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FIT9018 Computer technology and operating systems - Semester 2, 2010

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Introduction

Welcome to FIT9018

Unit synopsis

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.

Learning outcomes

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.

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.

Unit relationships
Teaching and learning method

Teaching approach

Weekly three hour practical sessions reinforce and extend the material from the lectures. Please refer to the unit website.

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/

Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date*</th>
<th>Topic</th>
<th>Key dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19/07/10</td>
<td>Hardware I: Introduction to Digital Computers</td>
<td></td>
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<tr>
<td>2</td>
<td>26/07/10</td>
<td>Operating Systems I: Introduction to Operating Systems</td>
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<tr>
<td>3</td>
<td>02/08/10</td>
<td>Operating Systems II: Memory Management - Virtual Memory</td>
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<tr>
<td>4</td>
<td>09/08/10</td>
<td>Operating Systems III: Process Management Concepts</td>
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<tr>
<td>5</td>
<td>16/08/10</td>
<td>Operating Systems IV: Process Management: Deadlocks and IPC</td>
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<tr>
<td>6</td>
<td>23/08/10</td>
<td>Operating Systems V: File Management</td>
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<tr>
<td>7</td>
<td>30/08/10</td>
<td>Hardware II: Network Technology Foundations</td>
<td></td>
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<tr>
<td>8</td>
<td>06/09/10</td>
<td>Hardware III: Storage and Peripheral Devices</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>13/09/10</td>
<td>Operating Systems VI: Unix Shell Scripting</td>
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<tr>
<td>10</td>
<td>20/09/10</td>
<td>Operating Systems VI: Unix Shell Scripting</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Mid semester break</td>
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<tr>
<td>11</td>
<td>04/10/10</td>
<td>Operating Systems VI: Unix Shell Scripting</td>
<td></td>
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<tr>
<td>12</td>
<td>11/10/10</td>
<td>Hardware IV: CPU, Memory and System Performance</td>
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</tr>
<tr>
<td>13</td>
<td>18/10/10</td>
<td>Revision</td>
<td></td>
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</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.
Unit Resources

Prescribed text(s) and readings
No prescribed textbook.

Recommended text(s) and readings
Will be announced during the lectures when required.

Required software and/or hardware
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.

Equipment and consumables required or provided
USB keys will be loaned to students, for use during the semester. Students must return the keys at the end of the semester.

Study resources
Study resources we will provide for your study are:
detailed on the unit website (Moodle).
Assessment

Overview

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

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.

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 submission and preparation requirements will be detailed in each assignment specification. 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.

• Assignment 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.
Examination

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

See Appendix for End of semester special consideration / deferred exams process.

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

Return dates

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

Feedback

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

Informal feedback on progress in labs/tutes
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