



MONASH University

FIT5163
Information and computer security

Unit Guide

Semester 2, 2009

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.

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FIT5163 Information and computer security - Semester 2, 2009

Chief Examiner:

Dr Nandita Bhattacharjee

Lecturer

Phone: +61 3 990 53293

Fax: +61 3 990 55146

Lecturer(s) / Leader(s):

Caulfield

Dr Nandita Bhattacharjee

Lecturer

Phone: +61 3 990 53293

Fax: +61 3 990 55146

Unit synopsis

In depth coverage of a range of security problems in information systems, namely physical security, network security and software security. Within these areas, topics covered include risk analysis, authentication, access control, and a range of crypto techniques. It looks at various management issues, including use and abuse of encryption, distributed systems authentication, contingency planning, auditing, logging and integrity management. A range of security applications are used as examples.

Learning outcomes

At the completion of this unit students will:

1. Have knowledge of risks, threats and goals of information security
2. Understand various controls and their effectiveness for information security in an organisation
3. Be able to evaluate the effectiveness (both in terms of performance and limitations) of individual control techniques
4. Match the risk against controls and evaluate their applicability

Contact hours

4 hrs/week

Workload

Student workload commitments per week are:

- two-hour lecture and
- two-hour tutorial (requiring advance preparation)
- a minimum of 2-3 hours of personal study per one hour of contact time in order to satisfy the reading and assessment expectations.

Unit relationships

Prerequisites

For MAIT students: [FIT9018](#) and [FIT9020](#)

Prohibitions

[FIT4016](#), CSE4892

Relationships

FIT5163 is a core unit in the Security major of the MIT and MAIT degrees. FIT5163 is an elective unit in the MIT, MAIT and MBIS degrees.

Before attempting this unit, MAIT students must have satisfactorily completed [FIT9018](#) and [FIT9020](#).

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You may not study this unit and

FIT4016 CSE4892

in your degree.

Teaching and learning method

This unit will be delivered via a 2 hours lecture followed by a 2 hours tutorial session consisting of discussion class each week. Lecturers may go through specific examples, give demonstrations and present slides that contain theoretical concepts in the lectures. In the discussion classes students will be discussing in-depth fundamental and interesting problem solving exercises related to information security and present solutions in class. The discussion classes will complement the lectures and help students consolidate concepts and practise problem solving skills.

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.cc.monash.edu.au/>

Unit Schedule

Week	Topic	Key dates
1	Introduction to information security	
2	Principles of encryption	
3	Cryptography I	
4	Cryptography II	Class test 1
5	Key Escrow	
6	Authentication I - Example 1	
7	Introduction to number theory	
8	Public Key Cryptography	Class test 2
9	Integrity & Authenticity	
10	Biometric authentication- Example 2	Assignment due (25-09-09)
Mid semester break		
11	Key Management	
12	Intrusion detection and software security- Management Issues	Class test 3
13	Revision	

Unit Resources

Prescribed text(s) and readings

Cryptography and Network Security: Principles and Practice. William Stallings, Fourth Edition, 2007. Prentice Hall.

Security Engineering: A guide to building dependable distributed systems. Ross J. Anderson, Second Edition, 2008, John Wiley & Sons, Inc.

Computer Security: Principles and Practice William Stallings and Lawrie Brown, 2008, Prentice Hall.

Text books are available from the Monash University Book Shops. Availability from other suppliers cannot be assured. The Bookshop orders texts in specifically for this unit. You are advised to purchase your text book early.

Recommended text(s) and readings

Cryptography and Network Security: Principles and Practice. William Stallings, Fourth Edition, 2007. Prentice Hall.

Security Engineering: A guide to building dependable distributed systems. Ross J. Anderson, Second Edition, 2008, John Wiley & Sons, Inc.

Computer Security: Principles and Practice William Stallings and Lawrie Brown, 2008, Prentice Hall.

Equipment and consumables required or provided

Students studying off-campus are required to have the minimum system configuration specified by the Faculty as a condition of accepting admission, and regular Internet access. On-campus students, and those studying at supported study locations may use the facilities available in the computing labs. Information about computer use for students is available from the ITS Student Resource Guide in the Monash University Handbook. You will need to allocate up to **n** hours per week for use of a computer, including time for newsgroups/discussion groups.

Study resources

Study resources we will provide for your study are:

- Weekly lecture notes
- Weekly discussion tasks to be undertaken during the tutorial sessions
- Suggested solutions to class tests discussed in the tutorial class
- Assignment specifications
- Practise exam questions and solutions discussed in last tutorial class
- This Unit Guide outlining the administrative information for the unit;
- The unit web site on Blackboard, where resources outlined above will be made available.

Assessment

Overview

Examination (3 hours): 60%; Assignments: 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 44% then a mark of no greater than 44-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 task 1

Title:

Class tests

Description:

- ◆ 3 Class tests will be conducted on the topics covered in the lectures
- ◆ Each Class test will have a weighting of 10%
- ◆ Best of 2 Class tests will account for 20% assessment

Weighting:

20%

Due date:

13 -08-09, 10-09-09, 15-10-09

• Assignment task 2

Title:

Assignment

Description:

Weighting:

20%

Due date:

25-09-09

Examination

- **Weighting:** 60%
- **Length:** 3 hours
- **Type (open/closed book):** Closed book

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

- If you miss a Class test you will get a mark of 0 for each missed class test.
- An assignment handed in late without prior permission from the unit administrator of respective campus will receive a late penalty of a 5% deduction per day (including Saturday and Sunday) or part thereof, after the due date and time.
- **Assignments received later than one week after the due date will not normally be accepted.**

Return dates

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

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