MONASH University

# FIT2027
# Systems design and implementation

## Unit Guide

## Semester 2, 2009



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# FIT2027 Systems design and implementation - Semester 2, 2009

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### Malaysia

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## Additional communication information:

Students will find the Moodle-based discussion forum to be a very useful tool for contacting unit staff and getting questions answered and issues resolved.

# Introduction

Welcome to FIT2027 Systems Design and Implementation for semester 2, 2007. This 6 point unit is core to the BITS degree offered at Caulfield and Malaysia.

# Unit synopsis

This unit focuses on providing students with the knowledge and skills required to conduct the design and implementation phases in systems development. Design topics include: Transition from Analysis to Design; Preparation and Selection of design alternatives; Definition of System architecture requirements; Design Strategies-Structured, Object-oriented, Design patterns; Object-oriented design modelling; Interface Design; Systems security and access controls. Implementation topics include: Implementation planning, testing overview; data conversion; training; documentation-user and help systems; systems installation; transition to maintenance.

# Learning outcomes

At the completion of this unit students will demonstrate an understanding of:

1. The purpose and objectives of the systems design and implementation phases of the systems development lifecycle, and the activities which they involve;
2. The purpose, strengths and weaknesses, and the use of the main techniques which are used in systems design and implementation;
3. The key issues involved in systems design and implementation.

At the completion of this unit students will:

1. Recognise the value of a team-based approach to the development of information systems;
2. Value the importance of the systems design and implementation phases of the systems development lifecycle;
3. Appreciate the importance of a systematic approach to the design and implementation phases of systems development.

At the completion of this unit students will be able to:

1. Prepare suitable design and implementation approach alternatives to the development of a business system
2. Use basic design techniques in the development of elements of an information system;
3. Prepare and present a design specification for a business system;
4. Prepare and present an implementation plan for a business system;
5. Construct and implement a quality business system;
6. Develop expertise in IT practitioner tools.

At the completion of thus unit students will be able to:

1. Work effectively as part of a team responsible for carrying out systems design and implementation activities;
2. Present oral and written design and implementation deliverables with confidence to the relevant stakeholders.

# Contact hours

Lecture: 2hrs/week, studio: 3hrs/week

# Unit relationships

## Prerequisites

FIT1002 or CSE1203 or IMS1906 or equivalent and FIT1004 or CSE2132 or IMS1907 or equivalent and FIT2001 or CSE1205 or IMS1805 or equivalent

## Prohibitions

BUS2021, BUS2071, GCO2813, IMS2805, SYS2161, SYS2168, CSE3308, BUS2071, CSC3151, GCO2816, CPE2003, CSE2200, FIT2005

## Relationships

FIT2027 is a core unit in the *Systems Development* and *Information Systems* majors of the Bachelor of Information Technology and Systems degree.

You may not study this unit and BUS2021, BUS2071, GCO2813, IMS1002, IMS2071, IMS2805, SYS2161, SYS2168, CSE3308, BUS2071, CSC3151, GCO2816, CPE2003, CSE2200, FIT2005 in your degree.

## Teaching and learning method

Each week there is a traditional lecture, for each lecture there will also reading - either from the unit text or additional readings posted on the unit web site. However, the primary vehicle for your learning in this unit will be the weekly 3 hour studio sesssion. The lectures are design to enhance the work you do in these sessions. The studios are very practical and will involve a wide range of tasks, including hand-ons work on computers, intellectual tasks such as system design, and writing, a range of group and team activities and presentations.

## 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 | Key dates |
|---|---|---|
| 1 | Introduction to the unit; The role of infrastructure | |
| 2 | Application design with UML | |
| 3 | Design UML I | |
| 4 | Design UML II | |
| 5 | Structured design revisited | |
| 6 | The role of walkthroughs | |
| 7 | Reporting system development | Partial submission of portfolio at end of week 7 |
| 8 | Advanced topics in UML | |
| 9 | Designing and conducting tests | |
| 10 | Developing documentation | |
| Mid semester break | | |
| 11 | Change management | |
| 12 | Packaged software and enterprise resource planning | Portfolio submission at end of week 12 |
| 13 | Unit review | |

# Unit Resources

## Prescribed text(s) and readings

**Prescribed Text**

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

## Recommended text(s) and readings

Additional reading will be provided on the unit web site.

## 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:

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 studio tasks and exercises with sample solutions provided one to two weeks later (where appropriate);
- Assignment specification and portfolio specifications;
- Access to past and sample examination papers;
- Discussion groups that are monitored regularly by staff;
- Unit podcast; this will contain weekly lecture recordings, adhoc postings of interviews with industry professionals on topics related to the unit created by staff and students, and also recordings of presentations given by students.
- 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

Examination: 60% (formal examination and unit tests), Assignments: 40%

## 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 by  assignment work (in the form of a portfolio) and a three hour closed book examination. To pass the unit you must:

- attempt both assignments and the examination
- achieve no less that 40% of the possible marks in the exam
- achieve no less than 50% of possible marks

## 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:**
  Portfolio
  **Description:**
  In this unit, the assigment submission will take the form of a portfolio. The portfolio is really a series of assignments that are submitted together as one package at the end of the semester. It is different to a normal assignment in that each student gets to choose what they do from a list of tasks (available on the unit web site). Each task will have a description and a deliverable and will also have a series of points associated with it. The points will include

  - Learning objectives points (design or implementation)
  - Individual points
  - Team points
  - Presentation points &
  - Value points

You must perform and prepare for submission tasks that ensure you meet the minimum amount of point value for each criteria. This way - while you choose what you do, you will do a minumum amount of group work, individual work, work on each of the releveant learning objectives and practice written and oral presentations. There are no set maximum points (you can do as much as you want). A partial submission of at least 10 value points must me made by the end of week 7 (September 6).

Each item you choose to do can be submited for feedbackÂ as many times as you want. This feedback will include a gradeÂ.

The final mark given for the portfolio will be sum of all items submitted by their value points by the grade.

The exam will include optional questions about portfolio tasks

The full task list is available on the Moodle web site. Note that you can create your own tasks - provided they are certified by the teaching staff.

For full details refer to the unit web site on Moodle.

**Weighting:**
40%

**Due date:**
The end of week 12 (October 18).

## 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

Portfolios received after the due date may be subject to a penalty of 5% per day, including weekends. Portfolios received later than one week (seven days) 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