



**MONASH** University  
Information Technology

**FIT3046**  
**Operating environments**

**Unit Guide**

**Semester 1, 2013**

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: 04 Mar 2013*

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# FIT3046 Operating environments - Semester 1, 2013

Processes and threads: interprocess communication, scheduling. Deadlock: detection, prevention, avoidance. Memory management: allocation, swapping, virtual memory. Input/output principles and examples: disks, graphical user interfaces, network terminals. File systems: files, directories, disk space management. Security: authentication, cryptography, common attacks, principles of secure system administration. Case studies: Characteristics of major PC operating systems such as Linux and Windows.

## Mode of Delivery

- Gippsland (Day)
- Gippsland (Off-campus)
- South Africa (Day)

## Contact Hours

2 hrs lectures/wk, 2 hrs laboratories/wk

## Workload requirements

Students will be expected to spend a total of 12 hours per week during semester on this unit as follows:

*For on-campus students:*

Lectures: 2 hours per week

Tutorials/Lab Sessions: 2 hours per week per tutorial

and up to an additional 8 hours in some weeks for completing lab and project work, private study and revision.

*Off-campus students* generally do not attend lecture and tutorial sessions, however, you should plan to spend equivalent time working through the relevant resources and participating in discussion groups each week.

## Unit Relationships

### Prohibitions

FIT2022, FIT2070, GCO2814, GCO3818

### Prerequisites

FIT1031 or FIT1001

## Chief Examiner

Associate Professor Manzur Murshed

## **Campus Lecturer**

### **Gippsland**

**Manzur Murshed**

### **South Africa**

**Paula Murray**

# Academic Overview

## Learning Outcomes

At the completion of this unit students will:

- know the general purpose and functions of operating systems;
- understand the hardware and software mechanisms used to carry out these functions;
- be familiar with the principal differences between common major operating systems such as Windows and Linux;
- be able to install new operating systems on PC hardware;
- be willing to select operating systems based on their merits rather than their marketing.

## Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	Introduction	
2	Processes and Threads	
3	Scheduling	
4	Interprocess Communications	
5	Deadlocks	
6	Memory Management	
7	Memory Management	Assignment 1 due 22 April 2013
8	Input/Output	
9	File Systems	
10	Security	
11	Case Study 1: Linux	Assignment 2 due 20 May 2013
12	Case Study 2: Windows Vista and Revision	
	SWOT VAC	No formal assessment is undertaken in SWOT VAC
	Examination period	LINK to Assessment Policy: <a href="http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html">http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html</a>

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

## Assessment Summary

Examination (3 hours): 60%; In-semester assessment: 40%

Assessment Task	Value	Due Date
Assignment 1	20%	22 April 2013
Assignment 2	20%	20 May 2013
Examination 1	60%	To be advised

## Teaching Approach

### Lecture and tutorials or problem classes

This teaching and learning approach provides facilitated learning, practical exploration and peer learning.

# Assessment Requirements

## Assessment Policy

Faculty Policy - Unit Assessment Hurdles

(<http://www.infotech.monash.edu.au/resources/staff/edgov/policies/assessment-examinations/unit-assessment-hu>)

Academic Integrity - Please see the Demystifying Citing and Referencing tutorial at

<http://lib.monash.edu/tutorials/citing/>

## Assessment Tasks

### Participation

#### • Assessment task 1

**Title:**

Assignment 1

**Description:**

Students will be required to perform a number of tasks involving both analytical and practical skills from the syllabus covered in Study Guides 1-4. Detailed solutions will be released after the cut-off date, which is one week after the due date.

**Weighting:**

20%

**Criteria for assessment:**

Individual assignment submission will be assessed on

- ◆ The workout details and accuracy for numerical problems;
- ◆ The quality of explanation and the level of understanding for non-numerical problems;
- ◆ How well algorithms are written using pseudocodes; and
- ◆ Understanding the outcome of algorithms on given scenarios.

More detailed criteria will be released on Moodle.

**Due date:**

22 April 2013

#### • Assessment task 2

**Title:**

Assignment 2

**Description:**

Students will be required to perform a number of tasks involving both analytical and practical skills from the syllabus covered in Study Guides 5-7. Detailed solutions will be released after the cut-off date, which is one week after the due date.

**Weighting:**

20%

**Criteria for assessment:**

Individual assignment submission will be assessed on

- ◆ The workout details and accuracy for numerical problems;

## Assessment Requirements

- ◆ The quality of explanation and the level of understanding for non-numerical problems;
- ◆ How well algorithms are written using pseudocodes; and
- ◆ Understanding the outcome of algorithms on given scenarios.

More detailed criteria will be released on Moodle.

**Due date:**

20 May 2013

## Examinations

### • Examination 1

**Weighting:**

60%

**Length:**

3 hours

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

Closed book

**Electronic devices allowed in the exam:**

None

## Learning resources

Monash Library Unit Reading List

<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
- Solutions to tutes, labs and assignments

## 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.infotech.monash.edu.au/resources/student/equity/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/plagiarism-procedures.html>) 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 online quiz).

## Online submission

If Electronic Submission has been approved for your unit, please submit your work via the learning system for this unit, which you can access via links in the my.monash portal.

## Required Resources

Please check with your lecturer before purchasing any Required Resources. Limited copies of prescribed texts are available for you to borrow in the library, and prescribed software is available in student labs.

Study resources we will provide for your study are:

- A Unit Book containing 10 Study Guides on Moodle.
- This Unit Guide outlining the administrative information for the unit.
- A unit web page on Moodle where lecture slides, weekly tutorial requirements, assignment specifications, sample solutions and supplementary material will be posted.
- Discussion forums on Moodle.

## Prescribed text(s)

Limited copies of prescribed texts are available for you to borrow in the library.

Tanenbaum, Andrew. (2008). *Modern Operating Systems*. (3rd Edition) Prentice-Hall (ISBN: 0-13-600663-9).

## Recommended text(s)

Stallings, William. (2009). *Operating Systems: Internals and Design Principles*. (6th Edition) Prentice-Hall (ISBN: 0-13-600632-9).

Silberschatz, Galvin and Gagne. (2005). *Operating Systems*. (7th Edition) Wiley (ISBN: 0-471-69466-3).

## 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](http://www.policy.monash.edu.au/policy-bank/academic/education/index.html)

Key educational policies include:

- Plagiarism;  
<http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html>
- Assessment in Coursework Programs;  
<http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-po>
- Special Consideration;  
<http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.ht>
- Grading Scale;  
<http://www.policy.monash.edu/policy-bank/academic/education/assessment/grading-scale-policy.html>
- Discipline: Student Policy;  
<http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-discipline-policy.html>
- Academic Calendar and Semesters; <http://www.monash.edu.au/students/dates/>
- Orientation and Transition; <http://intranet.monash.edu.au/infotech/resources/students/orientation/>
- Academic and Administrative Complaints and Grievances Policy;  
<http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.h>
- Code of Practice for Teaching and Learning;  
<http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-teac>

### Graduate Attributes Policy

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

### 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 Sunway 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](http://www.lib.monash.edu.au) or the library tab in [my.monash](#) portal for more information. At Sunway, 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 Community Services at 03 55146018 at Sunway Email: [dlu@monash.edu](mailto: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, Sunway Campus

## 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](http://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](http://www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html)

## Previous Student Evaluations of this Unit

Previous feedback has highlighted the following strengths in this unit:

- In-depth knowledge displayed by the lecturers;
- Well-developed materials with full-scale solutions to all tutorial and assignment problems;
- Timeliness and quality of assignment feedback;
- Availability of past lecture recording;
- Quick and helpful replies by the lecturer in the online discussion forums; and
- Dedicated discussion forum for exam preparation with active participation by the lecturer.

Student feedback has also informed the following improvements to this unit:

- Fresh lecture recording to reflect some minor changes in the new edition of the prescribed textbook.

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