MONASH University

FIT9030
Systems analysis and design

Unit Guide

Semester 2, 2009

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FIT9030 Systems analysis and design - Semester 2, 2009

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Introduction

Welcome to FIT9030 Systems Analysis and Design for semester 1, 2009. This 6 point unit is core to the Master of Applied Information Technology (MAIT), Graduate Diploma in Information Technology and Graduate Certificate in Information Technology postgraduate degree programs in the Faculty of IT. The unit has been designed to introduce you to the fundamentals of information systems and their development. It provides you with an understanding of information systems and the contexts within which systems analysis and design are conducted. It explores many aspects of systems analysis and design with emphasis on business requirements gathering, structured approaches to systems development and some of the techniques used to specify information system requirements.It explores the relationship between theoretical knowledge and its practical application using cases and real examples.

Unit synopsis

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.

Learning outcomes

At the completion of this unit, students will have knowledge and an understanding of

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

Contact hours

2 hours lectures/week, 2 hours tutorials/week

Workload

For on campus students, workload commitments are:

- two-hour lecture and
- two-hour tutorial (or studio) (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.

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.

You will need to allocate around 12 hours per week during the semester for this unit

Unit relationships

Prohibitions

IMS9001, FIT2001

Relationships

FIT9030 is a core unit in the Master of Applied Information Technology (MAIT), Graduate Diploma in Information Technology, and Graduate Certificate in Information Technology degrees offered by the Faculty of IT..

It is a prerequisite for FIT4037 Case Study, but as a core unit it must be completed successfully in order to obtain any of the above qualifications.

There are no prerequisites for this unit..

You may not study this unit and

- IMS9001
- FIT2001

in your degree.

Teaching and learning method

The teaching and learning in this unit is structured in the traditional manner around lectures and laboratory-based tutorial workshops. Most of the lecture and tutorial material is strongly supported by the prescribed text for the unit. It is important that you obtain a copy of the text. Each week there is reading set from the text and you will find that the unit isn't too difficult if you study consistently throughout the semester, and keep up woth reading and exercises.

Your learning is also supported by some additional resources on the Moodle-based web site. You will find a forum - which will be actively monitored by staff - that you can use to ask questions or follow up on any issues you may have.

Timetable information

For information on timetabling for on-campus classes please refer to MUTTS, http://mutts.monash.edu.au/MUTTS/

Tutorial allocation

On-campus students should register for tutorials/laboratories using the Allocate+ system: http://allocate.cc.monash.edu.au/

Unit Schedule

Week	Topic	Study guide	References/Readings	Key dates
1	Introduction to systems analysis and design	Study guide 1: Introduction to systems analysis and design	Chapter 1 from unit text (SJB) - Satzinger, J. W., Jackson, R.B., and S.D. Burd (2008) Systems Analysis and Design in a Changing World, 5th Edition, Thomson Course Technology.	
2	The context of systems analysis and design	Study guide 2: The context of systems analysis and design	Chapter 2 and parts of chapter 3 SJB	
3	Requirements gathering	Study guide 3: Requirements gathering	Chapter 4 SJB	
4	Beginning analysis	Study guide 4: Beginning analysis	Chapter 5 SJB	
5	The traditional or structured approach to analysis	Study guide 5: The traditional or structured approach to analysis	Chapter 6 SJB	
6	Use case modelling	Study guide 6: Use case modelling	Chapter 7 SJB	Assignment 1a due
7	Finishing analysis	Study guide 7: Finishing analysis	Chapter 8 SJB	
8	The nature of good design	Study guide 8: The nature of good design	Chapter 9 SJB	
9	Structured design		Chapter 10 SJB	Assignment 1b due

		Study guide 9: Structured design		
10	Design - use case realisation	Study guide 10: Design - use case realisation	Chapter 12 SJB	
Mid semester break				
11	The user interface	Study guide 11: The user interface	Chapter 14 SJB	
12	System interfaces	Study guide 12: System interfaces	Chapter 15 SJB	Assignment 2 due
13	Unit review		Past exam papers from eqivalent units available on unit web site	

Unit Resources

Prescribed text(s) and readings

There is one prescribed text. Note that students are expected to purchase this text.

- Satzinger, J. W., Jackson, R. B., Burd, S. D. and Johnson, R., (2008), *Systems Analysis and Design in a Changing World*, 5th Edition, Thomson Course Technology.

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

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.

Required software and/or hardware

Students will require access to an "industrial strength" CASE (computer aided software engineering) tool. In 2009, 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).

Software may be:

* downloaded from http://www.visual-paradigm.com/
* purchased at academic price at good software retailers

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 6 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 and sample solutions;
* A sample examination and suggested solution
* Access to past examination papers;
* Discussion groups;
* This Unit Guide outlining the administrative information for the unit;
* The unit web site on Moodle, where resources outlined above will be made available.

Assessment

Overview

Assignments: 50%, Supervised formal assessment: 50%

Faculty assessment policy

To pass a unit which includes an examination as part of the assessment a student must obtain:

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

The unit is assessed with two assignments (the first one is in two parts) and a three hour closed book examination. If you maintain a reflective blog a further bonus mark can be added to your assignment mark.

To pass the unit you must:

- attempt the assignments and examination
- achieve no less than 40% of the possible marks individually in the assignment and exam
- achieve no less than 50% of possible marks (of assignment and examination taken together) for the unit.

If a student does not achieve 40% or more in the unit examination or the unit non-examination total assessment, and the total mark for the unit is greater than 44% then a mark of 44-N will be recorded for the unit.

Assignment tasks

Assignment coversheets

Assignment coversheets are available via "Student Forms" on the Faculty website:
http://www.infotech.monash.edu.au/resources/student/forms/
You MUST submit a completed coversheet with all assignments, ensuring that the plagiarism declaration section is signed.

Assignment submission and return procedures, and assessment criteria will be specified with each assignment.

- **Assignment 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%
  Due date:

Sunday, 30 August 2009, Midnight.

- **Assignment 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 contect diagram, an event table, a use case diagram and associated use case narratives and and domain class model.

Weighting:

20%

Due date:

Sunday, 20 September 2009, Midnight.

- **Assignment 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%

Due date:

Sunday, 18 October 2009, Midnight.

- **Assignment 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

Due date:

Your last blog entry can be made anytime 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 40%. So, for example, a student who obtained 36/40 for their assignment work who earns the bonus will get 39%. While a student who got 39/40 would get 40/40 - the maximum available - if they earned the bonus.

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

Examination

- **Weighting:** 60%
  Length: 3 hours
  Type (open/closed book): Closed book

See Appendix for End of semester special consideration / deferred exams process.

Due dates and extensions

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 not regarded as appropriate reasons for granting extensions. Students are advised to NOT assume that granting of an extension is a matter of course.

Students requesting an extension for any assessment during semester (eg. Assignments, tests or presentations) are required to submit a Special Consideration application form (in-semester exam/assessment task), along with original copies of supporting documentation, directly to their lecturer within two working days before the assessment submission deadline. Lecturers will provide specific outcomes directly to students via email within 2 working days. The lecturer reserves the right to refuse late applications.

A copy of the email or other written communication of an extension must be attached to the assignment submission.

Refer to the Faculty Special consideration webpage or further details and to access application forms:
http://www.infotech.monash.edu.au/resources/student/equity/special-consideration.html

Late assignment

Assignments received after the due date will be subject to a penalty of **[describe penalty for late submission, describe the deadline for late assignment acceptance or any conditions that are placed on late assignments, e g, "Assignments received later than one week after the due date will not normally be accepted."]**

Return dates

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

Appendix

Please visit the following URL: http://www.infotech.monash.edu.au/units/appendix.html for further information about:

- Continuous improvement
- Unit evaluations
- Communication, participation and feedback
- Library access
- Monash University Studies Online (MUSO)
- Plagiarism, cheating and collusion
- Register of counselling about plagiarism
- Non-discriminatory language
- Students with disability
- End of semester special consideration / deferred exams