Division of Information and Communication Sciences
Department of Computing

COMP224 Database Systems
2000 - Semester 2

http://www.comp.mq.edu.au/courses/comp224

Lectures:

A/Prof. Leszek Maciaszek (Lecturer in Charge)
room: E6A 319
email: leszek@ics.mq.edu.au
phone: 9850-9519
web: http://www.comp.mq.edu.au/~leszek

Mr Philip Tse
room: E6A 378
email: philip@ics.mq.edu.au
phone: 9850-9578

Practicals (tutorials/workshops):

Ian Cowell email: icowell@ics.mq.edu.au

Time and place (day-time offering):

Lectures:
Monday 10.05 - 10.55 Mason
Thursday 10.05 - 10.55 Mason
Friday 9.05 - 9.55 X5BT1

Practicals:
Monday 11.05 - 11.55 Practical A
Monday 14.05 - 14.55 Practical B
Monday 15.05 - 15.55 Practical C
Tuesday 10.05 - 10.55 Practical D
Tuesday 11.05 - 11.55 Practical E
Tuesday 12.05 - 12.55 Practical F
Tuesday 14.05 - 14.55 Practical G
Tuesday 15.05 - 15.55 Practical H
Tuesday 16.05 - 16.55 Practical I  
Friday 12.05 - 12.55 Practical J  

**Tutorials:**  
Thursday 11.05 - 11.55 Tutorial A E6A 133  
Thursday 12.05 - 12.55 Tutorial B C5C 236  
Thursday 12.05 - 12.55 Tutorial C E6A 133  
Thursday 14.05 - 14.55 Tutorial D E6A 131  
Thursday 15.05 - 15.55 Tutorial E E6A 133  
Friday 10.05 - 10.55 Tutorial F E6A 109  
Friday 10.05 - 10.55 Tutorial G E6A 131  
Friday 11.05 - 11.55 Tutorial H E6A 131  
Friday 11.05 - 11.55 Tutorial I E7B 263  

**Reading list:**  

**Textbooks:**  

**Unit objectives:**  
The aim of this unit is teach students how to program relational database applications. The emphasis is on programming with SQL language, on principles of the relational database model and database design, and on architecture and management of database systems. Practical work involves the use of a commercial database management system (ORACLE8i on a Unix platform) together with the tools to assist in programming client/server database applications.  

**Assessment:**  

**Three Assignments (each worth 10%)**  
Assignments need to be submitted in the COMP224 assignment boxes in building E6A ground floor. They should be well presented and clearly showing on the front cover: student's first name and family name (family name underlined or in capital letters), student number, course name and assignment number. Late assignments will be discounted by 1 mark per day after the deadline.  

**Final examination (70%)**  
Students must perform satisfactorily in the final examination as well as in the combined assignments/tests total in order to pass.  

**Withdrawal**  
The withdrawal dates for the first semester are:  
*on or before 31 August:*  
**NE** - not effectively enrolled, no record on academic transcript, no HECS charge  
*after 31 August:*  
**FW** - failure recorded, HECS paid  
**W** - withdrawal without penalty because of “unavoidable disruption”, W printed on the record, HECS paid
**Code of Behaviour**

The Code of Behaviour sets out our expectations concerning the use of the computing facilities. The University Council has approved a set of rules governing access to and the use of the University's computing facilities. Students who break them may be suspended from using the systems and, in serious cases, may be referred to the Discipline Committee of the University.

The rules set out the rights and, conversely, the responsibilities of all users of the facilities. In particular, they are based on the principle that the files in an account are the owner’s personal property and should be treated as such. Unauthorised use of someone else's account is a serious offence, whether it be copying their files (stealing), or changing them (damage), or merely gaining access to them (trespass). You will be expected to observe these rules and also any other regulations posted in the Department's laboratories.

**Special considerations:**

If *illness or misadventure* makes it impossible for you to sit the final examination, or interfere significantly with your performance in the exam, you are permitted to request "special consideration" (see the University Calendar).

To be eligible for such consideration, you are required to sit a special (supplementary) examination, and should note the following:

- If you are granted special consideration, we will require you to sit *a supplementary examination*. We will not consider your performance in the final examination at all in assessing your final grade.

- You must ensure that you are readily *available* to be contacted, and must hold yourself available to sit for the supplementary examination at short notice on the date and time we set. If you elect to be away from your contact address during the week of the special examination, and so cannot be contacted, or are unavailable to sit for the examination, your grade for this unit will be reported as FA.

- It is essential that you notify the *Registrar* in writing of your misadventure, accompanied by *documentary evidence*. If your application is the result of illness, your medical certificate should indicate the nature of the illness, and its effect on your ability to sit for or to perform in the examination.

- The purpose of any supplementary examination is to resolve the temporary difficulty caused by your illness or misadventure, and is not to give you an advantage over other students by allowing you extra time to study. We will, therefore, hold the special examination as soon as possible, and in determining your grade, we will take into account the possibility of *extra study time* available to you.

- As a *special consideration can only result in being granted a supplementary examination*, it is pointless to lodge the request if you do not intend to sit the special examination.

**Oracle Prize:**

The best COMP224 student will be rewarded the Oracle Corporation Prize to the value of $400.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture (Lecturer)</th>
<th>Lecture Reading (Silberschatz)</th>
<th>Tutorials/Practicals {subject to changes; any changes to tuts/pracs will be confirmed in lectures one week before}</th>
<th>Tut/Prac/Home Reading {Sunderraman; Oracle8 docs}</th>
<th>Asg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Jul 24</td>
<td>Introduction to database systems and data modeling. (Leszek Maciaszek)</td>
<td>1; 2.1 - 2.5</td>
<td>[No Tuts] [No Pracs]</td>
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<td>1</td>
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<tr>
<td>2 July 31</td>
<td>Advanced data modeling and relational algebra. (Philip Tse)</td>
<td>2.6 - 2.10; 3.1 - 3.2</td>
<td>Getting started with ORACLE [Pracs] ER modeling [Tuts]</td>
<td>2.1-2.4.1 Oracle8 doc</td>
<td></td>
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<tr>
<td>3 Aug 7</td>
<td>Relational model. Relational Algebra. The ORACLE system architecture. (Philip Tse)</td>
<td>3.5 - 3.8 Oracle8 doc</td>
<td>Review of basic SQL [Pracs] &amp; [Tuts]</td>
<td>2.4.2-2.4.8 Oracle8 doc</td>
<td></td>
</tr>
<tr>
<td>4 Aug 14</td>
<td>SQL. (Philip Tse)</td>
<td>4</td>
<td>SQL views. DML. Sequences. Dictionary [Pracs] Relational algebra [Tuts]</td>
<td>2.5-2.8 Oracle8 doc</td>
<td>Asg 1 out SQL</td>
</tr>
<tr>
<td>6 Aug 28</td>
<td>Integrity constraints. (Philip Tse)</td>
<td>6 Oracle8 doc</td>
<td>PL/SQL [Pracs] &amp; [Tuts]</td>
<td>4.1-4.4 Oracle8 doc</td>
<td>Asg 1 in PL/SQL</td>
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<tr>
<td>7 Sep 4</td>
<td>Database Design. Normalization. (Philip Tse)</td>
<td>7</td>
<td>Triggers, cursors, packages, error handling [Pracs] &amp; [Tuts]</td>
<td>4.5-4.10 Oracle8 doc</td>
<td>Asg 2 out PL/SQL</td>
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<td>Break Sep 8 - Oct 9</td>
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<tr>
<td>8 Oct 10</td>
<td>Object databases. (Leszek Maciaszek)</td>
<td>8</td>
<td>[No Pracs] Normalization [Tuts]</td>
<td></td>
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<tr>
<td>10 Oct 23</td>
<td>Storage and file structure (Leszek Maciaszek)</td>
<td>10</td>
<td>Oracle8 objects [Pracs] &amp; [Tuts]</td>
<td>2.9; 4.11 Oracle8 doc</td>
<td>Asg 3 out ORDB</td>
</tr>
<tr>
<td>12 Nov 6</td>
<td>Transactions (Leszek Maciaszek)</td>
<td>13 Oracle8 doc</td>
<td>Indexing [Pracs] &amp; [Tuts]</td>
<td>Oracle8 doc</td>
<td>Asg 3 in</td>
</tr>
<tr>
<td>13 Nov 13</td>
<td>Review (Philip Tse; Leszek Maciaszek)</td>
<td></td>
<td>[No Pracs] Transactions [Tuts]</td>
<td>10</td>
<td></td>
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