



**MONASH** University  
Information Technology

**FIT2051**  
**Analysis and design methods**

**Unit Guide**

**Semester 2, 2010**

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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# Table of Contents

<u>FIT2051 Analysis and design methods - Semester 2, 2010</u> .....	1
<u>Chief Examiner:</u> .....	1
<u>Lecturer(s) / Leader(s):</u> .....	1
<u>Caulfield</u> .....	1
<u>Unit synopsis</u> .....	2
<u>Learning outcomes</u> .....	2
<u>Contact hours</u> .....	3
<u>Workload</u> .....	3
<u>Unit relationships</u> .....	3
<u>Prerequisites</u> .....	3
<u>Co-requisites</u> .....	3
<u>Prohibitions</u> .....	3
<u>Teaching and learning method</u> .....	4
<u>Teaching approach</u> .....	4
<u>Timetable information</u> .....	4
<u>Tutorial allocation</u> .....	4
<u>Unit Schedule</u> .....	4
<u>Improvements to this unit</u> .....	5
<u>Unit Resources</u> .....	6
<u>Prescribed text(s) and readings</u> .....	6
<u>Recommended text(s) and readings</u> .....	6
<u>Required software and/or hardware</u> .....	6
<u>Equipment and consumables required or provided</u> .....	6
<u>Study resources</u> .....	6
<u>Assessment</u> .....	7
<u>Overview</u> .....	7
<u>Faculty assessment policy</u> .....	7
<u>Assignment tasks</u> .....	7
<u>Examination</u> .....	8
<u>Due dates and extensions</u> .....	9
<u>Late assignment</u> .....	9
<u>Return dates</u> .....	10
<u>Feedback</u> .....	10
<u>Appendix</u> .....	11

# **FIT2051 Analysis and design methods - Semester 2, 2010**

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## **Lecturer(s) / Leader(s):**

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## Unit synopsis

This unit will examine the process of information system development and the key tasks in systems analysis and design from a problem-solving perspective. It will identify the key overall features which are common to all system development approaches and analytical and design techniques as problem-solving activities. From this foundation, it will examine, compare and contrast specific development approaches and analysis and design methods/techniques in the context of these problem-solving requirements.

## Learning outcomes

At the completion of this unit students will have -  
A theoretical and conceptual understanding of:

- the purpose, objectives and tasks of analysis and design as problem-solving activities in the context of the development of information systems;
- key issues involved in addressing informational, organisational, human and technological problems that arise in information systems development;
- a range of problem-solving approaches relevant to the identification, definition, representation and addressing of informational, organisational, human and technological problems that arise in information systems development;
- a range of problem solving techniques relevant to the problems that arise in information systems development;
- the problem-solving strategies and approaches embodied in some of the key analysis and design techniques used in information system development;
- the importance of the identification and definition phases in the problem solving process;
- key differences between problem solving approaches and techniques, and their strengths and weaknesses in relation to their use as part of the system development process;
- the importance of communication, interpersonal skills and ethical and professional behaviour in addressing the problems that arise in system development.

Developed attitudes that enable them to:

- recognise the value of a systematic, critical and reflective approach to analysis and design as problem solving activities within the systems development process;
- recognise the ethical and organisational issues that may accompany the identification, definition, representation and addressing of problems that arise in an organisational context;
- appreciate the subjective nature of problem interpretation by organisational stakeholders and would-be problem solvers, and its impact on system development approaches and techniques for analysis and design;
- appreciate the importance of the ability to approach system development problems from a variety of perspectives.

Developed the skills to:

- evaluate the overall context of information systems development problems in a critical manner, and identify appropriate methods for addressing those problems;
- apply a range of general analysis and design techniques relevant to the identification, definition, representation and addressing of problems that arise in information systems development.

Demonstrated the communication skills necessary to:

- know the team skills necessary for successful development and implementation of IT solutions to information system development problems;
- appreciate the importance of the inter-relationships between IT professionals and other stakeholders involved in the development of information systems.

## Contact hours

2 hrs lectures/wk, 2 hrs tutorials/wk

## Workload

Workload commitments are:

- 2 hour lecture
- 2 hour tutorial
- 8 hours of personal study for the reading and assignment expectations

## Unit relationships

### Prerequisites

Completion of 24 points of FIT first year common core units

### Co-requisites

FIT2001 or equivalent

### Prohibitions

IMS3230

## Teaching and learning method

### Teaching approach

### 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.its.monash.edu.au/>

### Unit Schedule

Week	Date*	Topic	Key dates
1	19/07/10	Introduction, concepts and overview of systems development , traditional SDLC; evolution of system development methodologies	Ass. 1 handed out: No tutorial
2	26/07/10	Language and learning visit	Review of assignment 1-Questions, assessment expectations; Assignment 3 handed out
3	02/08/10	Understanding the problem - Organisational dimensions. Understanding the problem - People dimensions and organisational cultures, stakeholders, communities of interest	
4	09/08/10	Understanding and solving the problem - Requirements dimensions and science paradigms Structured systems analysis and design and ER modelling; ISD methodologies SSADM, I.E.Object-oriented development approaches; ISD methodologies Å RUP, OOA	
5	16/08/10	Understanding and solving the problem - Requirements dimensions and science paradigms Structured systems analysis and design and ER modelling; ISD methodologies SSADM, I.E.Object-oriented development approaches; ISD methodologies Å RUP, OOA	Assignment 1 due and interviews held
6	23/08/10	Understanding the problem and solving the problem -- Requirements dimensions â systems paradigms- Methodologies - People oriented, organisational; ISD methodologies - SSM	Assignment 2 handed out
7	30/08/10	Understanding the problem and solving the problem -- Requirements dimensions - Participative development approaches; Rapid and evolutionary development - JAD; Prototyping; RAD Å JMRAD, DSDM	
8	06/09/10	Understanding the problem and solving the problem -- Requirements dimensions - Participative development approaches; Rapid and evolutionary development - Agile methods	

		-SCRUM	
9	13/09/10	Solving the problem - Comparing, selecting and adopting ISD methodologies; frameworks, Philosophical perspectives	
10	20/09/10	Solving the problem - External development (application packages, out sourcing, off shoring)	Assignment 2 due
Mid semester break			
11	04/10/10	Solving Current problems: web development, software as a service; reusable frameworks, cloud computing, inter organisational systems	Assignment 3 due and presentations
12	11/10/10	Solving Current problems: web development, software as a service; reusable frameworks, cloud computing, inter organisational systems	Assignment 3 presentations
13	18/10/10	Summary and review	Review and reflection

\*Please note that these dates may only apply to Australian campuses of Monash University. Off-shore students need to check the dates with their unit leader.

## Improvements to this unit

The content of the unit has been re-evaluated to take into consideration the overlap between this unit and FIT1003 and FIT2002 that existed last year. The unit has also been moved from the first to the second semester to ensure the necessary background information in analysis and design.

## Unit Resources

### Prescribed text(s) and readings

Avison, D., Fitzgerald, G., 2006. Information systems development: Methodologies, techniques and tools.(4th edition) McGraw Hill. ISBN:-13 978-0-07-711417-6

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

Please refer to the weekly reference reading list on the FIT 2051 website. Appropriate references will be added during the semester.

### Required software and/or hardware

Students will be required to use Word processing to complete their assignments.

### 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 **2** 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:

- Unit guide
- The FIT2051 website on MUSO where lecture slides, weekly tutorial requirements, assignment specifications and supplementary material will be posted.



## Assessment

### Overview

Examination (3 hours): 60%: In-semester assessment: 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 50% then a mark of no greater than 49-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 submission and preparation requirements will be detailed in each assignment specification. 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>.

#### • Assignment task 1

**Title:**

Assignment 1: Evaluation and interview

**Description:**

This will be an individual assignment. Specific instructions and marking criteria will be distributed at the appropriate time during the semester. As well as a submitted essay, an interview will be held with each student to discuss their findings.

**Weighting:**

20%

**Criteria for assessment:**

In this evaluation a particular issue will be assessed by the demonstration of the student's knowledge. We will look for answers that reflect understanding of the underlying principles and theories that have been presented in the unit, but more importantly that have been found by researching scholarly texts (academic journals, text books etc). A presentation will be given by the Language and Learning unit from the library to assist with this assignment.

**Due date:**

Week 5, 18th August, 2010

• **Assignment task 2**

**Title:**

Assignment 2: Problem solving using a case study

**Description:**

The assignment will be a group assignment and will involve reports and a presentation. Specific tasks and marking criteria will be distributed at the appropriate time during the semester.

**Weighting:**

20%

**Criteria for assessment:**

The submission and presentation will be assessed on completeness of the assessment task and the format of both the written presentation and the oral presentation of the task findings. As group activity, assessment will include peer reviews and interviews in order to assess different contributions of group members, both quantitative and qualitative. Assistance and practical work will be given during the preceding tutorials in order to assist team building and team communication. The presentation given earlier by the Language and Learning unit from the library will assist with the formal presentation part of this assignment.

**Due date:**

Week 10, Wednesday - 22nd September, 2010

• **Assignment task 3**

**Title:**

Assignment 3: Lecture summaries

**Description:**

This assignment and will be the development (individually) and presentation (group) of summaries of the the lecture material throughout the unit. Specific requirements will be distributed at the beginning of the semester. The presentations can be developed as the unit progresses, however they will all need to be completed by Week 11.

**Weighting:**

A hurdle requirement - must be presented and handed in to achieve a pass in this unit.

**Criteria for assessment:**

This assessment task will assist in your revision and review of the unit material and as such will have no grade. However in order to pass this unit it is expected that your submission and presentation will cover the individual subject areas completely. The written submissions, which will be a working document and acceptable as notes, will be individually handed in but presentations (informal) will be conducted in groups. The groups will be randomly picked to present particular material in a particular week (week 11 or 12).

**Due date:**

Week 11 - Wednesday, 6th October, 2010. Some presentations will be held in Week 12 - Wednesday, 13th October, 2010.

## Examination

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**Weighting:**

60%

**Length:**

3 hours

**Type (open/closed book):**

Closed book

**Electronic devices allowed in the exam:**

None

**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 in this unit are no less important than those of other units. Your inability to manage your time or computing resources will not be accepted as a valid excuse. (Several assignments falling due at the same time is an unavoidable fact of university life.)

Hardware failures are not normally recognised as a valid reason for obtaining an extension or handing in a late assignment.

Late assignments submitted without an approved extension **may** be accepted up to one week late at the discretion of your lecturer, but will be penalised at the rate of 5% of total assignment marks per day (including weekends).

*Example:*

Total marks available for the assignment = 100 marks

Marks received for the assignment = 70 marks

Marks deducted for 2 days late submission (10% of 100) = 10 marks

Final mark received for assignment = 60 marks

## **Return dates**

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

## **Feedback**

Types of feedback you can expect to receive in this unit are:

Informal feedback on progress in labs/tutes

Graded assignments with comments

Interviews

## 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