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FIT5134 Computer architecture and operating systems -
Semester 2, 2014

This unit introduces students to the fundamentals of computer systems and the computing environment, using Linux as a case study of a modern operating system. Topics covered include: CPU, memory, storage devices, peripheral hardware, networking fundamentals, operating systems fundamentals, practical Linux considerations including Desktop and Enterprise applications, file systems, shell scripting, client/server applications and system administration.

Mode of Delivery

Caulfield (Evening)

Workload Requirements

Minimum total expected workload equals 12 hours per week comprising:

(a.) Contact hours for on-campus students:

- One 1-hour lecture
- One 3-hour laboratory

(b.) Additional requirements (all students):

- A minimum of 8 hours independent study per week for completing lab and project work, private study and revision.

Unit Relationships

Prohibitions

FIT9018

Chief Examiner

Dr Sid Ray

Campus Lecturer

Caulfield

Andy Cheng
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

Based on previous student feedback this unit is well structured and no major changes have been made for last semester. We did have to re-order some lab tasks due to the fact that some labs were scheduled before the lecture (caused by an unusually large enrolment).

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

At the completion of this unit, students will be expected to have an understanding of:

- basic computer hardware and architectures;
- process management;
- memory management;
- operating systems architectures;
- basic network protocols;
- network topologies;
- the architecture of Linux;
- usage and administration of Linux systems;
- deployment of Linux in personal and enterprise contexts.
# Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Note: The order of lectures may change - changes will be communicated to you via the unit website</td>
<td>No formal assessment or activities are undertaken in week 0</td>
</tr>
<tr>
<td>1</td>
<td>Hardware I: Introduction to Digital Computers</td>
<td>IMPORTANT: Tute/Lab sessions (with assessable lab tasks) start Week 1</td>
</tr>
<tr>
<td>2</td>
<td>Operating Systems I: Introduction to Operating Systems</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Operating Systems II: Memory Management - Virtual Memory</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Operating Systems III: File Management</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Operating Systems III: File Management Continued</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Operating Systems IV: Process Management Concepts</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Operating Systems V: Process Management - Deadlocks and IPC</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Operating Systems VI: More Unix Shell Basics</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Operating Systems VII: Unix Shell Scripting</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Operating Systems VII: Unix Shell Scripting Continued</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Hardware III: CPU, Memory and System Performance</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Review and Discussion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SWOT VAC</td>
<td>No formal assessment is undertaken during SWOT VAC</td>
</tr>
</tbody>
</table>

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

## Teaching Approach

- **Lecture and tutorials or problem classes**
  This teaching and learning approach provides facilitated learning, practical exploration and peer learning.
- This teaching approach is practical learning.

## Assessment Summary

Examination (2 hours): 60%; In-semester assessment: 40%

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Tasks</td>
<td>40%</td>
<td>Weekly in lab sessions</td>
</tr>
<tr>
<td>Examination 1</td>
<td>60%</td>
<td>To be advised</td>
</tr>
</tbody>
</table>
Unit Schedule
Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles

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

Assessment Tasks

Participation

• Assessment task 1

Title:
Lab Tasks

Description:
There are no formal assignments for this unit. However, each lab session has a set of assessable tasks to be completed. These tasks involve installing/configuring the Linux O/S and associated applications.

Weighting:
40%

Criteria for assessment:
How well tasks are completed during each lab session.

Due date:
Weekly in lab sessions

Examinations

• Examination 1

Weighting:
60%

Length:
2 hours

Type (open/closed book):
Closed book

Electronic devices allowed in the exam:
None

Learning resources

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

Faculty of Information Technology Style Guide
Assessment Requirements

Feedback to you

Examination/other end-of-semester assessment feedback may take the form of feedback classes, provision of sample answers or other group feedback after official results have been published. Please check with your lecturer on the feedback provided and take advantage of this prior to requesting individual consultations with staff. If your unit has an examination, you may request to view your examination script booklet, see http://intranet.monash.edu.au/infotech/resources/students/procedures/request-to-view-exam-scripts.html

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

- Informal feedback on progress in labs/tutes

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 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). Please note that it is your responsibility to retain copies of your assessments.

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.
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

Key educational policies include:

- Student Academic Integrity Policy and Student Academic Integrity: Managing Plagiarism and Collusion Procedures; http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-academic-integrity-policy.html
- Special Consideration; http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.html
- 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/

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.html

Student Charter


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/.
Other Information

**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.

- Telephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Community 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