FIT5095
Data warehousing

Unit Guide
Semester 1, 2013

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, 2013

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 requirements

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

Learning 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.
### Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No formal assessment or activities are undertaken in week 0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Introduction to the unit and Data Warehouse concepts</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Data Warehousing as a process</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Data Warehouse Design 1 - Dimensional Modelling</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Data Warehouse Design 2 - Dimensional Modelling continued</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Physical Design</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Data Warehousing Architectures Assignment 1 due</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Methodologies and Data Mining</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Organisational Issues and Cases</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Data quality and metadata management</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Data Warehouse technology decisions</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Data Warehouse Governance Assignment 2 due</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Review and Conclusion</td>
<td></td>
</tr>
<tr>
<td>SWOT VAC</td>
<td>No formal assessment is undertaken in SWOT VAC</td>
<td></td>
</tr>
</tbody>
</table>

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

### 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 1 - Data Warehouse Design</td>
<td>20%</td>
<td>Week 6</td>
</tr>
<tr>
<td>Assignment 2 - 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

**Lecture and tutorials or problem classes**

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

Assessment Policy

Faculty Policy - Unit Assessment Hurdles

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

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 6

• 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:
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
- Other: Online discussion forums with comments

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:

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

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](http://guides.lib.monash.edu/endnote)

**Assignment submission**

It is a University requirement ([http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html](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/](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 learning site 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.

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](http://www.infotech.monash.edu.au)).

**Recommended text(s)**


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:

- 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/dates/
- Orientation and Transition; http://intranet.monash.edu.au/infotech/resources/students/orientation/
- Graduate Attributes Policy http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-policy.html

Graduate Attributes Policy

http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-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 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.html
Telephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Community Services at 03 55146018 at Sunway
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, 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

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