-learning space in Week 4 and Due in Week 5 in the computer lab
Assessment 4: Title (Minor 4)	3%	INDIVIDUAL	Posted on the e-learning space in Week 5 and Due in Week 6 in the computer lab
Assessment 5: Title (Minor 5)	3%	INDIVIDUAL	Posted on the e-learning space in Week 6 and Due in Week 7 in the computer lab
Assessment 6: Title (Minor 6)	3%	INDIVIDUAL	Posted on the e-learning space in Week 7 and Due in Week 8 in the computer lab
Assessment 7: Title (Major 1)	15%	INDIVIDUAL	Posted on the e-learning space in Week 8 and Due in Week 11 in the computer lab
Assessment 8: Title (Minor 7)	3%	INDIVIDUAL	Posted on the e-learning space in Week 11 and Due in Week 12 in the computer lab
Final Examination	64%	INDIVIDUAL	The final examination date will be published on SOLS 3 to 4 weeks before the examination period.

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.

Marking Criteria for Assignments 1-6 & 8

- Completing all the Programs (1 mark).
- Proper answering to your tutor's questions about the associated topic in the computer lab (1 mark).
- Being able to change some part of the codes based on your tutor's request in the computer lab (1 mark).

Marking Criteria for Assignment 7

Assignment 7 includes 6 Tasks. The 15 marks of the assignment have been distributed as follows:

Task1: Online testing (1) Report (1) Task2: Online testing (1) Report (1)

Task3: Online testing (1) Report (1) Task4: Online testing (1) Report (2)

Task5: Online testing (1) Report (3) Task 6: Report (2)

**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.

Submission of assessment items via email will not be accepted.

**Other Procedures for the submission of assessment items:**

All assignments will be returned within 2 weeks of their submission.

**Penalties for late submission of assessment items:**

Penalties apply to all late work, except if student academic consideration has been granted. Late submissions will attract a penalty of 20% of the assessment mark per day. This amount is per day or

part thereof, including weekends.

Work more than (4) days late will be awarded a mark of zero.

The operation of this rule will not result in a negative mark being carried forward.

### **Tutorial/Lab Closure Policy**

If for any reason, the number of students in a tutorial or lab falls below a sustainable enrolment level, as determined by the Head of School, tutorials/labs offered for that subject may be collapsed or deleted.

You will have to attend the new tutorials/lab if this closure affects the one you are attending.

We will endeavour to make this decision no later than Week 4 of session.

### **Supplementary Exams**

Supplementary Exams will be dealt with in accordance with student academic consideration policy (<http://www.uow.edu.au/about/policy/studentacademicconsiderationpolicy.pdf>) 9.2 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.**

### **Student Academic 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 academic consideration in order to complete all assessable work.

The University applies strict criteria to the granting of student academic consideration. Before applying for student academic consideration, students should carefully read the University's policy which can be found at: <http://www.uow.edu.au/about/policy/studentacademicconsiderationpolicy.pdf>.

### **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:

Code of Practice - Teaching and Assessment <a href="http://www.uow.edu.au/handbook/codesofprac/teaching_code.pdf">http://www.uow.edu.au/handbook/codesofprac/teaching_code.pdf</a>	Code of Practice - Students <a href="http://www.uow.edu.au/handbook/codesofprac/cop_students.html">http://www.uow.edu.au/handbook/codesofprac/cop_students.html</a>
Code of Practice-Honours <a href="http://www.uow.edu.au/handbook/CodeofPractice-Honours.pdf">http://www.uow.edu.au/handbook/CodeofPractice-Honours.pdf</a>	Acknowledgement Practice <b>Plagiarism will not be tolerated:</b> <a href="http://www.uow.edu.au/handbook/courserules/plagiarism.html">http://www.uow.edu.au/handbook/courserules/plagiarism.html</a>
Key Dates <a href="http://www.uow.edu.au/student/dates.html">http://www.uow.edu.au/student/dates.html</a>	Student Academic Consideration Policy: <a href="http://www.uow.edu.au/about/policy/studentacademicconsiderationpolicy.pdf">http://www.uow.edu.au/about/policy/studentacademicconsiderationpolicy.pdf</a>
Course Progress Requirements: <a href="http://www.uow.edu.au/student/mrp/index.html">http://www.uow.edu.au/student/mrp/index.html</a>	Graduate Qualities Policy: <a href="http://www.uow.edu.au/about/teaching/qualities/index.html#_The_new_UOW">http://www.uow.edu.au/about/teaching/qualities/index.html#_The_new_UOW</a>
Academic Grievance Policy (Coursework and Honours students) <a href="http://www.uow.edu.au/handbook/courserules/studacgrievpol.html">http://www.uow.edu.au/handbook/courserules/studacgrievpol.html</a>	Non-Discriminatory Language Practice and Presentation <a href="http://staff.uow.edu.au/eed/nondiscrimlanguage.html">http://staff.uow.edu.au/eed/nondiscrimlanguage.html</a>
Occupational Health and Safety <a href="http://www.uow.edu.au/about/policy/ohs.html">http://www.uow.edu.au/about/policy/ohs.html</a>	Ownership of Work & Intellectual Property Policy: <a href="http://www.uow.edu.au/handbook/generalcourserules/UOW028651.html">http://www.uow.edu.au/handbook/generalcourserules/UOW028651.html</a>
Human Research Ethics Committee: <a href="http://www.uow.edu.au/research/rso/ethics/human/">http://www.uow.edu.au/research/rso/ethics/human/</a>	Rules for student conduct: <a href="http://www.uow.edu.au/handbook/generalrules/StudentConductRules.pdf">http://www.uow.edu.au/handbook/generalrules/StudentConductRules.pdf</a>
Independent Learners' Introductory Program <a href="http://www.uow.edu.au/student/attributes/ilip/">http://www.uow.edu.au/student/attributes/ilip/</a>	Informatics Faculty Librarian, Ms Annette Meldrum, phone: 4221 4637, email: <a href="mailto:ameldrum@uow.edu.au">ameldrum@uow.edu.au</a>
Student Support Services: <a href="http://www.uow.edu.au/student/services/">http://www.uow.edu.au/student/services/</a> Informatics Faculty SEDLO ( <b>Student Equity and Diversity Liaison Officers</b> ) Virginie Schmelitschek, phone 4221 3833, <a href="mailto:virginie@uow.edu.au">virginie@uow.edu.au</a>	SISAT Internet Access & Student Resource Centre <a href="http://www.uow.edu.au/informatics/sisat/current/uow024466.html">http://www.uow.edu.au/informatics/sisat/current/uow024466.html</a>
SISAT Computer Usage Rules <a href="http://www.uow.edu.au/informatics/sisat/current/uow024457.html">http://www.uow.edu.au/informatics/sisat/current/uow024457.html</a>	SISAT Subject Outlines <a href="http://www.uow.edu.au/informatics/sisat/current/UOW055502.html">http://www.uow.edu.au/informatics/sisat/current/UOW055502.html</a>