



MONASH University
Information Technology

FIT5095
Data warehousing

Unit Guide

Semester 1, 2012

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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FIT5095 Data warehousing - Semester 1, 2012

Managerial decision-makers often require information held in various organisational information systems to make improved strategic decisions. A data warehouse is designed to provide high quality data from a number of sources both inside and outside the organisation and is an example of a large-scale decision system. This unit presents students with coverage of several important aspects of data warehousing. These include the purpose of a data warehouse, data warehouse design, data warehouse architecture, data sourcing, implementing the data warehouse, organisational issues involved with designing and implementing a data warehouse, data warehouse governance and case studies.

Mode of Delivery

Caulfield (Evening)

Contact Hours

2 hrs lectures/wk, 2 hr laboratory/wk

Workload

You are expected to spend 12 hours per week on various activities including reading, communication with other students and unit lecturers, and preparation for learning tasks and formal assessments.

Unit Relationships

Prohibitions

IMS5026

Prerequisites

FIT9003

Chief Examiner

Dr Rob Meredith

Campus Lecturer

Caulfield

Rob Meredith

Academic Overview

Outcomes

At the completion of this unit students will:

- have knowledge of the theories and principles of data warehousing;
- understand the potential benefits of data warehousing;
- understand the techniques and tools used to design a data warehouse;
- understand the theories and principles of data warehousing with regard to the practice of decision support;
- be able to design multi-dimensional data structures;
- appreciate how to interact effectively with managers, consultants and vendors in the development of a data warehouse.

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

Assessment Task	Value	Due Date
Assignment 1: Data Warehouse Design	20%	Week 7
Assignment 2: Research Essay	30%	Week 11
Examination 1	50%	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
- Other: Online discussion forums with comments

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

Based on student feedback laboratory sessions have been extended from one hour to two each week, and the exercises and topics covered have been revised. A laboratory class dealing with ETL tools has been added.

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

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

Required Resources

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

While no software is necessarily required, we will be making use of Microsoft SQL Server and Pentaho in the laboratories. You will also find that a copy of Microsoft Office and Microsoft Visio will be of use during assignments. All of this software is installed by default in the student laboratories, but copies can be borrowed and installed on your personal computer through the Faculty of IT's website (<http://www.infotech.monash.edu.au>)

Recommended text(s)

Kimball, R., Reeves, L., Ross, M., & Thornthwaite, W. . (1998 or later). *The Data Warehousing Lifecycle Toolkit*. (Any) John Wiley & Sons.

Kimball, R., & Ross, M.. (2002). *The Data Warehouse Toolkit: The Complete Guide to Dimensional Modelling*. () John Wiley & Sons.

Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	Introduction to the unit and Data Warehouse concepts	
2	Data Warehousing as a process	
3	Data Warehouse Design 1 - Dimensional Modelling	
4	Data Warehouse Design 2 - Dimensional Modelling Continued	
5	Physical Design	
6	Data Warehousing Architectures	
7	Methodologies and Data Mining	Assignment 1 due
8	Organisational Issues and Cases	
9	Data quality and metadata management	
10	Data Warehouse technology decisions	
11	Data Warehouse Governance	Assignment 2 due
12	Review and Conclusion	
	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 MUSO (Blackboard or Moodle) learning system.

Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles

(<http://www.infotech.monash.edu.au/resources/staff/edgov/policies/assessment-examinations/unit-assessment-hu>)

Assessment Tasks

Participation

• Assessment task 1

Title:

Assignment 1: Data Warehouse Design

Description:

Using the multi-dimensional modelling technique, a logical design and requirements specification for a data warehouse will be produced by students for a given case study.

Weighting:

20%

Criteria for assessment:

Assignment 1 will be assessed according to the following criteria:

1. Correctness of schema notation
2. Quality of schema design in regards to elegance and support for all business requirements, and quality of justification of the design
3. Quality of sample reports demonstrating user requirements
4. Quality and professionalism of presentation, including layout, structure and grammar

Due date:

Week 7

• Assessment task 2

Title:

Assignment 2: Research Essay

Description:

A 3000 word essay on a data warehousing issue or topic.

Weighting:

30%

Criteria for assessment:

Assignment 2 will be assessed according to the following criteria:

1. Logical structure
2. Critical analysis and understanding of the topic
3. Literature utilised, including range, relevance and number
4. Conclusions drawn
5. Quality of writing, including expression, presentation and citation technique

Due date:

Week 11

Examinations

• Examination 1

Weighting:

50%

Length:

2 hours

Type (open/closed book):

Closed book

Electronic devices allowed in the exam:

None

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).

Online submission

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

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.

Resubmission of assignments

Assignments may not be resubmitted.

Referencing requirements

Students should use the APA 5th referencing style for their assignments.

See <http://guides.lib.monash.edu/content.php?pid=88267&sid=656564> for the Library Guides for Citing and Referencing.

Assessment Requirements

Note that the Library provides a free copy of the citation software EndNote, which will automatically format your bibliography for you in the correct style. See <http://guides.lib.monash.edu/endnote>

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:

<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-p>)
- Special Consideration
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.h>)
- 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>)
- Codes of Practice for Teaching and Learning
(<http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-tea>)

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

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. 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/>.

Academic support services may be available for students who have a disability or medical condition. Registration with the Disability Liaison Unit is required. Further information is available as follows:

- Website: <http://monash.edu/equity-diversity/disability/index.html>;
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Sunway Campus
- Telephone: 03 9905 5704, or contact the Student Advisor, Student Community Services at 03 55146018 at Sunway