MONASH University
Information Technology

FIT5195
Business intelligence and data warehousing

Unit Guide

Semester 2, 2014

Last updated: 18 Jul 2014

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FIT5195 Business intelligence and data warehousing - Semester 2, 2014

This unit is intended to provide students with a framework for understanding business intelligence systems as well as the provision of high quality, integrated data for decision support through data warehousing. The unit has a particular focus on the evolutionary process of developing a business intelligence system and multi-dimensional modelling for structuring business intelligence data. The unit also presents students with coverage of several important aspects of business intelligence and data warehousing, including architecture, design, implementation, data sourcing, organisational issues and governance. The unit will present this material using relevant research, case studies and practical exercises. Students will develop a prototype business intelligence system using a business intelligence software package.

Mode of Delivery

- Caulfield (Day)
- Caulfield (Off-campus)

Workload Requirements

Minimum total expected workload equals 12 hours per week comprising:

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

- 2 hours of lectures
- One 2-hour laboratory

(b.) Study schedule for off-campus students:

- Off-campus students generally do not attend lecture and tutorial sessions, however should plan to spend equivalent time working through the relevant resources and participating in discussion groups each week.

(c.) Additional requirements (all students):

- A minimum of 8 hours independent study per week for completing lab and project work, private study and revision.

Unit Relationships

Prohibitions

FIT5095, FIT5093

Prerequisites

FIT5132 or FIT9003 or equivalent

Chief Examiner

Dr Rob Meredith

Campus Lecturer

Caulfield

Steve Remington

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

This is the second offering of the unit, and at the time of writing, SETU feedback from the previous semester was not available. Based on informal feedback from students and a teaching staff review of the unit, minor changes have been made to the major assignment, combining two previously separate assignments into a single integrated deliverable with two submissions. This will streamline students' work and avoid reptition across the two assignments while still allowing for feedback throughout the semester.

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

On successful completion of this unit, students should be able to:

- describe the scope and application of business intelligence and decision support;
- design systems for sourcing and structuring data to provide an integrated, non-volatile collection of data for decision support using data warehouses;
- design multidimensional data models and implement them using star schemas and relational databases;
- communicate and foster realistic expectations of the role of OLAP technology and business intelligence systems in management and decision support;
- explain the need for evolutionary development approaches to developing business intelligence and data warehouse systems;
- develop a simple business intelligence system using an OLAP tool;
- apply theories and principles of data visualisation to encourage high quality analysis of business information to inform decision making;
- design governance mechanisms for the development and management of business intelligence and data warehouse systems in an organisation.

Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	Understanding Business Intelligence and Data Warehousing	Student Portfolio submissions made throughout the semester
2	Business Intelligence Interfaces 1	
3	Business Intelligence Interfaces 2	
4	Dimensional Modelling for Business Intelligence Applications	
5	Dimensional Modelling for the Data Warehouse	
6	Designing for Customer Relationship Management and Data Warehousing Architectures	
7	Data Quality and the Extract, Transform and Load (ETL) Process	
8	Development Lifecycles	Business Intelligence Application Design due
9	Business Intelligence & Data Warehousing Case Studies	
10	Governance for Business Intelligence & Data Warehousing Projects	
11	Contemporary Directions in Business Intelligence	Data Warehouse Design Specification due
12	Guest Lecture	Final Student Portfolio due before SWOT VAC
	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 helps students to initially encounter information at lectures, discuss and explore the information during tutorials, and practice in a hands-on lab environment.
- **Simulation or virtual practice**
  This approach allows gives students the opportunity to put into practice skills learnt during lectures and tutorials in a simulation of real-world scenarios.

Assessment Summary

Examination (3 hours): 50%; In-semester assessment: 50%

Assessment Task	Value	Due Date
Design Assignment Part 1: Business Intelligence Application Design	20%	Week 8
Design Assignment Part 2: Data Warehouse Design Specification	15%	Week 11
Student Portfolio	15%	Submissions made throughout the semester. Final Portfolio due before SWOT VAC
Examination 1	50%	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:
    Design Assignment Part 1: Business Intelligence Application Design
    Description:
    Given a case study of a business decision problem, students will perform a dimensional
    analysis, design a business intelligence application and implement a prototype.
    Weighting:
    20%
    Criteria for assessment:

    - ◆ Quality of support for business requirements
    - ◆ Quality of the interface design
    - ◆ Correctness of dimensional model
    - ◆ Quality and professionalism of presentation

    Due date:
    Week 8

- **Assessment task 2**

    Title:
    Design Assignment Part 2: Data Warehouse Design Specification
    Description:
    Building on the work from Part 1, students will extend the design report to include
    specification of a supporting data warehouse using star-schema dimensional models. The
    design will also include ETL mapping to source information systems and a data dictionary.
    Weighting:
    15%
    Criteria for assessment:

    - ◆ Correctness of schema construction
    - ◆ Quality of design and justification, including support for designs from Part 1.
    - ◆ Identification of business requirements
    - ◆ Quality and professionalism of presentation

    Due date:
    Week 11

Assessment Requirements

- **Assessment task 3**

  Title:
  Student Portfolio
  Description:
  A selection of exercises and study tasks will be made available to students, including reflections on readings, modelling and other skills-based tasks. Students will select six of these over the course of the semester for submission and assessment.
  Weighting:
  15%
  Criteria for assessment:
  Each portfolio task will have customised assessment criteria. Typical criteria for a modelling task would be:

  - Quality of the model
  - Correctness of the model

  Typical criteria for a reflective piece would be:

  - Depth of analysis
  - Quality of expression

  Due date:
  Submissions made throughout the semester. Final Portfolio due before SWOT VAC

Examinations

- **Examination 1**

  Weighting:
  50%
  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

Faculty of Information Technology Style Guide

Feedback to you

Examination/other end-of-semester assessment feedback may take the form of feedback classes, provision of sample answers or other group feedback after official results have been published. Please check with your lecturer on the feedback provided and take advantage of this prior to requesting individual consultations with staff. If your unit has an examination, you may request to view your examination script booklet, see
http://intranet.monash.edu.au/infotech/resources/students/procedures/request-to-view-exam-scripts.html

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.

Referencing requirements

Students should follow the instructions in the Referencing section of the Faculty Style Guide.

For information on how to cite and reference correctly, see the Library Guides for Citing and Referencing at http://guides.lib.monash.edu/content.php?pid=88267&sid=656564

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 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.

Technological Requirements

Students should have access to a Windows or Mac OS computer for work on assignments. Software will be available in student computer labs as well as for download and installation on personal computers.

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:

- Student Academic Integrity Policy and Student Academic Integrity: Managing Plagiarism and Collusion Procedures ;
  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

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