FIT5095
Data warehousing

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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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 (Day)

Contact Hours

2 hrs lectures/wk, 2 hr laboratory/wk

Workload

For on campus students, workload commitments are:

- two-hour lecture and
- two-hour tutorial
- a minimum of 3-4 hours of personal study per one hour of contact time in order to satisfy the reading and assignment expectations.

Unit Relationships

Prohibitions

IMS5026

Prerequisites

FIT9003

Chief Examiner

Rob Meredith

Campus Lecturer
Learning Objectives

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%

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment One: Data Warehouse Design</td>
<td>20%</td>
<td>Week 8</td>
</tr>
<tr>
<td>Assignment Two: Research Essay</td>
<td>30%</td>
<td>Week 11</td>
</tr>
<tr>
<td>Examination 1</td>
<td>50%</td>
<td>To be advised</td>
</tr>
</tbody>
</table>

Teaching Approach

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.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

Required Resources

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 Helpdesk (Level 6, Building H, Caulfield Campus).

Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date*</th>
<th>Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21/02/11</td>
<td>No formal assessment or activities are undertaken in week 0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>28/02/11</td>
<td>Introduction to the unit and data warehouse concepts</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>07/03/11</td>
<td>Data Warehousing as a process</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>14/03/11</td>
<td>Data Warehouse Design 1 - Dimensional Modelling</td>
<td></td>
</tr>
</tbody>
</table>
| 4    | 21/03/11 | Data Warehouse Design 2 - Dimensional Modelling
Continued |
| 5    | 28/03/11 | Physical Design |
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:** Assignment One: 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 one 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 requirement;
4. Quality and professionalism of presentation, including layout, structure and grammar.

Due date: Week 8

• Assessment task 2

Title: Assignment Two: Research Essay
Description: A 3000 word essay on a data warehousing issue or topic.
Weighting: 30%
Criteria for assessment: The essay 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

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.

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)
- 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

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.

There is no required text for you to purchase. Instead, regular weekly readings will be posted to Moodle which students are expected to read. However, if you wish to purchase a textbook to assist your study, either of the following texts will be useful, especially in the first half of the semester. Current editions can be purchased new, but there are many second hand copies available at various bookshops in Melbourne.
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