MONASH University
Information Technology

FIT9019
Database technology

Unit Guide

Semester 2, 2013

Last updated: 18 Jul 2013

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FIT9019 Database technology - Semester 2, 2013

Database concepts and models, relational database management systems, semantic data modelling, entities and entity relationship modelling, normalisation, user requirements specification, database specification. Storage media and data organisation, logical data structures: linear and non-linear. Physical database implementation, integrity, backup, recovery, security. Structured Query Language, database administration. Current topics; distributed database, data warehousing, Object-oriented database.

Mode of Delivery

Caulfield (Day)

Contact Hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload requirements

Students will be expected to spend a total of 12 hours per week during semester on this unit as follows:

Lectures: 2 hours per week
Tutorials/Lab Sessions: 2 hours per week per tutorial

and up to an additional 8 hours in some weeks for pre-lecture reading, completing lab and project work, private study and revision.

Unit Relationships

Prohibitions

CSE9002

Chief Examiner

Dr Maria Indrawan-Santiago

Campus Lecturer

Caulfield

Lindsay Smith

Academic Overview

Learning Outcomes

At the completion of this unit students will:

- understand the motivations behind the development of database management systems;
- appreciate the underlying theoretical basis of the relational database model and how this model may be implemented in practice;
- understand the differences between non-relational database models and the relational database mode;
- be able to apply logical and physical database design principles to a database implementation;
- be conversant with Structured Query Language (SQL);
- understand the processes involved in database administration, transaction management, concurrency control, restart and recovery.

Unit Schedule

Week	Activities	Assessment
0	Please register in Allocate+ for your tutorials	No formal assessment or activities are undertaken in week 0
1	Introduction	
2	Relational Data Model	
3	SQL data definition and manipulation	
4	SQL Query 1 - single table and multi-tables retrieval	
5	SQL Query 2 - aggregate functions and group by clause	Test 1 - SQL Data Definition (10%) in tutorial classes
6	SQL Query 3 - subquery and Oracle functions	Test 2 - SQL Query 1 (10%) in tutorial classes
7	Oracle Triggers	
8	Transaction and Database maintenance	Test 3 - SQL Query 2 & 3 (10%) in tutorial classes
9	Conceptual Modelling	Test 4 - Oracle Triggers (5%) in tutorial classes
10	Logical Design Modelling	
11	Normalisation and Physical Modelling	
12	Latest development in database industry and research	Database Design Assignment (15%) due Friday 25 October 2013, 11PM
	SWOT VAC	No formal assessment is undertaken in SWOT VAC
	Examination period	LINK to Assessment Policy: http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html

*Unit Schedule details will be maintained and communicated to you via your learning system.

Assessment Summary

Examination (2 hours): 50%; In-semester assessment: 50%

Assessment Task	Value	Due Date
Test 1 - SQL Data Definition	10%	Tutorial classes week 5
Test 2 - SQL Query 1	10%	Tutorial classes week 6
Test 3 - SQL Query 2 & 3	10%	Tutorial classes week 8
Test 4 - Oracle Triggers	5%	Tutorial classes week 9
Database Design Assignment	15%	Friday 25 October 2013, 11PM
Examination 1	50%	To be advised

Teaching Approach

Lecture and tutorials or problem classes

This teaching and learning approach helps students to initially encounter information at lectures, discuss and explore the information during tutorials, and practice in a hands-on lab environment.

Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles
(http://www.infotech.monash.edu.au/resources/staff/edgov/policies/assessment-examinations/unit-assessment-hu

Academic Integrity - Please see the Demystifying Citing and Referencing tutorial at
http://lib.monash.edu/tutorials/citing/

Assessment Tasks

Participation

- **Assessment task 1**

  Title:
  Test 1 - SQL Data Definition
  Description:
  Practical test to write SQL statements from week 3 materials.
  Weighting:
  10%
  Criteria for assessment:
  Correctness of the SQL statements.
  Due date:
  Tutorial classes week 5

- **Assessment task 2**

  Title:
  Test 2 - SQL Query 1
  Description:
  Practical test to write SQL statements from week 4 materials.
  Weighting:
  10%
  Criteria for assessment:
  Correctness of the SQL statements.
  Due date:
  Tutorial classes week 6

- **Assessment task 3**

  Title:
  Test 3 - SQL Query 2 & 3
  Description:
  Practical test to write SQL statements from week 5 and 6 materials.
  Weighting:
  10%
  Criteria for assessment:
  Correctness of the SQL statements.
  Due date:

Tutorial classes week 8

- **Assessment task 4**

Title:
Test 4 - Oracle Triggers
Description:
Practical test to write Oracle triggers.
Weighting:
5%
Criteria for assessment:
Due date:
Tutorial classes week 9

- **Assessment task 5**

Title:
Database Design Assignment
Description:
Develop a database design based on a given scenario.
Weighting:
15%
Criteria for assessment:

- Correctness usage of ER diagram notations.
- Correctness of normalisation process.
- Correctness of the design in depicting the given scenario.
- Adherence of the design to relational model principles.

Due date:
Friday 25 October 2013, 11PM

Examinations

- **Examination 1**

Weighting:
50%
Length:
2 hours
Type (open/closed book):
Closed book
Electronic devices allowed in the exam:
None

Learning resources

Monash Library Unit Reading List
http://readinglists.lib.monash.edu/index.html

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
- Interviews

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.monash.edu.au/exams/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.

Assignment submission

It is a University requirement (http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html) for students to submit an assignment coversheet for each assessment item. Faculty Assignment coversheets can be found at http://www.infotech.monash.edu.au/resources/student/forms/. Please check with your Lecturer on the submission method for your assignment coversheet (e.g. attach a file to the online assignment submission, hand-in a hard copy, or use an online quiz). Please note that it is your responsibility to retain copies of your assessments.

Online submission

If Electronic Submission has been approved for your unit, please submit your work via the learning system for this unit, which you can access via links in the my.monash portal.

Required Resources

Please check with your lecturer before purchasing any Required Resources. Limited copies of prescribed texts are available for you to borrow in the library, and prescribed software is available in student labs.

Acrobat Reader is required to view study materials. It is freely available from: http://get.adobe.com/uk/reader/

Recommended text(s)

Connolly, T. and Begg, C. (2009). *Database Systems - A Practical Approach to Design, Implementation and Management*. (5th Edition) Addison-Wesley (ISBN: 13: 978-0-321-52306-7).

Elmasri, R. & Navathe, S.B. (2010). *Fundamentals of Database Systems*. (6th Edition) Addison-Wesley

Assessment Requirements

(ISBN: 13: 978-0-136-08620-9).

Other Information

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: www.policy.monash.edu.au/policy-bank/academic/education/index.html

Key educational policies include:

- Aademic integrity; http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-academic-integrity-policy.h
- Assessment in Coursework Programs; http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-po
- Special Consideration; http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.ht
- 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/dates/
- Orientation and Transition; http://intranet.monash.edu.au/infotech/resources/students/orientation/
- Academic and Administrative Complaints and Grievances Policy; http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.h
- Code of Practice for Teaching and Learning; http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-teac

Graduate Attributes Policy

http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-policy.ht

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 http://www.monash.edu.au/students. For Sunway see http://www.monash.edu.my/Student-services, and for South Africa see http://www.monash.ac.za/current/.

Monash University Library

The Monash University Library provides a range of services, resources and programs that enable you to save time and be more effective in your learning and research. Go to www.lib.monash.edu.au or the library tab in my.monash portal for more information. At Sunway, visit the Library and Learning Commons at http://www.lib.monash.edu.my/. At South Africa visit http://www.lib.monash.ac.za/.

Disability Liaison Unit

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://www.monash.edu/equity-diversity/disability/index.htmlTelephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Commuity Services at 03 55146018 at SunwayEmail: dlu@monash.eduDrop In: Equity and Diversity Centre, Level 1, Building 55, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Sunway Campus

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 the Student Evaluation of Teaching and Units (SETU) survey. 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, see:

www.monash.edu.au/about/monash-directions and on student evaluations, see:
www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html

Previous Student Evaluations of this Unit

Previous student feedback has highlighted the following strengths in this unit:

- meeting its specified objectives
- providing useful feedback to students
- intellectually stimulating

If you wish to view how previous students rated this unit, please go to
https://emuapps.monash.edu.au/unitevaluations/index.jsp