



MONASH University
Information Technology

FIT2077
Database design

Unit Guide

Semester 1, 2011

The information contained in this unit guide is correct at time of publication. The University has the right to change any of the elements contained in this document at any time.

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FIT2077 Database design - Semester 1, 2011

This unit looks at the design and implementation issues of database management systems. Advanced database design using the object-relational approach and multi-dimensional database design are explored. Record, file and index structures are dealt with at the basic level. Higher level details of consistency, atomicity and durability are introduced along with modern trends in databases.

Mode of Delivery

Caulfield (Day)

Contact Hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

Workload commitments are:

- two-hour lecture and
- two-hour tutorial/laboratory
- a minimum of 2-3 hours of personal study per one hour of contact time in order to satisfy the reading and assignment expectations.
- You will need to allocate up to 5 hours per week in some weeks, for use of a computer to access the Oracle databases.

Unit Relationships

Prohibitions

CSE3000, FIT3118, FIT4038

Prerequisites

FIT1004 or CSE2132 or equivalent

Chief Examiner

David Taniar

Campus Lecturer

Caulfield

David Taniar

Tutors

Caulfield

Winy (Geng Zhao)

Jason (Kefeng Xuan)

Learning Objectives

At the completion of this unit students will be able to:

- understand object-relational database design;
- understand multi-dimensional database design;
- understand query optimisation and its impact on programming;
- understand semi-structured database design and retrieval;
- understand database trends and current research directions in database management.

Graduate Attributes

Monash prepares its graduates to be:

1. responsible and effective global citizens who:

- a. engage in an internationalised world
- b. exhibit cross-cultural competence
- c. demonstrate ethical values

critical and creative scholars who:

- a. produce innovative solutions to problems
- b. apply research skills to a range of challenges
- c. communicate perceptively and effectively

Assessment Summary

Examination (3 hours): 60%; In-semester assessment: 40%

Assessment Task	Value	Due Date
Class Test	10%	Class Test, Thursday 21 April 2011
Assignment	30%	Week 11, Friday 20 May 2011
Examination 1	60%	To be advised

Teaching Approach

Lecture and tutorials or problem classes

This teaching and learning approach provides facilitated learning, practical exploration and peer learning.

Feedback

Our feedback to You

Types of feedback you can expect to receive in this unit are:

- Informal feedback on progress in labs/tutes
- Graded assignments with comments
- Solutions to tutes, labs and assignments

Your feedback to Us

Monash is committed to excellence in education and regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through SETU, Student Evaluation of Teacher and Unit. The University's student evaluation policy requires that every unit is evaluated each year. Students are strongly encouraged to complete the surveys. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

For more information on Monash's educational strategy, and on student evaluations, see:

<http://www.monash.edu.au/about/monash-directions/directions.html>

<http://www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html>

Previous Student Evaluations of this unit

If you wish to view how previous students rated this unit, please go to

<https://emuapps.monash.edu.au/unitevaluations/index.jsp>

Unit Schedule

Week	Date*	Activities	Assessment
0	21/02/11		No formal assessment or activities are undertaken in week 0
1	28/02/11	Multidimensional Database Design: Introduction	
2	07/03/11	Multidimensional Database Design: Modelling	
3	14/03/11	Multidimensional Database Design: Queries	
4	21/03/11		
5	28/03/11	Object-Relational Database Design: Manipulations	
6	04/04/11	Object-Relational Database Design: Advanced DW Design	
7	11/04/11		
8	18/04/11	Physical Database Design	Class Test, Thursday 21 April 2011

Mid semester break			
9	02/05/11	Physical Database Design	
10	09/05/11	Semi-structured Database Design and Storage	
11	16/05/11	Semi-structured Database Design and Storage	Assignment due, Friday 20 May 2011
12	23/05/11	Semi-structured Database Design and Storage	
	30/05/11	SWOT VAC	No formal assessment is undertaken SWOT VAC

*Please note that these dates may only apply to Australian campuses of Monash University. Off-shore students need to check the dates with their unit leader.

Assessment Policy

To pass a unit which includes an examination as part of the assessment a student must obtain:

- 40% or more in the unit's examination, and
- 40% or more in the unit's total non-examination assessment, and
- an overall unit mark of 50% or more.

If a student does not achieve 40% or more in the unit examination or the unit non-examination total assessment, and the total mark for the unit is greater than 50% then a mark of no greater than 49-N will be recorded for the unit

Assessment Tasks

Participation

• Assessment task 1

Title:

Class Test

Description:

Multidimensional, object-relational, and physical database design

Weighting:

10%

Criteria for assessment:

This is an individual class test. Students will be assessed for their understanding on multidimensional design, object-relational design, and physical database design. Case studies will be given as well.

Due date:

Class Test, Thursday 21 April 2011

• Assessment task 2

Title:

Assignment

Description:

Multidimensional, object-relational, and physical database design

Weighting:

30%

Criteria for assessment:

Students will develop a database design incorporating multidimensional design, temporal design using object-relational methods, and query optimization. A case study will be given as well.

Due date:

Week 11, Friday 20 May 2011

Examinations

- **Examination 1**

Weighting:

60%

Length:

3 hours

Type (open/closed book):

Closed book

Electronic devices allowed in the exam:

None

Assignment submission

Assignment coversheets are available via "Student Forms" on the Faculty website:

<http://www.infotech.monash.edu.au/resources/student/forms/>

You MUST submit a completed coversheet with all assignments, ensuring that the plagiarism declaration section is signed.

Extensions and penalties

Submission must be made by the due date otherwise penalties will be enforced.

You must negotiate any extensions formally with your campus unit leader via the in-semester special consideration process:

<http://www.infotech.monash.edu.au/resources/student/equity/special-consideration.html>.

Returning assignments

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later

Policies

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at:

<http://policy.monash.edu.au/policy-bank/academic/education/index.html>

Key educational policies include:

- Plagiarism
(<http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html>)
- Assessment
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html>)
- Special Consideration
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.html>)
- Grading Scale
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/grading-scale-policy.html>)
- Discipline: Student Policy
(<http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-discipline-policy.html>)
- Academic Calendar and Semesters (<http://www.monash.edu.au/students/key-dates/>);
- Orientation and Transition (<http://www.infotech.monash.edu.au/resources/student/orientation/>);
and
- Academic and Administrative Complaints and Grievances Policy
(<http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.html>)

Student services

The University provides many different kinds of support services for you. Contact your tutor if you need advice and see the range of services available at www.monash.edu.au/students. The Monash University Library provides a range of services and resources that enable you to save time and be more effective in your learning and research. Go to <http://www.lib.monash.edu.au> or the library tab in my.monash portal for more information. Students who have a disability or medical condition are welcome to contact the Disability Liaison Unit to discuss academic support services. Disability Liaison Officers (DLOs) visit all Victorian campuses on a regular basis.

- Website: <http://adm.monash.edu/sss/equity-diversity/disability-liaison/index.html>;
- Telephone: 03 9905 5704 to book an appointment with a DLO;
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus.