



MONASH University

**FIT4005  
IT research methods**

**Unit Guide**

**Semester 2, 2009**

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>FIT4005 IT research methods - Semester 2, 2009</u> .....	1
<u>Chief Examiner:</u> .....	1
<u>Lecturer(s) / Leader(s):</u> .....	1
<u>Caulfield</u> .....	1
<u>Introduction</u> .....	2
<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>Prohibitions</u> .....	3
<u>Relationships</u> .....	3
<u>Teaching and learning method</u> .....	4
<u>Timetable information</u> .....	4
<u>Tutorial allocation</u> .....	4
<u>Off-Campus Learning or flexible delivery</u> .....	4
<u>Unit Schedule</u> .....	4
<u>Unit Resources</u> .....	5
<u>Prescribed text(s) and readings</u> .....	5
<u>Recommended text(s) and readings</u> .....	5
<u>Required software and/or hardware</u> .....	5
<u>Equipment and consumables required or provided</u> .....	5
<u>Study resources</u> .....	5
<u>Assessment</u> .....	6
<u>Overview</u> .....	6
<u>Faculty assessment policy</u> .....	6
<u>Assignment tasks</u> .....	6
<u>Due dates and extensions</u> .....	7
<u>Late assignment</u> .....	7
<u>Return dates</u> .....	7
<u>Appendix</u> .....	8

# **FIT4005 IT research methods - Semester 2, 2009**

## **Chief Examiner:**

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Professor

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## Introduction

Welcome to FIT4005 IT research methods. This is a core unit for all honours programs in the Faculty of IT, except the Bachelor of Software Engineering. The unit is designed to provide you with a practical understanding of research and an introduction to a range of essential research methods used in information technology.

## Unit synopsis

This unit introduces students to a variety of issues, concepts, methods and techniques associated with IT research. Skills developed and knowledge acquired from this unit will prepare students to conduct their own research, as well as to be knowledgeable consumers of others' research.

## Learning outcomes

After completing this unit, students should have knowledge and understanding of:

1. Basic research concepts, major philosophical foundations (theory, framework, paradigm, scientific method and methodologies in general)
2. Research methods and techniques relevant to IT research.
3. Key issues in IT research.
4. Methods of argument analysis.
5. How to design research.
6. How to evaluate research and peer review procedures.
7. The process of reviewing research literature on a specific topic.
8. Ethical research practices.

After completing this unit, students should have developed attitudes of:

1. Confidence in themselves as informed consumers of published research, able to critically evaluate the relative quality and merits of reported research findings.
2. Confidence in their ability to undertake independent research and to complete a thesis.
3. Awareness of the ethical issues that arise in the design and implementation of research.

After completing this unit, students should have the skills to:

1. Match research tools and methods with research needs.
2. Write effective research papers.
3. Evaluate research ideas and designs.
4. Collect and analyse relevant data.

After completing this unit, students should be able to:

1. Communicate research ideas effectively in oral and written form.
2. Assess research ideas and designs.

## Contact hours

4 hrs/week

## Workload

The workload commitment for on campus students for this unit are:

- 2 hour lecture
- 2 hour workshop/tutorial
- 5 hours of reading, further research, assignment and research related activities

## Unit relationships

### Prerequisites

Students must be enrolled in an FIT Honours degree, Masters degree or Research degree. Foundation knowledge in computer science, business information systems or information technology and systems fundamentals is assumed.

### Prohibitions

BUS5000, CSE4650, CSE4910, GCO4010, IMS4036, IMS5036, ITW4001

### Relationships

FIT4005 is a core unit in the Faculty of Information Technology Honours degrees. Before attempting this unit you must have an approved undergraduate degree in business information systems (BIS) or computer science (CS) or information technology and systems (ITS) or equivalent experience. You should have foundation knowledge in computer science or business information systems or information technology and systems fundamentals

## Teaching and learning method

Various activities are included in this unit. The lectures will focus on the different kinds of research and methods suitable for their conduct. The assignments will explore the application of these ideas in specific contexts. The workshops/tutorials will engage students in presenting and discussing ideas in the readings on research methods.

## 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/>

## Off-Campus Learning or flexible delivery

All unit materials will be made available via Moodle.

## Unit Schedule

Week	Topic	Key dates
1	The nature of research	
2	Formulating research questions	
3	Setting the context	
4	Study design	Assign 1 due
5	Scientific communication - written	
6	The nature of scientific argument	
7	The nature of scientific evidence	
8	Gathering evidence	Assign 2 due
9	Hypothesis testing	
10	Hypothesis testing	
Mid semester break		
11	Virtual experiments	
12	Issues in dealing with evidence	
13	Scientific communication - oral	Assign 3 due

## **Unit Resources**

### **Prescribed text(s) and readings**

There is no prescribed textbook. Required reading will be provided for each weekly workshop/tutorial.

### **Recommended text(s) and readings**

A list of additional readings will be provided for each lecture. See Moodle for the list.

### **Required software and/or hardware**

Students may be required to use Web browsers, text processing, spread sheets and slide presentation packages to complete their assignments.

### **Equipment and consumables required or provided**

Students will need access to:

- a computer with Linux or comparable operating environment
- the internet
- software for text processing, spreadsheets and slide shows

Students 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:

The FIT4005 web site on Moodle, where lecture slides, weekly tutorial requirements, assignment specifications and supplementary material will be posted.

## Assessment

### Overview

Assignments: literature review, assignment relevant to topic, and class exercises.

### 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 via three assignments.

To pass the unit you must:

- attempt all assignments
- achieve at least 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:**

Assignment 1

**Description:**

Exercise in setting context, framing research questions and carrying out a critical review.

**Weighting:**

30%

**Due date:**

14 August 2009

#### • Assignment task 2

**Title:**

Assignment 2

**Description:**

Project first draft.



**Weighting:**

30%

**Due date:**

11 Sept 2009

• **Assignment task 3**

**Title:**

Assignment 3

**Description:**

Completed project and presentation.

**Weighting:**

40%

**Due date:**

23 October 2009

## 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 10% of the mark awarded.

## 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