MONASH University

IMS9001
System analysis and design

Unit guide

Semester 2, 2008

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IMS9001 System analysis and design - Semester 2 , 2008

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Introduction

Welcome to IMS9001 Systems Analysis and Design. It is a fun unit to study but it is also very important to your development as a professional in the field of Information Technology.

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

Unit synopsis

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

Learning outcomes

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

Workload

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

Unit relationships

Prerequisites

There is no pre-requisities for IMS9001.

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

Relationships

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

Continuous improvement

Monash is committed to ‘Excellence in education' 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. Two of the formal ways that you are invited to provide feedback are through Unit Evaluations and through Monquest Teaching Evaluations.

One of the key formal ways students have to provide feedback is through Unit Evaluation Surveys. It is Monash policy for every unit offered to be 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.

Student Evaluations

The Faculty of IT administers the Unit Evaluation surveys online through the my.monash portal, although for some smaller classes there may be alternative evaluations conducted in class.

If you wish to view how previous students rated this unit, please go to
http://www.monash.edu.au/unit-evaluation-reports/

Over the past few years the Faculty of Information Technology has made a number of improvements to its courses as a result of unit evaluation feedback. Some of these include systematic analysis and planning of unit improvements, and consistent assignment return guidelines.

Monquest Teaching Evaluation surveys may be used by some of your academic staff this semester. They are administered by the Centre for Higher Education Quality (CHEQ) and may be completed in class with a facilitator or on-line through the my.monash portal. The data provided to lecturers is completely anonymous.
Monquest surveys provide academic staff with evidence of the effectiveness of their teaching and identify areas for improvement. Individual Monquest reports are confidential, however, you can see the summary results of Monquest evaluations for 2006 at http://www.adm.monash.edu.au/cheq/evaluations/monquest/profiles/index.html

Improvements to this unit

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

Unit staff - contact details

Unit leader

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Teaching and learning method

The teaching and learning in the unit is structured in the traditional manner around lectures and laboratory-based workshops. Most of the lecture and tutorial material is strongly supported by the prescribed text for the unit, it is very important that you get a copy of the text. Each week there is reading set from the text, you will find the unit isn't too difficult if you study consistently through the semester, and keep up with the 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 used to ask questions or follow up on any issues you have. You will also find a set of lecture recordings (synchronised with the lecture slides) and some interviews with practising systems analysts in a podcast stream along with resources to make it easy for you to download and listen in.

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

Tutorial allocation

On-campus students should register for workshops/studios using Allocate+.

Please note that workshops/studios begin in week 1.

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

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	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., Burd, S.D. and R. Johnson (2006) Systems Analysis and Design in a Changing World, 4th Edition, Thomson Course Technology.	
2	The context of systems analysis and	Study guide 2: The context of systems analysis and design	Chapter 2 and parts of chapter 3 SJB	

	design			
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: User 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	Study guide 9: Structured design	Chapter 10 SJB	Assignment 1b due
10	Design - use case realisation	Study guide 10: Design - user case realisation	Chapter 11 SJB	
11	The user interface	Study guide 11: The user interface	Chapter 12 SJB	
Mid semester break				
12	System interfaces	Study guide 12: System interfaces	Chpater 14 SJB	Assignment 2 due
13	Unit review		Past exam papers 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 R. Johnson (2006) *Systems Analysis and Design in a Changing World*, 4th 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.

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

Recommended text(s) and readings

Booch, G., Rumbaugh, J. and I. Jacobson (1999) *The Unified Modeling Language User Guide* Addison Wesley Professional. (New edition planned for 2006).

Dennis, A., Wixom, B.H. and D. Tegarden (2005) *Systems Analysis and Design with UML Version 2.0: An Object-Oriented Approach*, 2nd 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.

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

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 Des*ign 2nd Edition, Prentice-Hall.

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

Reed, P.R. (2002) Developing Applications with Java and UML, Addison Wesley.

Quatrani, T. (2002) *Visual Modeling with Rational Rose 2002 and UML*, 3rd Edition, Addison Wesley Professional.

Required software and/or hardware

Students will require access to an "industrial strength" CASE (computer aided software engineering) tool. In 2008, 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 IMS9001 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

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

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:

The major study resources for IMS9001 are:

- *Study guide.* A study guide (printed or electronic) divided into Unit Information and 12 Study Guides (along with 2 appendices). This is also available for download from the unit web site.

  Unit website. An online unit website providing supplementary resources, assignment specifications and other general information. This page is accessed via the Moodle website located at http://moodle.med.monash.edu.au.
- *Podcast.*
- *Facebook.* Some trial resources and facilitiers for this unit are also being provided on the Facebook system. Students who are members of the "Monash" network will be able to join the IMS9001 discussion forum on Facebook. The unit's chief examiner, Peter O'Donnell who teaches at Caulfield, is also making the unit's lecture slides available for viewing using the Slideshare application via his profile page.

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details.

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. Be sure to obtain a copy of the Library Guide, and if necessary, the instructions for remote access from the library website.

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

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

This unit is co-taught with FIT2001. Please refer to the unit guide for FIT2001 for details. IMS9001 difers a little from FIT2001. FIT2001 has assignment work worth 40% and supervised assessment (an exam) worth 60%. For IMS9001 the breakdown is 50% for assignmentwork and 50% for the exam. The assignments that follow are shown in their FIT2001 form - with weighting that comprise 40%. Simply multiply the weigthing by 1.25 to calculate the weighting for IMS9001. (that is, 5% = 6.25, 20% = 25 and 15% = 18.75)

Assignment tasks

- ### Assignment Task

  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 :

  Due date : Sunday, 13 April 2008, 11:55 PM
- ### Assignment Task

  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.

  Inthis second assignment task you will create a finalise of your requirementsspecification, this will include a contect diagram, an event table, a use case diagram and associated use case narratives and an domain class model.

  Weighting : 20%

Criteria for assessment :

Due date : Sunday, 4 May 2008, 11:55 PM

- **Assignment Task**

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 : 15%

Criteria for assessment :

Due date : Sunday, 25 May 2008, 11:55 PM

- **Assignment Task**

Title : Reflective blog posts

Description :

Weighting : Bonus of 3% added to overall assignment mark.

Criteria for assessment :

Due date : Your last blog entry can be made anytime before the exam.

Remarks (optional - leave blank for none) :

Each student is invited to keep a reflective journal on the either the Moodle-based unit web site or using the www.blogger.com system. This will be set up - with the help of teaching staff if required - during the week 1 tutorial. 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, you rmanagement of the assignment project and its tasks, what lessons have been learned to date and what you (and the staff) could do differently.

To obtain the 3% bonus mark for this task you 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.

Examinations

- **Examination**

  Weighting : 60%

  Length : 3 hours

  Type (open/closed book) : Closed book

Assignment submission

All assignments will be submitted electronically via the Moodle-based unit web site.

Assignment coversheets

Electronic coversheets are to be submitted with your assignment. These can be obtained from the Assignments page of the unit web site (on Moodle).

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.

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

If you believe that your assignment will be delayed because of circumstances beyond your control such as illness you should apply for an extension before the due date. Medical certificates or certification supporting your application may be required. Assignments submitted after the due date may incur a penalty for lateness. An assignment submitted more than seven days after the due date may be given a score of zero. If you anticipate being late then discuss the situation with your unit lecturer as early as possible; your unit lecturer will decide how many marks you will be penalised for each day your assignment is late, and whether or not any extension is warranted.

Assignments received after the due date will normally be subject to a penalty of 5% per day, including weekends. Assignments received later than one week (seven days) after the due date will not normally be accepted. In some cases, this period may be shorter if there is a need to release sample solutions.

This policy is strict because comments or guidance will be given on assignments as they are returned, and sample solutions may also be published and distributed, after assignment marking or with the returned assignment.

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.

All assignment feedback will be provided on-line using the Moodle-based unit web site.

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 Student Rights and Responsibilities (http://www.infotech.monash.edu.au/about/committees-groups/facboard/policies/studrights.html) and the Faculty regulations that apply to students detected cheating as these will be applied in all detected cases.

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.