# FIT4005
# IT research methods

# Unit Guide

# Semester 1, 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.

*Last updated: 21 Feb 2010*

# Table of Contents

# FIT4005 IT research methods - Semester 1, 2010

## Chief Examiner:

**Professor David Green**
Professor
Phone: +61 3 990 53912
Fax: +61 3 990 55159

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

## Caulfield

## Clayton

**Professor David Green**
Professor
Phone: +61 3 990 53912
Fax: +61 3 990 55159

Contact hours: TBA

**Professor Frada Burstein**
Professor
Phone: +61 3 990 32011
Fax: +61 3 990 31077

## South Africa

**Dr Jacques Steyn**
Head of School
Phone: +27 11 950 4132

# 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

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

- basic research concepts, major philosophical foundations (theory, framework, paradigm, scientific method and methodologies in general);
- research methods and techniques relevant to IT research;
- key issues in IT research;
- methods of argument analysis;
- how to design research;
- how to evaluate research and peer review procedures;
- the process of reviewing research literature on a specific topic;
- ethical research practices.

Developed attitudes that enable them to:

- have confidence in themselves as informed consumers of published research, able to critically evaluate the relative quality and merits of reported research findings;
- have confidence in their ability to undertake independent research and to complete a thesis;
- have an awareness of the ethical issues that arise in the design and implementation of research.

Developed the skills to:

- match research tools and methods with research needs;
- write effective research papers;
- evaluate research ideas and designs;
- collect and analyse relevant data.

Demonstrated the communication skills necessary to:

- communicate research ideas effectively in oral and written form;
- assess research ideas and designs.

# Contact hours

2 hrs lectures/wk, 2 hrs laboratories/wk

# 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

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

# Teaching and learning method

## Teaching approach

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.its.monash.edu.au/

## Off-Campus Learning or flexible delivery

All unit materials will be made available via Moodle.

## Unit Schedule

| Week | Date* | Topic | Key dates |
|------|-------|-------|-----------|
| 1 | 01/03/10 | The nature of research | |
| 2 | 08/03/10 | Formulating research questions | |
| 3 | 15/03/10 | Setting the context | Assignment 1 due |
| 4 | 22/03/10 | Study design | |
| 5 | 29/03/10 | The nature of research argument | |
| | | Mid semester break | |
| 6 | 12/04/10 | The nature of research evidence | Assignment 2 due |
| 7 | 19/04/10 | The nature of research evidence | |
| 8 | 26/04/10 | Gathering evidence | |
| 9 | 03/05/10 | Gathering evidence | |
| 10 | 10/05/10 | Interpretation and hypothesis testing | Assignment 3 due |
| 11 | 17/05/10 | E-research | |
| 12 | 24/05/10 | Communicating research | |
| 13 | 31/05/10 | Important issues in research | Assignment 4 due |

*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 unit is no longer linked to preparation of a thesis. The content has been revised to place give equal emphasis to all aspects of the research cycle, and less on specific technical matters, such as statistics and survey methods. The workload of the unit has been adjusted to address new technologies, methods and paradigms in IT research. Updated examples, case studies etc have been added.

# 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

- Kirsty Williamson et al. (2002). *Research Methods for Students, Academics and Professionals: Information Management and Systems*. Topics in Australasian Library and Information Studies No 22. Centre for Information Studies. ISBN 978 1876938 42 0
- WG Zikmund, BJ Babin, JC Carr, M Griffin (2010). *Business Research Methods* (8th edition) South-Western (Cengage Learning) ISBN-13: 978-0-324-32062-6
- John W Creswell (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd Edition). ISBN: 9781412965576
- W. Lawrence Neuman (2006). *Social Research Methods: Quantitative and Qualitative Approaches*, Pearson.
- Lists of additional readings will be provided for each lecture. See Moodle for further details.

## 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 Windows 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: 100%

## 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.

The unit is assessed via a set of 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:**
    Report on research questions arising from current events described in the media.
    **Weighting:**
    10%
    **Due date:**
    25 March 2010

- **Assignment task 2**

    **Title:**
    Assignment 2
    **Description:**
    Present results of interview with a working researcher.
    **Weighting:**
    10%
    **Due date:**
    15 April 2009

- **Assignment task 3**

    **Title:**
    Assignment 3
    **Description:**
    Exercises on hypothesis setting & testing.
    **Weighting:**
    30%
    **Due date:**
    13 May2010

- **Assignment task 4**

    **Title:**
    Assignment 4
    **Description:**
    Carry out a mini research project working in small teams. Each team gives a presentation
    on their results and submits a written report.
    **Weighting:**
    50%
    **Due date:**
    3 June 2010

## 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