



MONASH University

FIT5158
Customer relationship management and data mining

Unit guide

Semester 1, 2009

Last updated : 20 Apr 2009

Table of Contents

<u>FIT5158 Customer relationship management and data mining - Semester 1, 2009</u>	1
<u>Unit leader</u> :.....	1
<u>Lecturer(s)</u> :.....	1
<u>Caulfield</u>	1
<u>Tutors(s)</u> :.....	1
<u>Caulfield</u>	1
<u>Introduction</u>	1
<u>Unit synopsis</u>	1
<u>Learning outcomes</u>	1
<u>Workload</u>	2
<u>Unit relationships</u>	2
<u>Prerequisites</u>	2
<u>Relationships</u>	2
<u>Continuous improvement</u>	2
<u>Student Evaluations</u>	3
<u>Improvements to this unit</u>	3
<u>Unit staff - contact details</u>	3
<u>Unit leader</u>	3
<u>Lecturer(s)</u> :.....	3
<u>Tutor(s)</u> :.....	3
<u>Additional communication information</u>	3
<u>Teaching and learning method</u>	3
<u>Tutorial allocation</u>	4
<u>Communication, participation and feedback</u>	4
<u>Unit Schedule</u>	4
<u>Unit Resources</u>	4
<u>Prescribed text(s) and readings</u>	4
<u>Recommended text(s) and readings</u>	5
<u>Required software and/or hardware</u>	5
<u>Equipment and consumables required or provided</u>	5
<u>Study resources</u>	5
<u>Library access</u>	5
<u>Monash University Studies Online (MUSO)</u>	5
<u>Assessment</u>	6
<u>Unit assessment policy</u>	6
<u>Assignment tasks</u>	6
<u>Examinations</u>	7
<u>Assignment submission</u>	7
<u>Assignment coversheets</u>	7
<u>University and Faculty policy on assessment</u>	7
<u>Due dates and extensions</u>	7
<u>Late assignment</u>	8
<u>Return dates</u>	8
<u>Plagiarism, cheating and collusion</u>	8
<u>Register of counselling about plagiarism</u>	9
<u>Non-discriminatory language</u>	9
<u>Students with disabilities</u>	9
<u>Deferred assessment and special consideration</u>	9

FIT5158 Customer relationship management and data mining - Semester 1, 2009

Unit leader :

Damminda Alahakoon

Lecturer(s) :

Caulfield

- Damminda Alahakoon

Tutors(s) :

Caulfield

- Ms Jeewanee Bamunusinghe
- Mr. Asanka Fonseka

Introduction

Welcome to FIT5158 Customer Relationship Management and Data Mining for semester 1, 2009. This 6 point unit belongs to the Business Systems track in the Master of Business Information Systems degree. The unit fits in well with their business intelligence units such as Data Warehousing and Business Intelligence. FIT5158 focuses on business data analysis in a customer relationship management context highlighting the importance of building a customer centric organization.

Unit synopsis

ASCED code 020399 IS not elsewhere classified

The unit will cover the following topics:

Analytical customer relationship management data warehousing for better CRM; data mining in customer relationship management; decision trees; artificial neural networks; memory based techniques and collaborative filtering; market basket analysis and association rules; automatic cluster detection; building a customer centric organization with data mining.

Learning outcomes

At the conclusion of FIT5158 students will be able to:

- use software tools and techniques for identifying business opportunities
- plan direct marketing campaigns and product introductions
- analyse and understand customer churn with data mining tools
- create stable and accurate predictive models and interpret results

- provide advice to management on CRM
- advise management on data mining techniques and tools

Workload

- * two-hour lecture and
- * one-hour tutorial (or laboratory) (requiring advance preparation)
- * a minimum of 2-3 hours of personal study per one hour of contact time in order to satisfy the reading and assignment expectations.
- * You will need to allocate up to 5 hours per week in some weeks, for use of a computer, including time for newsgroups/discussion groups.

Unit relationships

Prerequisites

Before attempting this unit you must have satisfactorily completed

FIT9004

, or equivalent.

Relationships

FIT5158 is a core unit in the Business Systems professional track of the MBIS degree, and an elective unit for the MBIS and other postgraduate courses within the Faculty of IT.

Before attempting this unit you must have satisfactorily completed

FIT9004 or equivalent in your degree.

Continuous improvement

Monash is committed to 'Excellence in education' (Monash Directions 2025 - <http://www.monash.edu.au/about/monash-directions/directions.html>) and strives for the highest possible quality in teaching and learning.

To monitor how successful we are in providing quality teaching and learning Monash regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through Unit Evaluation Surveys. The University's Unit Evaluation policy (<http://www.policy.monash.edu/policy-bank/academic/education/quality/unit-evaluation-policy.html>) requires that every unit offered is evaluated each year. Students are strongly encouraged to complete the surveys as they are an important avenue for students to "have their say". The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

Faculties have the option of administering the Unit Evaluation survey online through the my.monash portal or in class. Lecturers will inform students of the method being used for this unit towards the end of the semester.

Student Evaluations

If you wish to view how previous students rated this unit, please go to <http://www.adm.monash.edu.au/cheq/evaluations/unit-evaluations/>

Improvements to this unit

More practical tutorial and examples in lectures will be introduced

Unit staff - contact details

Unit leader

Dr Dammina Alahakoon

Senior Lecturer

Phone +61 3 990 59662

Contact hours : Friday 1-2 pm - email for other times/appointment

Lecturer(s) :

Dr Dammina Alahakoon

Senior Lecturer

Phone +61 3 990 59662

Contact hours : Friday 1-2 pm - email for other times/appointment

Tutor(s) :

Mr. Asanka Fonseka

Ms Jeewanee Bamunusinghe

Postgraduate Student

Additional communication information

Dr. Dammina Alahakoon

Clayton School of Information Technology

Faculty of Information Technology

Monash University, Clayton Vic 3800

Phone + 61 3 9905 9662 Fax + 61 3 9905 5109

Office: Room 132A, Building 63

Teaching and learning method

The unit will be delivered via lectures and laboratories.

Lecture: During the lecture, your lecturer will introduce key theoretical concepts and demonstrate various approaches to database tasks. The time in lectures is quite brief, please ensure you gain the best advantage from this time by:

- Prior to the lecture
 - o downloading and reading the lecture notes,
- During the lecture
 - o annotate a printed set of lecture notes as the lecture proceeds, and
 - o participate, question, seek clarification

- After the lecture
 - o read over you notes and make sure you understand the concepts
 - o seek help if you are unsure

Tutorial allocation

On-campus students should register for tutorials/laboratories using Allocate+.

Communication, participation and feedback

Monash aims to provide a learning environment in which students receive a range of ongoing feedback throughout their studies. You will receive feedback on your work and progress in this unit. This may take the form of group feedback, individual feedback, peer feedback, self-comparison, verbal and written feedback, discussions (on line and in class) as well as more formal feedback related to assignment marks and grades. You are encouraged to draw on a variety of feedback to enhance your learning.

It is essential that you take action immediately if you realise that you have a problem that is affecting your study. Semesters are short, so we can help you best if you let us know as soon as problems arise. Regardless of whether the problem is related directly to your progress in the unit, if it is likely to interfere with your progress you should discuss it with your lecturer or a Community Service counsellor as soon as possible.

Unit Schedule

Week	Topic	Key dates
1	CRM and Customer Intelligence	Lecture 1
2	Storing Data for Customer Intelligence	Lecture 2
3	Data Warehousing with SQL Server 2005	Lecture 3
4	Dimensional Modeling	Lecture 4
5	Data warehouse and analytical CRM	Lecture 5
6	Online Analytical Processing	Lecture 6
Mid semester break		
7	Introduction to Business Data Mining	Lecture 7
8	Customer Relationship Management	Lecture 8
9	Decision Trees	Lecture 9
10	Neural Networks	Lecture 10
11	Collaborative Filtering and User Profiling	Lecture 11
12	Customer life cycle and data mining	Lecture 12
13	Revision	Lecture 13

Unit Resources

Prescribed text(s) and readings

Data Mining Techniques for Marketing, Sales and CRM, M. Berry and G. Linoff, Wiley, 2004

Text books are available from the Monash University Book Shops. Availability from other suppliers cannot be assured. The Bookshop orders texts in specifically for this unit. You are advised to purchase your text book early.

Recommended text(s) and readings

- Practical Business Intelligence with SQL Server 2005 by John C. Hancock and Roger Toren, Addison Wesley, 2006
- The Microsoft Data Warehousing Toolkit by Joy Mundy and Warren Thornthwaite, John Wiley & Sons, 2006

Required software and/or hardware

WEKA Data Mining software

SQL Server 2005

Equipment and consumables required or provided

Students studying off-campus are required to have the minimum system configuration specified by the Faculty as a condition of accepting admission, and regular Internet access. On-campus students, and those studying at supported study locations may use the facilities available in the computing labs. Information about computer use for students is available from the ITS Student Resource Guide in the Monash University Handbook. You will need to allocate up to **n** hours per week for use of a computer, including time for newsgroups/discussion groups.

Study resources

Study resources we will provide for your study are:

- * Weekly detailed lecture notes outlining the learning objectives, discussion of the content, required readings and exercises;
- * Weekly tutorial or laboratory tasks and exercises with sample solutions provided one to two weeks later;
- * Assignment specifications;
- * A sample examination and suggested solution;
- * This Unit Guide outlining the administrative information for the unit;
- * The unit web site on MUSO, where resources outlined above will be made available.

Library access

The Monash University Library site contains details about borrowing rights and catalogue searching. To learn more about the library and the various resources available, please go to <http://www.lib.monash.edu.au>.

The Educational Library and Media Resources (LMR) is also a very resourceful place to visit at <http://www.education.monash.edu.au/library/>

Monash University Studies Online (MUSO)

All unit and lecture materials are available through MUSO (Monash University Studies Online). Blackboard is the primary application used to deliver your unit resources. Some units will be piloted in Moodle. If your unit is piloted in Moodle, you will see a link from your Blackboard unit to Moodle (<http://moodle.monash.edu.au>) and can bookmark this link to access directly. In Moodle, from the Faculty of Information Technology category, click on the link for your unit.

You can access MUSO and Blackboard via the portal: <http://my.monash.edu.au>

Click on the Study and enrolment tab, then Blackboard under the MUSO learning systems.

In order for your Blackboard unit(s) to function correctly, your computer needs to be correctly configured.

For example:

- Blackboard supported browser
- Supported Java runtime environment

For more information, please visit: <http://www.monash.edu.au/muso/support/students/downloadables-student.html>

You can contact the MUSO Support by phone : (+61 3) 9903 1268

For further contact information including operational hours, please visit:

<http://www.monash.edu.au/muso/support/students/contact.html>

Further information can be obtained from the MUSO support site:

<http://www.monash.edu.au/muso/support/index.html>

Assessment

Unit assessment policy

To pass this unit, a student must obtain :

- * 40% or more in the unit's examination and
 - * 40% or more in the unit's 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 assessment then a mark of no greater than 44-N will be recorded for the unit.

Assignment tasks

- **Assignment Task**

Title : Assignment 1 - SQL Server and Data Warehousing

Description :

Weighting : 20%

Criteria for assessment :

Due date : Friday Week 8

- **Assignment Task**

Title : Assignment 2 - Data Mining

Description :

Weighting : 20%

Criteria for assessment :

Due date : Friday week 12

Examinations

- **Examination 1**

Weighting : 60%

Length : 3 hours

Type (open/closed book) : Closed book

Assignment submission

Assignments will be submitted by [**electronic + paper**] submission in Blackboard + the assignment submission box in Building 63, Clayton campus. Do not email submissions. The due date is the date by which the submission must be received/the date by which the the submission is to be posted.

Assignment coversheets

include an assignment coversheet for hardcopy assignment submissions. Assignment coversheets can be found :

* via the "Student assignment coversheets" (<http://infotech.monash.edu.au/resources/student/assignments/>) page on the faculty website

or

* For assignments submitted electronically online via MUSO/blackboard, coversheets are provided within those systems

University and Faculty policy on assessment

Due dates and extensions

The due dates for the submission of assignments are given in the previous section. Please make every effort to submit work by the due dates. It is your responsibility to structure your study program around assignment deadlines, family, work and other commitments. Factors such as normal work pressures, vacations, etc. are seldom regarded as appropriate reasons for granting extensions. Students are advised to **NOT** assume that granting of an extension is a matter of course.

Requests for extensions must be made to the unit lecturer at your campus at least two days before the due date. You will be asked to forward original medical certificates in cases of illness, and may be asked to provide other forms of documentation where necessary. A copy of the email or other written communication of an extension must be attached to the assignment submission.

Late assignment

Requests for extensions must be made to the unit lecturer at your campus at least two days before the due date. You will be asked to forward original medical certificates in cases of illness, and may be asked to provide other forms of documentation where necessary. A copy of the email or other written communication of an extension must be attached to the assignment submission.

Return dates

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later.

Assessment for the unit as a whole is in accordance with the provisions of the Monash University Education Policy at <http://www.policy.monash.edu/policy-bank/academic/education/assessment/>

We will aim to have assignment results made available to you within two weeks after assignment receipt.

Plagiarism, cheating and collusion

Plagiarism and cheating are regarded as very serious offences. In cases where cheating has been confirmed, students have been severely penalised, from losing all marks for an assignment, to facing disciplinary action at the Faculty level. While we would wish that all our students adhere to sound ethical conduct and honesty, I will ask you to acquaint yourself with the University Plagiarism policy and procedure (<http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html>) which applies to students detected plagiarising.

In this University, cheating means seeking to obtain an unfair advantage in any examination or any other written or practical work to be submitted or completed by a student for assessment. It includes the use, or attempted use, of any means to gain an unfair advantage for any assessable work in the unit, where the means is contrary to the instructions for such work.

When you submit an individual assessment item, such as a program, a report, an essay, assignment or other piece of work, under your name you are understood to be stating that this is your own work. If a submission is identical with, or similar to, someone else's work, an assumption of cheating may arise. If you are planning on working with another student, it is acceptable to undertake research together, and discuss problems, but it is not acceptable to jointly develop or share solutions unless this is specified by your lecturer.

Intentionally providing students with your solutions to assignments is classified as "assisting to cheat" and students who do this may be subject to disciplinary action. You should take reasonable care that your solution is not accidentally or deliberately obtained by other students. For example, do not leave copies of your work in progress on the hard drives of shared computers, and do not show your work to other students. If you believe this may have happened, please be sure to contact your lecturer as soon as possible.

Cheating also includes taking into an examination any material contrary to the regulations, including any bilingual dictionary, whether or not with the intention of using it to obtain an advantage.

Plagiarism involves the false representation of another person's ideas, or findings, as your own by either copying material or paraphrasing without citing sources. It is both professional and ethical to reference clearly the ideas and information that you have used from another writer. If the source is not identified, then you have plagiarised work of the other author. Plagiarism is a form of dishonesty that is insulting to the reader and grossly unfair to your student colleagues.

Register of counselling about plagiarism

The university requires faculties to keep a simple and confidential register to record counselling to students about plagiarism (e.g. warnings). The register is accessible to Associate Deans Teaching (or nominees) and, where requested, students concerned have access to their own details in the register. The register is to serve as a record of counselling about the nature of plagiarism, not as a record of allegations; and no provision of appeals in relation to the register is necessary or applicable.

Non-discriminatory language

The Faculty of Information Technology is committed to the use of non-discriminatory language in all forms of communication. Discriminatory language is that which refers in abusive terms to gender, race, age, sexual orientation, citizenship or nationality, ethnic or language background, physical or mental ability, or political or religious views, or which stereotypes groups in an adverse manner. This is not meant to preclude or inhibit legitimate academic debate on any issue; however, the language used in such debate should be non-discriminatory and sensitive to these matters. It is important to avoid the use of discriminatory language in your communications and written work. The most common form of discriminatory language in academic work tends to be in the area of gender inclusiveness. You are, therefore, requested to check for this and to ensure your work and communications are non-discriminatory in all respects.

Students with disabilities

Students with disabilities that may disadvantage them in assessment should seek advice from one of the following before completing assessment tasks and examinations:

- Faculty of Information Technology Student Service staff, and / or
- your Unit Coordinator, or
- [Disabilities Liaison Unit](#)

Deferred assessment and special consideration

Deferred assessment (not to be confused with an extension for submission of an assignment) may be granted in cases of extenuating personal circumstances such as serious personal illness or bereavement. Information and forms for Special Consideration and deferred assessment applications are available at <http://www.monash.edu.au/exams/special-consideration.html>. Contact the Faculty's Student Services staff at your campus for further information and advice.