MONASH University
Information Technology

FIT3051
Decision support systems for finance

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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FIT3051 Decision support systems for finance - Semester 1, 2013

This unit is designed to introduce students to the practical application of decision support systems for finance using modern computer tools. It covers issues associated with the implementation, theory and risk of decision support systems for finance. The aims of this course are to provide a study of the concepts behind decision making; the tools and techniques to support various stages of the decision making process and to explore key factors of successful decision support systems for finance problems and their development methodology. On completion of the unit, students should be able to:

1. understand the needs of decision makers and apply techniques and tools to support various phases of the decision making process
2. formulate requirements for simulation and modelling and apply techniques of sensitivity analysis
3. analyse and design effective decision support systems for finance problems.

Mode of Delivery

Clayton (Day)

Contact Hours

2 hrs lectures/wk, 1 hr laboratory/wk

Workload requirements

Students will be expected to spend a total of 12 hours per week during semester on this unit as follows:

- two hour lecture and
- one hour tutorial (or laboratory) (requiring advance preparation)
- a minimum of 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

Prohibitions

BUS3030, AFF2051, AFW2051

Prerequisites

Completion of 24 points of FIT units at level 1

Chief Examiner

Associate Professor Vincent Cheng-Siong Lee

Campus Lecturer

Clayton

Associate Professor Vincent Lee

Consultation hours: Wednesday, 9:00-11:00am Clayton campus, Building 63, office 122; 13:00-15:00 hr, Monday @Lecture theatre CL_25/S1;

Tutors

Clayton

Kevin Liao

Consultation hours: TBA; Tutorial hours: Monday, 11:00 to 12 hours and 14:00 - 15:00 hrs CL_26/G18

Academic Overview

Learning Outcomes

At the completion of this unit students will have:

- familiarity with, and ability to apply, relevant decision support systems to the solution of financial problems;
- the ability to formulate, frame and solve financial problems in the context of appropriate decision support systems;
- an understanding of relevant finance concepts and understand how to apply those concepts in a practical setting.

A theoretical and conceptual understanding of:

- basic concepts of decision support systems;
- basic concepts of operational (investing and financing) finance;
- basic concepts and principles of decision support criteria as applied to operational finance;
- how decision support are applied to operational finance in organisations;
- opportunities, risks and liabilities arising from the usage and application of decision support in the context of operational finance in organisations;
- processes of acquiring, developing and managing decision support in the context of operational finance in organisations;
- techniques and tools (Excel spreadsheet modelling and Expert Choice for describing and analysing problems in operational finance in organisations under multicriteria decision making framework.

Developed attitudes that enable them to:

- recognise the importance of decision support systems in the context of operational finance to organisational processes and functions;
- recognise the opportunities and limitations of the role that decision support systems play in managing operational finance in organisations.

Developed the skills to:

- assess the potential scope for using decision support systems as part of the solution to an organisational operational finance problem;
- understand how to apply decision support systems to help solve the operational finance problems of an organisation;
- appreciate the limitations of decision support systems and appreciate the role that human judgement plays in determining solutions for operational finance problems.

Demonstrated the teamwork skills necessary to:

- Recognise the team skills necessary for successful development and implementation of decision support systems to operational finance problems in organisations;
- Appreciate the importance of the inter-relationships between IT professionals and the stakeholders in decision support systems in organisations.

Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	Fundamentals to decision making in finance	
2	Finance knowledge creation process for Decision Support Systems in Finance	Assessed tutorial / lab classes begin this week (week begining 13 March 2013); assignment 1 published
3	Analysis of financial statement using ratios	
4	Risk-return and investment portfolio issues - I	
5	Risk-return and investment portfolio issues - II	No lecture on Wednesday 3 April 2013, semester break week; week 5 lecture is Wednesday 10 April 2013
6	Multicriteria decision support framework (AHP)	Assignment 1 (individual) due Monday 15 April 2013, 4pm; assignment 2 published
7	Application of AHP to finance decision support (work example)	
8	Using AHP for investment portfolio decision - I	
9	Using AHP / ANP for investment portfolio decision - II	Sample examination paper published
10	Operational finance (risk management) DSS fundamental	
11	Intelligent decision support systems for finance fundamental	
12	Intelligent decision support systems for finance (applications)	Assignment 2 (Group assignment) due on Monday 27 May 2013, 4pm
	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.

Assessment Summary

Examination (2 hours): 60%; In-semester assessment: 40%

Assessment Task	Value	Due Date
Finance knowledge fundamental and analysis for DSS	10%	Monday 15 April 2013, 4pm
Analytic Hierarchical / Analytic Network Process/ Value at risk	25%	Monday 27 May 2013, 4pm
Continuous assessment of tutorial participation	5%	

		At the end of each tutorial / lab class
Examination 1	60 %	To be advised

Teaching Approach

- **Lecture and tutorials or problem classes**
  This teaching and learning approach provides facilitated learning, practical exploration and peer learning.
- **Laboratory-based classes**
  This teaching approach is practical learning.

Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles
(http://www.infotech.monash.edu.au/resources/staff/edgov/policies/assessment-examinations/unit-assessment-hu

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

Assessment Tasks

Participation

- **Assessment task 1**

    Title:
    Finance knowledge fundamental and analysis for DSS
    Description:
    A set of computational and discussion questions based on topics 1 to 4.
    Weighting:
    10%
    Criteria for assessment:
    This individual assignment will be based on computational questions using financial ratios
    and associated company specific factors.
    Criteria to be used are:

    1. Correctness and understanding - there may be more than one "right" answer in
       many cases. We will look for answers that reflect understanding of the underlying
       principles and theories.
    2. Completeness - that you have answered all parts of each question.
    3. Presentation - that you have presented your answers in a suitably formatted report
       style.
    4. Use of evidence and argument - you are able to explain your position by using
       logical argument drawing on the theory presented in the unit.

    Due date:
    Monday 15 April 2013, 4pm

- **Assessment task 2**

    Title:
    Analytic Hierarchical / Analytic Network Process/ Value at risk
    Description:
    A specific case on decision support systems for financial investment and risk
    management decision setup, using behavioural psychology and economic fundamentals
    criteria, and implemented on AHP / ANP with the help of Expert Choice software tool.

    Students are to work in groups of 2 to 4. A final group report of a minimum of 3000 words
    (excluding graphs and tables) is to be submitted by the set deadline. Each student must
    contribute at least 1000 words in the report write-up.
    Weighting:
    25%

Criteria for assessment:

1) Investment portfolio formulation methods. (30 / 100)

2) Solution to investment portfolio to obtain optimum asset class allocation. (30 / 100)

3) Discussion with interpretation of results and their implications. (30 / 100)

4) Conclusion and recommendation of issues for further investigations. (10 / 100)

The report will be graded according to the following criteria:

1. All programs codes used to implement AHP must compile and run correctly to meet the problem specification.
2. Correctness in the interpretation of results must be reported concisely.
3. Recommendations made for investment decision taking must be theoretically justified and intuitively correct.

The tutor will monitor individual contributions when allocating marks to members of the group.

Due date:

Monday 27 May 2013, 4pm

- **Assessment task 3**

Title:

Continuous assessment of tutorial participation

Description:

In order to meet unit group assessment objectives students are expected to attend all tutorial / practical classes, where they will engage in active group participation.

Weighting:

5%

Criteria for assessment:

The tutor in charge will monitor individual's participation of activities i.e. continuous assessment of tutorial tasks inclusive of quizzes when allocating marks to each student.

Due date:

At the end of each tutorial / lab class

Examinations

- **Examination 1**

Weighting:

60 %

Length:

2 hours

Type (open/closed book):

Closed book

Electronic devices allowed in the exam:

Students may use a financial calculator or programmable scientific calculator.

Remarks:

Multiple choice and discussion type questions.

All formulae except definition of terms and ratios will be given.

Learning resources

Reading list

Brigham, E. F. and Houston, J. F. (2012), Fundamentals of Financial Management (Concise 7th Edition), South-western

Slaughter, S.J. and Delwiche, L. D. (2011), The Little SAS Book for Enterprise Guide 4.2, SAS

Charnes, J (2007), Financial Modelling with Crystal Ball and Excel + companion web site, ISBN 13: 978-0-471-77972-8, John Wiley

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
- Test results and feedback
- Other: Discussion of solution to tutes, labs (where applicable) 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.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

Resubmission or an extension of the submission dateline (up to 5 working days) may be granted if a medical certificate is produced.

Referencing requirements

Basic reading / reference materials for Assignment 2 will be issued. Students aiming for a HD grade are expected to explore / discuss and add innovations to methodology used in the assignment.

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 learning system 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.

Excel Spreadsheet and Crystal Ball software. Expert Choice, or Matlab toolbox, or JAVA (JADE).

These will either be freely downloadable or available for use in University computer labs. Further details to be advised.

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
- 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
- Code of Practice for Teaching and Learning;
  http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-tea

Graduate Attributes Policy

http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-policy.ht

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.htmlTelephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Commuity Services at 03 55146018 at SunwayEmail: dlu@monash.eduDrop 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

Some modifications on assessment criteria. There are two assignments - one individual assignment and one group assignment, and no class test.

If you wish to view how previous students rated this unit, please go to
https://emuapps.monash.edu.au/unitevaluations/index.jsp