MONASH University
Information Technology

FIT9030
Systems analysis and design

Unit Guide

Semester 1, 2012

Last updated: 26 Feb 2012

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FIT9030 Systems analysis and design - Semester 1, 2012

The unit introduces students to the key principles which underlie the analysis and design of computer-based information systems to support business and other organisational undertakings. It describes the development life cycle of an information system and provides students with an introductory knowledge of the process of information systems development and the techniques used.

Mode of Delivery

Caulfield (Day)

Contact Hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

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

For on-campus students:
Lectures: 2 hours per week
Tutorials/Lab Sessions: 2 hours per week per tutorial (requiring advanced preparation).
and up to an additional 8 hours in some weeks for completing lab and project work, private study and revision.

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

Unit Relationships

Prohibitions

IMS9001, FIT2001

Chief Examiner

Mr Peter O'Donnell

Campus Lecturer

Caulfield

David Grant

Tutors

Caulfield

David Grant

Academic Overview

Outcomes

At the completion of this unit students will:

- an understanding of the role of information systems in organisations;
- an understanding of some of the techniques used to analyse and design information systems;
- an understanding of the framework used to structure information systems development projects;
- an understanding of when the use of a particular technique is appropriate;
- the attitudes to appreciate the capabilities and limitations of an information system;
- the practical skills to apply some of the analysis and design techniques in a systems development situation;
- have the practical skills to communicate requirements for business functionality of an information system in terms of data required, data storage and processing.

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

Assessment Task	Value	Due Date
Assignment 1a: Draft requirements specification with event table	5%	Midnight, Thursday 5th April, end of week 6.
Assignment 1b: Requirements specification	20%	Midnight, Sunday 6th May 2012, end of week 9.
Assignment 2: Design specification	25%	Midnight, Sunday 27th May, end of week 12.
Reflective blog posts	Bonus of 3% added to overall assignment mark	Your last blog entry can be made any time before the exam.
Examination 1	50%	To be advised

Teaching Approach

Lecture and tutorials or problem classes

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
- Quiz results
- Solutions to tutes, labs and assignments

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.monash.edu.au/about/monash-directions/directions.html
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
https://emuapps.monash.edu.au/unitevaluations/index.jsp

Required Resources

Please check with your lecturer before purchasing any Required Resources. Prescribed texts are available for you to borrow in the library, and prescribed software is available in student labs.

Students will require access to an "industrial strength" CASE (computer aided software engineering) tool. In 2012, the tool choosen is Visual Paradigm for UML. This product can be downloaded from the Visual Paradigm web site but to run requires a license key. This is available for download from the FIT9030 Moodle-based unit web site or from your tutor.

Students will also require access to traditional personal productivity tools (word processing , graphics and presentation).

Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	Introduction to systems analysis and design	
2	The context of systems analysis and design	
3	Requirements gathering	
4	Beginning analysis	
5	The traditional or structured approach to analysis	
6	Use case modelling	Assignment 1a due: Draft requirements specification with event table - Midnight, Thursday 5th April 2012, end of week 6.
7	Finishing analysis	
8	The nature of good design	
9	Structured design	Assignment 1b due: Requirements specification - Midnight, Sunday 6th May 2012, end of week 9.
10	Design - use case realisation	
11	The user interface	
12	System interfaces	Assignment 2 due: Design specification - Midnight, Sunday 27th May 2012, end of week 12
	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 MUSO (Blackboard or Moodle) learning system.

Assessment Requirements

Assessment Policy

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

Assessment Tasks

Participation

- **Assessment task 1**

  Title:
  Assignment 1a: Draft requirements specification with event table
  Description:
  Assignment work in the unit is fully described, along with the assessment criteria, on the assignment page of the Moodle-based unit web site. In this first assignment task you will create a draft of your requirements specification that will include a fully developed event table.
  Weighting:
  5%
  Criteria for assessment:
  The criteria used to assess submissions are:

  1. Correctness and understanding - there may be more than one "valid" answer in many cases. We will look for answers that reflect understanding of the nature of the system being described.
  2. Completeness - that you have addressed all required parts of each assignment.
  3. Presentation - that you have presented your answers in a suitably formatted report style.

  Due date:
  Midnight, Thursday 5th April, end of week 6.

- **Assessment task 2**

  Title:
  Assignment 1b: Requirements specification
  Description:
  Assignment work in the unit is fully described, along with the assessment criteria, on the assignment page of the Moodle-based unit web site. In this second assignment task you will create a finalise of your requirements specification, this will include a context diagram, an event table, a use case diagram and associated use case narratives and domain class model.
  Weighting:
  20%
  Criteria for assessment:
  The criteria used to assess submissions are:

  1. Correctness and understanding - there may be more than one "valid" answer in many cases. We will look for answers that reflect understanding of the nature of the system being described.

2. Completeness - that you have addressed all required parts of each assignment.
3. Presentation - that you have presented your answers in a suitably formatted report style.

Due date:

Midnight, Sunday 6th May 2012, end of week 9.

- **Assessment task 3**

Title:

Assignment 2: Design specification

Description:

Assignment work in the unit is fully described, along with the assessment criteria, on the assignment page of the Moodle-based unit web site. In this final assignment task you will create a design-specification that will include a partial design class model, a sequence diagram, a partial interface design and a database design model.

Weighting:

25%

Criteria for assessment:

The criteria used to assess submissions are:

1. Correctness and understanding - there may be more than one "valid" answer in many cases. We will look for answers that reflect understanding of the nature of the system being described.
2. Completeness - that you have addressed all required parts of each assignment.
3. Presentation - that you have presented your answers in a suitably formatted report style.

Due date:

Midnight, Sunday 27th May, end of week 12.

- **Assessment task 4**

Title:

Reflective blog posts

Description:

Reflective blog posts give students the means to reflect their viewpoints about the work they are undertaking and the outcomes they are achieving. They provide students with an opportunity to critically assess themselves and the unit.

Weighting:

Bonus of 3% added to overall assignment mark

Criteria for assessment:

Blog postings will be assessed based on the number of posts during the semester, and on the extent to which students reflect on their unit-based activities.

Due date:

Your last blog entry can be made any time before the exam.

Remarks:

Each student is invited to keep a reflective journal on the Moodle-based unit web site. This blog will provide the opportunity to reflect on the learning that takes place throughout the unit. Each week you will be able to make a new posting to your blog. The blog entries should include a reflection on what has happened in terms of your progress on assignment and tutorial work, your management of the assignment project and its tasks, what lessons have been learned to date and what you (and the staff) could do differently. A page listing all the reflective journals of FIT9030 students will be maintained on the Moodle-based unit web site. To obtain the 3% bonus mark for this task students must complete a minimum of 10 weekly blog entries during the semester. Each blog post will be

read and assessed by the chief examiner. To get the 3% bonus 6 of these posts should be assessed as "satisfactory".

The 3% bonus will be added to the assignment component of the mark available for the unit. Note that that component cannot exceed 50%. So, for example, a student who obtains 46/50 for their assignment work and who earns the bonus will get 49%. A student who obtains 49/50 would get 50/50 - the maximum available - if they earned the bonus.

For more details, please refer to the Moodle-based unit web site.

Examinations

- **Examination 1**

Weighting:
50%
Length:
3 hours
Type (open/closed book):
Closed book
Electronic devices allowed in the exam:
None

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 VLE site for this unit, which you can access via links in the my.monash portal.

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.

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: 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)
- Assessment (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.h
- 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
- Academic and Administrative Complaints and Grievances Policy (http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.
- Codes of Practice for Teaching and Learning (http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-tea

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. For Sunway see http://www.monash.edu.my/Student-services, and for South Africa see http://www.monash.ac.za/current/

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. 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/.

Academic support services may be available for students who have a disability or medical condition. Registration with the Disability Liaison Unit is required. Further information is available as follows:

- Website: http://monash.edu/equity-diversity/disability/index.html;
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Sunway Campus
- Telephone: 03 9905 5704, or contact the Student Advisor, Student Commuity Services at 03 55146018 at Sunway

Other

Recommended Reading

Booch, G., Rumbaugh, J. and I. Jacobson (1999) The Unified Modeling Language User Guide Addison Wesley Professional.

Dennis, A., Wixom, B.H. and D. Tegarden (2008) Systems Analysis and Design with UML Version 2.0: An Object-Oriented Approach, 3rd Edition, Wiley.

Hoffer, J.A., George, J.F. and J.S. Valacich (2001) Modern Systems Analysis and Design 3rd Edition, Prentice Hall.

George, J.F., Batra, D., Valacich J.S. and J.A. Hoffer, (2004) Object-Oriented System Analysis and Design Prentice-Hall.

Lee, R. and W. Tepfenhart (2002) Practical Object-Oriented Development with UML and Java, Prentice Hall.

Maciaszek, L. (2004) Requirements Analysis and System Design, 2nd Edition, Addison-Wesley.

Page-Jones, M. (1988) The Practical Guide to Structured Systems Design 2nd Edition, Prentice-Hall.

Page-Jones, M. (2000) Fundamentals of Object-Oriented Design in UML Addison-Wesley.