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**FIT9018 Computer technology and operating systems - Semester 1, 2011**

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FIT9018 Computer technology and operating systems - Semester 1, 2011

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 (Day)

Contact Hours

1 hr lecture/wk, 3 hrs laboratories/wk

Workload

Contact hours for this unit comprise 1 hour of lecture and 3 hours of practical session per week and approximately 8 hours of study outside classes.

Chief Examiner

Campbell Wilson

Campus Lecturer

Caulfield

Andy Cheng

Learning Objectives

At the completion of this unit students will be expected to have 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.
Graduate Attributes

Monash prepares its graduates to be:

1. responsible and effective global citizens who:
   a. engage in an internationalised world
   b. exhibit cross-cultural competence
   c. demonstrate ethical values

critical and creative scholars who:

   a. produce innovative solutions to problems
   b. apply research skills to a range of challenges
   c. communicate perceptively and effectively

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 Assessments</td>
<td>40%</td>
<td>Tasks are due during each lab.</td>
</tr>
<tr>
<td>Examination 1</td>
<td>60%</td>
<td>To be advised</td>
</tr>
</tbody>
</table>

Teaching Approach

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

Feedback

Our feedback to You

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

- Informal feedback on progress in labs/tutes

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 SETU, Student Evaluation of Teacher and Unit. 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, and on student evaluations, see:
http://www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html

Previous Student Evaluations of this unit

If you wish to view how previous students rated this unit, please go to

Required Resources

The lab sessions will require the use of Linux (Ubuntu), installed on bootable USB Keys. The software will be provided to students during their first lab session.

Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date*</th>
<th>Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21/02/11</td>
<td></td>
<td>No formal assessment or activities are undertaken in week 0</td>
</tr>
<tr>
<td>1</td>
<td>28/02/11</td>
<td>Hardware I: Introduction to Digital Computers</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>07/03/11</td>
<td>Operating Systems I: Introduction to Operating Systems</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>14/03/11</td>
<td>Operating Systems II: Memory Management - Virtual Memory</td>
<td></td>
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<tr>
<td>4</td>
<td>21/03/11</td>
<td>Operating Systems III: File Management</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>28/03/11</td>
<td>Operating Systems III: File Management Continued</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>04/04/11</td>
<td>Operating Systems IV: Process Management Concepts</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>11/04/11</td>
<td>Operating Systems V: Process Management: Deadlocks and IPC</td>
<td></td>
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<tr>
<td>8</td>
<td>18/04/11</td>
<td>8 Operating Systems VI : More Unix Shell basics</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Mid semester break</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>02/05/11</td>
<td>Operating Systems VII : Unix Shell Scripting</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>09/05/11</td>
<td>Operating Systems VII : Unix Shell Scripting Continued</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>16/05/11</td>
<td>Hardware II: Secondary Storage Devices</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>23/05/11</td>
<td>Hardware III: CPU, Memory &amp; System Performance</td>
<td></td>
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<tr>
<td></td>
<td>30/05/11</td>
<td>SWOT VAC</td>
<td>No formal assessment is undertaken in SWOT VAC</td>
</tr>
</tbody>
</table>

*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.
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.

Assessment Tasks

Participation

- **Assessment task 1**

  **Title:** Lab Assessments  
  **Description:** There are no formal assignments for this unit. However, each lab session has a set of assessable tasks to be completed. The tasks involve installing/configuring the Linux O/S and associated applications. The tasks are worth 40% of the unit's total marks. The remaining 60% comes from the final exam.  
  **Weighting:** 40%  
  **Criteria for assessment:** Students will be assessed on how well they carry out the tasks during each lab session.  
  **Due date:** Tasks are due during each lab.

Examinations

- **Examination 1**

  **Weighting:** 60%  
  **Length:** 2 hours  
  **Type (open/closed book):** Closed book  
  **Electronic devices allowed in the exam:** None

Assignment submission


You MUST submit a completed coversheet with all assignments, ensuring that the plagiarism declaration section is signed.
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:

Returning assignments

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

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:

Key educational policies include:

- Plagiarism
  (http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html)
- Assessment
- 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/study-discipline-policy.html)
- Academic Calendar and Semesters (http://www.monash.edu.au/students/key-dates/);
  and
- Academic and Administrative Complaints and Grievances Policy
  (http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.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 www.monash.edu.au/students. The Monash University Library provides a range of services and resources that enable you to save time and be more effective in your learning and research. Go to http://www.lib.monash.edu.au or the library tab in my.monash portal for more information. 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://adm.monash.edu/sss/equity-diversity/disability-liaison/index.html;
- Telephone: 03 9905 5704 to book an appointment with a DLO;
- Email: dlu@monash.edu
• Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus.