MONASH University
Information Technology

FIT3003
Business intelligence and data warehousing

Unit Guide

Semester 2, 2015

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.

Last updated: 23 Jul 2015

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Automation and the use of technological tools have resulted in the accumulation of vast volumes of data by modern business organisations. Data warehouses have been set up as repositories to store this data and improved techniques now result in the speedy collection and integration of such data. OLAP technology has resulted in the faster generation of reports and more flexible analysis based on the data repositories. This unit will explore the concepts of data warehousing and OLAP, covering the data processing technological requirements for data warehousing and OLAP and will provide hands on experience on designing data warehousing and OLAP systems.

Mode of Delivery

Clayton (Day)

Workload Requirements

Minimum total expected workload equals 12 hours per week comprising:

(a.) Contact hours for on-campus students:

- Two hours of lectures
- One 2-hour laboratory

(b.) Additional requirements (all students):

- A minimum of 2 hours of personal study per one hour of contact time in order to satisfy the reading and assignment expectations.

See also Unit timetable information

Unit Relationships

Prerequisites

One of FIT1004, FIT2010, FIT1013, BUS1010, BUS3112, CSE2316, CSE3316

Chief Examiner

Associate Professor David Taniar

Campus Lecturer

Clayton

Associate Professor David Taniar

Tutors

Clayton

Dr Say Ying Lim

Agnes Haryanto

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

Based on previous student and staff feedback the unit in this semester will focus on data warehousing, and exclude data mining.

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

Academic Overview

Learning Outcomes

At the completion of this unit, students should be able to:

- design multi-dimensional databases and data warehouses;
- use fact and dimensional modelling;
- implement online analytical processing (OLAP) queries;
- explain query optimisation and its impact on multi-dimensional design;
- create business intelligence reports using data warehouses and OLAP.

Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	Data Warehousing: An Overview	
2	Data Warehousing: Modelling	
3	Data Warehousing: Modelling (Advanced)	
4	Data Warehousing: Bridge Tables	
5	Data Warehousing: Bridge Tables and Temporal	
6	Temporal Data Warehousing	
7	OLAP Queries	Class Test: Monday 7-Sep-2015, 2-4pm
8	OLAP Query Processing	
9	OLAP Query Tuning	
10	OLAP Query Tuning	
11	Business Intelligence Advanced Topics	Assignment due date: Friday 16-Oct-2015, 5pm
12	Business Intelligence Advanced Topics	
	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.

Teaching Approach

Lecture and tutorials or problem classes

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

Assessment Summary

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

Assessment Task	Value	Due Date
Class Test	10%	Monday 7-Sep-2015, 2-4pm
Assignment	30%	Friday 16-Oct-2015, 5pm
Examination 1	60%	To be advised

Assessment Requirements

Assessment Policy

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

Academic Integrity - Please see resources and tutorials at
http://www.monash.edu/library/skills/resources/tutorials/academic-integrity/

Assessment Tasks

Participation

- **Assessment task 1**

  Title:
  Class Test
  Description:
  Data warehousing design test. This assessment relates to Learning Outcomes: 1 and 2.
  Weighting:
  10%
  Criteria for assessment:
  Students will be assessed on their understanding of data warehousing design.
  Due date:
  Monday 7-Sep-2015, 2-4pm

- **Assessment task 2**

  Title:
  Assignment
  Description:
  Students will develop a data warehouse design. A case study will be given as well. This
  assessment relates to Learning Outcomes: 1, 2, 3, 4, and 5.
  Weighting:
  30%
  Criteria for assessment:
  Students will be assessed on their understanding of data warehousing design, OLAP, and
  query processing.
  Due date:
  Friday 16-Oct-2015, 5pm

Examinations

- **Examination 1**

  Weighting:
  60%
  Length:
  3 hours
  Type (open/closed book):

Closed book
Electronic devices allowed in the exam:
None

Learning resources

Monash Library Unit Reading List (if applicable to the unit)
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
- Solutions to tutes, labs and assignments

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/student-academic-integrity-managing-pla
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 electronic submission). 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.

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

Faculty resources and policies

Important student resources including Faculty policies are located at
http://intranet.monash.edu.au/infotech/resources/students/

Graduate Attributes Policy

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

Student Charter

www.opq.monash.edu.au/ep/student-charter/monash-university-student-charter.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 http://www.monash.edu.au/students. For Malaysia 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 Malaysia, 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.html
- Telephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Commuity Services at 03 55146018 at Malaysia
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1, Building 55, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Malaysia Campus