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FIT5129 Enterprise IT security - planning, operations and management - Semester 2, 2015

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FIT5129 Enterprise IT security - planning, operations and management - Semester 2, 2015

Enterprise networks are highly complex infrastructures that demand correct management practices in planning, operations and security. Significant challenges arise from the scale of operations required as well as the increasingly common incidents of intrusion, sabotage, espionage or data theft, and vandalism. The unit will provide students with practical foundations in planning secure networks, policy-based operations and the implementation of security. Students will also be introduced to best practices in dealing with security breaches. Practical skills will be acquired through lab activities and case studies (projects).

Mode of Delivery

Caulfield (Day)

Workload Requirements

Minimum total expected workload equals 12 hours per week comprising:

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

- Two hours of lectures
- One 2-hour laboratory/tutorial

(b.) Additional requirements (all students):

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

See also Unit timetable information

Unit Relationships

Prerequisites

FIT5037 and FIT5163

Chief Examiner

Dr Phu Dung Le

Campus Lecturer

Caulfield

Dr Phu Dung Le

Consultation hours: TBA
Tutors

Caulfield

Phu Dung Le

Consultation hours: TBA

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

Assignments were difficult and students needed more help. More help to assignments will be provided.

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

Learning Outcomes

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

- explain critical factors of enterprise security planning, operations and management;
- perform risk analysis and assessment;
- provide practical security policies, strategies and implementation plan for enterprise systems.
## Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No formal assessment or activities are undertaken in week 0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Introduction to Enterprise Networks</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Enterprise Networks and Cyber Security</td>
<td>Lab Exercises each week (Week 2 to Week 10)</td>
</tr>
<tr>
<td>3</td>
<td>Enterprise Networks and Cyber Security (con't)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Security Assessment, Planning, Solution Development and Implementation</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Security Assessment, Planning, Solution Development and Implementation (con't)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Operations and Management of Enterprise IT Security</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Operations and Management of Enterprise IT Security (con't)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Case studies of Enterprise IT Security - International Banking Networks, Telecommunications Networks, and Retailed Enterprise Networks</td>
<td>Project 1 due Friday 4PM</td>
</tr>
<tr>
<td>9</td>
<td>Solutions to Intrusion, Sabotage, Espionage, and Data Theft.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Proposed Architectures and Governance for Enterprise IT Security</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Research on Enterprise IT Security</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Theoretical Test</td>
<td>Theoretical Test in Week 12 lecture</td>
</tr>
<tr>
<td>SWOT VAC</td>
<td>No formal assessment is undertaken in SWOT VAC. Project 2 due Week 14, Friday 4PM</td>
<td></td>
</tr>
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*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 helps students to initially encounter information at lectures, discuss and explore the information during tutorials, and practice in a hands-on lab environment.
### Assessment Summary

In-semester assessment: 100%

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
</tr>
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<tbody>
<tr>
<td>Enterprise IT Security - Project 1 (group project)</td>
<td>35%</td>
<td>Week 8, Friday 4pm</td>
</tr>
<tr>
<td>Enterprise IT Security - Project 2 (group project)</td>
<td>35%</td>
<td>Week 14, Friday 4pm</td>
</tr>
<tr>
<td>Lab Exercises</td>
<td>10%</td>
<td>Weekly (Week 2 to Week 10) - no submission required</td>
</tr>
<tr>
<td>Theoretical Test</td>
<td>20%</td>
<td>Week 12 lecture</td>
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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: Enterprise IT Security - Project 1 (group project)
  Description:

  1. Study the enterprise business of your selected organization (SO) and its computer networks,
  2. Do the risk assessment of your SO, then write the security policy for your SO,
  3. Propose a complete defense system with your security plan, operations and management,
  4. Present your defense system and explain how it can help protect the business of your SO.

  Please refer to the assignment specification for more details.

  Weighting: 35%

  Criteria for assessment:
  You need to be able to understand the theory and demonstrate your practical work to your tutor.

  ♦ If you fail to understand what you have done you will get Zero for the assignment.
  ♦ If you can demonstrate your practical work but do not completely understand the theory, you will get a Pass at the maximum.
  ♦ If you can demonstrate your practical work but understand 25% of the theory, you will get a Credit as the maximum.
  ♦ If you can demonstrate your practical work and understand 50% of the theory, you will get a Distinction as the maximum.
  ♦ If you can demonstrate your practical work and understand the theory well, you will get a High Distinction.

  For group work, students will receive equal marks. However, every member of the group will be interviewed about their individual contributions.

  Due date: Week 8, Friday 4pm
Assessment Requirements

• Assessment task 2

Title:
Enterprise IT Security - Project 2 (group project)

Description:
You are required to apply Enterprise IT security knowledge to improve the security solution you have proposed in Project 1.

You will have to complete the following tasks:

1. Explain and demonstrate correctly how you will carry out penetration testing of your networks.
2. Describe correctly your security plans, operations and mangement.
3. Propose your strategies to counter possible Cyber attacks to your SO.
4. Describe how you can improve your defense system to provide security to hundreds of servers of your SO.
5. Present your work with practical demonstrations of security management and auditing.

Please refer to the assignment specification for more details.

Weighting:
35%

Criteria for assessment:
You need to be able to understand the theory and demonstrate your practical work to your tutor.

♦ If you fail to understand what you have done you will get Zero for the assignment.
♦ If you can demonstrate your practical work but do not completely understand the theory, you will get a Pass at the maximum.
♦ If you can demonstrate your practical work but understand 25% of the theory, you will get a Credit as the maximum.
♦ If you can demonstrate your practical work and understand 50% of the theory, you will get a Distinction as the maximum.
♦ If you can demonstrate your practical work and understand the theory well, you will get a High Distinction.

For group work students will receive equal marks. However, every member of the group will be interviewed about their individual contributions.

Due date:
Week 14, Friday 4pm

• Assessment task 3

Title:
Lab Exercises

Description:
Lab Exercises will be handed out each week from Week 2 to Week 10. Please read the handouts for details.

Weighting:
10%

Criteria for assessment:
You will get full marks if you can complete all the exercises and demonstrate them well. Different marks will be given depending on the level of completion and demonstration.
Assessment Requirements

No submission is required.

Due date:
Weekly (Week 2 to Week 10) - no submission required

• Assessment task 4

Title:
Theoretical Test
Description:
The theoretical test will evaluate your understanding of the theories covered in the unit. 80% are multiple choice questions and 20% are short answer questions. You will have to study all the materials delivered in the lectures and tutorials.
Weighting:
20%
Criteria for assessment:
Correct answers to questions, demonstrating understanding of the materials learned.
Due date:
Week 12 lecture

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:

• 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-plagiarism-collusion-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 electronic submission). 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.

**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.

Students can use their laptop and portable devices and virtual machines as their main resources as advised in FIT5037. The software required for this unit is open sourced and is freely available.

There is no prescribed text book for this unit. A good reading list will be provided at the lectures.
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:

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/.

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 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