
School of Computer Science, Australian National University
Comp6240 - Relational Databases
Semester II 2009

General Course Information and Assessment

(version of July 30, 2009)

Outline

This course provides an introduction to the basic concepts of relational databases, and the skills for using them. The central topics are the relational data model and SQL. This will include some of the underlying mathematics as well as notions of integrity, constraints and normalisation. Database design will be taught using Entity Relationship diagrams. We will also learn query and transaction processing, file access methods, security and recovery, privacy and data ethics.

The course breaks down into six main sections

- basic SQL and the relational model,
- modelling and database design,
- normalisation,
- further SQL and database applications, and
- DBMS implementation.
- topics in current database research.

For each of the first five sections, there will be readings from the course text, about 6 lectures, a lab session and an assignment.

People

The main lecturer is Greg O'Keefe greg.okeefe@anu.edu.au. Ben Lippmeier, and Linda Post-niece will take about 6 lectures each in the later part of the course. We also have Cong Huynh, Muhammad Atif and Md Tofazzal Hossain as tutors.

Information Sources

The course website is available through Wattle <http://wattle.anu.edu.au>.

All the lecture notes, lab worksheets, handouts, news and announcements, online discussions and lab group registration will be made available there.

The course text is

Fundamentals of Database Systems
5th edition, Elmasri and Navathe
Addison-Wesley, 2007

Older editions are fine. The text will be available from the Co-op bookshop, and some copies should be available in the reserve section of the Hancock Library. Readings from this text will be assigned every 2 weeks.

The open source relational database management system PostgreSQL will be used in the labs. The PostgreSQL documentation is recommended for additional reading, and includes an excellent SQL reference.

<http://www.postgresql.org/docs/8.3/static/index.html>

The documentation is also available, along with the PostgreSQL software and other resources from the PostgreSQL web-site.

<http://www.postgresql.org>

Activities

Lectures

There are three one hour lecture times each week, but two of them are scheduled together, giving us a two hour block:

Monday	10am - 11am	Chemistry Theatre 1
Wednesday	4pm - 6pm	Chemistry Theatre 1

The second hour of the Wednesday lecture will be skipped in some weeks, watch Wattle for announcements. When we do use the two hours, we will take a break in the middle. Lectures will often conclude with an exercise or question which will be considered in the following lecture.

Recordings of the lectures will be made available on the course web-site along with slides in both presentation and printable formats.

Readings

Students are encouraged to read the following Chapters from the text book as we progress through the course.

Background	Chapters 1 and 2
Basic SQL and the Relational Model	Chapters 5 and 8, especially 8.4
Modelling and Database Design	Chapter 3 and 12, also, 7 is recommended
Normalisation	Chapter 10, and 11 is recommended
Further SQL and Database Applications	Chapters 9 and 17
DBMS Implementation	Chapters 6, 13, 14 and 15

Readings from current research papers will also be assigned later in the course.

Labs

There will be 6 two hour lab sessions. The first, in week 2, will be on the basic computer skills needed to do the more substantial exercises in the course. This is not compulsory for students who are already familiar with the SoCS student computing environment, and will not be assessed. There is also one lab for each section of the course.

The labs will be held in one of the lab rooms on the ground floor of the Computer Sciences building. The first lab session will be in the week two, starting 27 July, the second the following week starting 3 August. After that, labs will be pretty much every second week.

Week Number	Lab Number	Week Beginning
2	1	27 July
3	2	3 August
5	3	17 August
7	4	31 August
9	5	14 September
12	6	19 October

There will be eight or nine different groups, with each one allocated a day of the week, time and lab room. Each student must join one of the lab groups using Wattle, where you will also find the worksheets for these sessions.

Contact Greg ASAP if you have very limited times when you can attend a lab.

There will also be a discussion tutorial on research readings later in the course.

Assignments

There will be one small assignment for each section of the course. These will be made available in the week before the lab for that section, and will be due in the middle of the week following that lab. Assignments should be marked and returned in the next lab session.

Most assignments will be submitted through Wattle, but there may be paper-based assignments as well, which are submitted via the boxes near the double glass sliding doors to the foyer of the Computer Sciences building, near the lab rooms.

Get started on your assignments as soon as possible. There will be penalties for late submission, but more importantly, you will not get late assignments back in the following lab, losing the benefits of quick feedback.

There will also be a short essay assignment later in the course, on the research readings.

Assessment

The assessment consists of the following components (**updated according to class discussion**)

10%	lab participation	Tutors will assess attendance, participation and exercise progress in labs two to six. This will contribute 5%, the remainder coming from the research paper discussion tutorial.
40%	assignments	A written survey of research literature will count for 5%, and each of the other five assignments will count for 7%.
50%	final exam	A three hour written exam at the end of semester. It will cover the whole course content, including assigned readings.

Final marks may be scaled.

Cooperation and Plagiarism

Discussing the course content and activities with other students is a great way to learn, and we encourage it. However *work you hand in for assessment must be your own*.

Assignments submitted electronically, may be run through plagiarism detecting software, and tutors will be asked to look out for copied work. Incidents of plagiarism will be taken seriously and can result in disciplinary action.

Manage Your Own Learning

It is your job to learn the course content. The teaching team is there to help you do this, but do not assume that the official course activities (lectures, labs, assignments) are “enough”. The laboratory exercises, and the exercises suggested in lectures provide an opportunity to assess your understanding of the course material. The text has exercises and review questions at the end of each chapter. The assignments will also provide valuable feedback.

Monitor your own progress and understanding.

If you do not understand something, then do something about it.

Here are some suggestions.

- Reread the relevant lecture notes or sections of the text.
- Post a message on the discussion forum.
- Find alternative sources in the library or on the internet (but be careful, there is rubbish out there).
- Ask your class-mates.
- Talk to your tutor or the lecturer.