MONASH University
Information Technology

**FIT6021
Advanced research methods**


**Unit Guide**


**Semester 2, 2015**

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: 24 Jul 2015*

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# FIT6021 Advanced research methods - Semester 2, 2015

The aim of the unit is to prepare PhD candidates from the Faculty of IT to conduct research across the range of the disciplines that cover Information and Communication Technology (ICT) research, including computer science, software engineering, at the technical end, and organisational and social informatics, which address societal needs in ICT. This unit is compulsory for all students enrolled in the FIT PhD program.

The unit comprises five workshops, which address the broad philosophical, methodological and ethical underpinnings of conducting research in ICT, as well as classical and modern approaches to designing data collection and analysis for rigorous and sophisticated ICT research studies. Students have the option to choose from a list of available workshops.

## Mode of Delivery

- Caulfield (Day)
- Clayton (Day)
- Malaysia (Day)

## Workload Requirements

Each workshop has seven hours of face-to-face contact plus 24 hours of individual study time per semester.

See also Unit timetable information

## Additional workload requirements

You are expected to spend 3.5 hours per week participating in workshop activities and 12 hours per week in reading, preparing for workshops completing learning tasks, communicating with other students and workshop leaders in discussion forums, and undertaking formal assessment work.

## Unit Relationships

### Co-requisites

FIT5143 or equivalent

## Chief Examiner

**Professor Frada Burstein**

## Campus Lecturer

## Caulfield

### Professor Frada Burstein

Consultation hours: By appointment. Use email to arrange appointments.

## Clayton

### Associate Professor Kevin Korb

Consultation hours: By appointment. Use email to arrange appointments.

## Malaysia

### Dr Simon Egerton

Consultation hours: By appointment. Use email to arrange appointments.

# Your feedback to Us

Monash is committed to excellence in education and regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through the Student Evaluation of Teaching and Units (SETU) survey. The University's student evaluation policy requires that every unit is evaluated each year. Students are strongly encouraged to complete the surveys. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

For more information on Monash's educational strategy, see:

www.monash.edu.au/about/monash-directions/ and on student evaluations, see: www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html

# Previous Student Evaluations of this Unit

More elective modules will be proposed at Clayton and Caulfield. The modules will be taught by senior resaerchers and more current PhD students will beinvited to share their experience in applying certain search methods.

If you wish to view how previous students rated this unit, please go to https://emuapps.monash.edu.au/unitevaluations/index.jsp

# Academic Overview

## Learning Outcomes

Upon successful completion of this unit, students should be able to:

- design rigorous and ethical research studies;
- conduct high quality independent ICT research;
- assess research design across a range of research strategies and paradigms;
- consider and evaluate appropriate data collection instruments, and sampling strategies to fit the research purpose;
- understand the key principles of ethical and professional research conduct;
- understand the key principles of research presentation.

# Unit Schedule

| Week | Activities | Assessment |
|---|---|---|
| 0 | The unit comprises five workshops selected from the list offered for this semester. Each workshop runs over two weeks. | No formal assessment or activities are undertaken in week 0 |
| 1 | Timeline depends on the choice of the Workshops | Each workshop will include an associated task for assessment. Details are available via the Moodle site for this unit. |
| 2 | Workshop 1: Argument Analysis - Clayton | |
| 3 | Workshop 2: Scientific Method - Clayton | |
| 4 | Workshop 3: Proof and Problem Solving - Clayton | |
| 5 | Workshop 4: Experimental Design and Statistics - Clayton | |
| 6 | Workshop 5: Modelling and Computer Simulation - Clayton | |
| 7 | Workshop 6: Theories and theoretical reflections in research - Caulfield | |
| 8 | Workshop 7: Design Science Research - Caulfield | |
| 9 | Workshop 8: Cultural studies in sicio-technical research - Caulfeild | |
| 10 | Workshop 9: Participatory Research - Caulfeild | |
| 11 | Workshop 10: Action Research - Caulfeild | |
| 12 | Additional 5 workshops are offered at Clayton and Caulfield. The full list is available via the Moodle site for this unit. | |
| | SWOT VAC | No formal assessment is undertaken during SWOT VAC |
| | Examination period | LINK to Assessment Policy: http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html |

*Unit Schedule details will be maintained and communicated to you via your learning system.

# Teaching Approach

**Workshops**

Note: These Workshops 1-5 and 6-10 are offered in parallel. Workshops 1-5 are run at Clayton campus, whereas 6-10 offered at Caulfield.

In addition, there will be a set of five Advanced Mathematical Research Methods delivered and managed by Prof Graham Farr at Clayton. In addition there will be some elective workshops in research methods offered by Immersive Analytics and Senci-Lab staff at Caulfield.

Unit Schedule

These will be listed in the FIT6012 Moodle site.

Students have a choice to enrol to any of the workshops subject to consultation with their supervisor.

Workshops will include presentations which address the broad philosophical, methodological and ethical underpinnings of conducting research in ICT, as well as individual and group learning activities relating to  classical and modern approaches to designing data collection and analysis for rigorous and sophisticated ICT research studies.

## Assessment Summary

In semester assessment: 100%

Each workshop will include an associated assessable task, which will comprise a portfolio of results to contribute 20% to the final assessment. These will comprise written and oral presentations to be performed individually and/or in groups. To pass this unit, students must achieve at least a total mark of 70% from five workshops, and must achieve at least 50% in each workshop.

| Assessment Task | Value | Due Date |
|---|---|---|
| Workshop Portfolio | 100% consisting of 5 assessments from 5 workshops 20% for each workshop | All assessment has to be completed by week 14 of the semester. Assessment due dates for individual workshops are determined by the Workshop Leader. Details are available via the Moodle site. |

# Assessment Requirements

## Assessment Policy

Faculty Policy - Unit Assessment Hurdles
([http://intranet.monash.edu.au/infotech/resources/staff/edgov/policies/assessment-examinations/assessment-hurd](http://intranet.monash.edu.au/infotech/resources/staff/edgov/policies/assessment-examinations/assessment-hurd)

Academic Integrity - Please see resources and tutorials at
[http://www.monash.edu/library/skills/resources/tutorials/academic-integrity/](http://www.monash.edu/library/skills/resources/tutorials/academic-integrity/)

## Assessment Tasks

### Hurdle Requirements

To pass this unit, students must achieve at least a total mark of 70% from five workshops, and must achieve at least 50% in each workshop.

### Participation

Participation in five workshops and workshop-related activities is required. Participation will be judged by criteria relating to the assessment tasks for each workshop.

- **Assessment task 1**

  **Title:**
  > Workshop Portfolio

  **Description:**
  > Each student has to sign in and complete assessment for five workshops minimum.
  >
  > Each workshop will include an associated assessable task, which will comprise a portfolio of assessable activities. These will comprise individual and group written submissions and oral presentations. Details of the portfolio activities for each workshop are available via the Moodle site.
  >
  > The completion of these tasks will help the students to achive the learning outcomes by advancing their understanding of the research design, data collection appraoches, foundation theoris relavant to their ICT resaearch and skills in presenting thier ideas to the academic audience.

  **Weighting:**
  > 100% consisting of 5 assessments from 5 workshops 20% for each workshop

  **Criteria for assessment:**
  > Details of criteria for individual module assessment are available via the Moodle site.
  >
  > Students' performance will be assessed taking into account the expectations for the doctoral level research.

  **Hurdle requirements:**
  > Students must achieve at least 50% of the marks for each workshop portfolio.

  **Due date:**
  > All assessment has to be completed by week 14 of the semester. Assessment due dates for individual workshops are determined by the Workshop Leader. Details are available via the Moodle site.

# Learning resources

Monash Library Unit Reading List (if applicable to the unit)
http://readinglists.lib.monash.edu/index.html

# Feedback to you

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

- Informal feedback on progress in labs/tutes
- Graded assignments with comments

# Extensions and penalties

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.monash.edu.au/exams/special-consideration.html

# Returning assignments

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

# Assignment submission

It is a University requirement (http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-academic-integrity-managing-pla for students to submit an assignment coversheet for each assessment item. Faculty Assignment coversheets can be found at http://www.infotech.monash.edu.au/resources/student/forms/. Please check with your Lecturer on the submission method for your assignment coversheet (e.g. attach a file to the online assignment submission, hand-in a hard copy, or use an electronic submission). Please note that it is your responsibility to retain copies of your assessments.

# Online submission

Please submit your work via the Moodle system for this unit, which you can access via links in the my.monash portal.

# Other Information

## Policies

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at:
www.policy.monash.edu.au/policy-bank/academic/education/index.html

## Faculty resources and policies

Important student resources including Faculty policies are located at
http://intranet.monash.edu.au/infotech/resources/students/

## Graduate Attributes Policy

http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-policy.h

## Student Charter

www.opq.monash.edu.au/ep/student-charter/monash-university-student-charter.html

## Student services

The University provides many different kinds of support services for you. Contact your tutor if you need advice and see the range of services available at http://www.monash.edu.au/students. For Malaysia see http://www.monash.edu.my/Student-services, and for South Africa see http://www.monash.ac.za/current/.

## Monash University Library

The Monash University Library provides a range of services, resources and programs that enable you to save time and be more effective in your learning and research. Go to www.lib.monash.edu.au or the library tab in my.monash portal for more information. At Malaysia, visit the Library and Learning Commons at http://www.lib.monash.edu.my/. At South Africa visit http://www.lib.monash.ac.za/.

## Disability Liaison Unit

Students who have a disability or medical condition are welcome to contact the Disability Liaison Unit to discuss academic support services. Disability Liaison Officers (DLOs) visit all Victorian campuses on a regular basis.

- Website: http://www.monash.edu/equity-diversity/disability/index.html
- Telephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Commuity Services at 03 55146018 at Malaysia
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1, Building 55, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Malaysia Campus