MONASH University
Information Technology

FIT3031 INFORMATION & NETWORK SECURITY

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Unit Information

Outline

- **People involved**
- **Unit objectives**
- **Resources**
- **Unit structure**
- **Tutorials**
- **Assessment**
- **Responsibilities**

People Involved

Caulfield Campus

- **Lecturer**
  - Dr. Abdul Malik Khan
    - > Building 63, 25 Exhibition Walk
    - > Email: Malik.Khan@monash.edu
    - > Consultation time: TBA
- **Tutors**
  - Sepehr Minagar
  - Sarah Fathima

Unit Objectives

- **Principles and practice of information & network security standards and protocols**
- **Methods and their effectiveness in achieving the security properties**
- **Application of those methods for security of information & network systems with emphasis on the Internet and corporate networks**

Unit Objectives: Why study information and network security?

- **Students should be able to:**
  - describe OSI security architecture
  - describe common security standards and protocols for network security applications e.g. electronic mail, IP, web and network management
  - understand common information risks and requirements
  - explain the operation of conventional and public-key encryption techniques
  - describe the concepts and techniques for digital signatures, authentication and non-repudiation
  - appreciate the need for the digital certificates and public key infrastructure
  - appreciate the importance of system security against intruders and malicious software using firewalls
  - apply simple security configurations to PC based applications e.g. email, Internet, computer administration
  - design information systems with security compliance

Resources: MUSO

- **Moodle 2**
- **Unit information:**
  - **You will find the information on Moodle**
- **Study guides and lecture notes**
- **Tutorials and laboratory exercises**
- **Assignment specifications**
- **Newsgroups/discussion areas**
- **Additional support material**

Resources: Textbooks and Software

- **Textbook**
  - Network Security Essentials-Application & Standards", 5th Edition

    Author: William Stallings

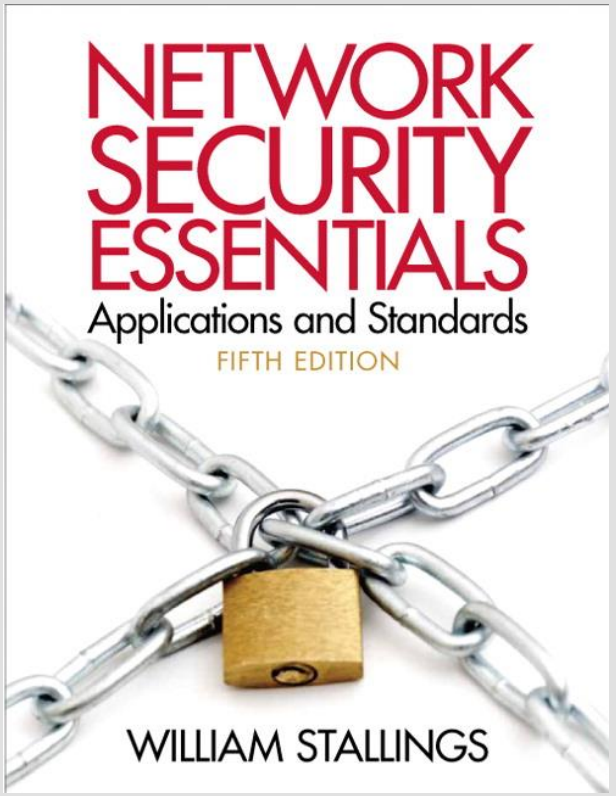
    ISBN: 0133370437

    Publisher: Prentice Hall

    Copyright: 2013

    Format: Paper; 432 pp

    Published: 2013
- **Supplementary textbooks**
  - Can be used as additional support material by students
- **Software**
  - Various software simulators and tools (see the unit website)



Resources: Other Materials

- **Study Guides and Lecture Notes**
  - 12 Study Guides and Lecture Notes
    - >Learning objectives / guided reading
    - >Supporting information for lectures
- **On-line resources on the web**

Unit Structure: Lecture Topics

- **OSI security architecture**
  - common security standards and protocols for network security applications
  - common information risks and requirements
- **operation of private and public key encryption techniques**
- **concepts and techniques for digital signatures, authentication and non-repudiation**
- **security threats of email systems and web servers, and their possible countermeasures**
- **IP security**
- **Wireless security issues**
- **risk of malicious software, virus and worm threats, and countermeasures**
- **intrusion detection techniques and network management protocol for security purpose**
- **firewall deployment and configuration to enhance protection of information assets**

Unit schedule

Day	Activities	Assessment
0	None .....Note: Activities are in Days and not in weeks!	No formal assessment or activities are undertaken in week 0
1	Day-1:Jan-03: Lecture LN01; OSI Security Architecture	
2	Day-2:Jan-04: Complete LN01; Start Lecture LN02 on: Symmetric Encryption	Tutorial's start from Day-2
3	Day-3:Jan-05: Complete LN02; Lecture Start LN03 on: Asymmetric Encryption	
4	Day-4:Jan-10: Lecture LN04 on: Authentication Application	
5	Day-5:Jan-11: Lecture LN05 on: Web Security	
6	Day-6:Jan-12: Lecture LN06 on: Wireless Security	Assignment 1 due on Monday 16 January 2017, 4:00 PM
7	Day-7:Jan-17: Lecture LN07 on: Electronic Mail Security	
8	Day-8:Jan-18: Lecture LN08 on: IP Security	
9	Day-9:Jan-19: Lecture LN09 on: Intrusion Detection and Response	
10	Day-10:Jan-24: Lecture LN10 on: Malicious Software Attack	Class Test on Tuesday 24 January 2017. The test will be held during the first hour of the lecture on 24 January 2017. It will cover material from LN01 to LN08 (inclusive of LN08 IP Security).
11	Day-11:Jan-25: Lecture LN11 on: Firewall	
12	Day-12:Jan-27: Lecture LN12 on: Network Management	
	SWOT VAC. 30th January to 3rd February 2017. Exam in official summer exam period 6-9 February 2017. (Scheduled with Examinations Branch)	No formal assessment is undertaken during SWOT VAC. Note: 3 hours of Final Exam To be Advised!
	Examination period: 6th February to 9th February 2017	LINK to Assessment Policy: http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html

Assessment summary

Examination (3 hours): 60%; In-semester assessment: 40%

Assessment task	Value	Due date
Assignment	20	Assignment 1 due on Monday 16 January 2017, 4:00 PM
Class Test	20	Tuesday 24 January 2017, Day-10
Examination 1	60	To be advised

Caulfield Unit Structure: Timetable

- **Lecture: 3 lectures / week**
- **Tutorial: 3 tutorials / week**
  - 2 hrs. each tutorials
  - see Allocate+
- **Reading:**
  - Text Book
  - Other resources on the unit page
- **Student Workload**
  - 13 hours Lectures & Tutorial classes each week
  - 24 hours of personal study to satisfy the reading and assessment expectations.

Assessment

- **Non-Exam component**
  - Assignment-1: 20% & Class Test: 20%
  - Hurdle of 16 out of 40
- **Final Exam: 60%**
  - Hurdle of 24 out of 60
- **To pass FIT3031**
  - You must submit assignment-1 and pass Class Test
  - Your marks must average to at least 50
  - You must pass each individual hurdle

Failure to meet a hurdle will result in a maximum mark of 44N

Assessment: Assignment & Class Test

- **Assignment 1**
  - **Due Date: Friday 16th January 2017, 4:00 PM**
  - **Weighting 20 %**
- **Class Test**
  - **Due Date: Day-10 Tuesday 24th January 2017 during the first hour of (Lecture)**
  - **Weighting 20 %**
- **Assignment details will be posted on the web**
- **Late Assign submission ONLY with prior permission and VALID reasons**

Assessment: Final Exam

- **3 hour closed book examination**
- **60 % of total marks**
- **will test your knowledge in the unit matter outlined in the SG objectives**
- **Final Exam for FIT3031: TBA**
- **Check Exam timetable on my.monash….**

Responsibilities: Students

- **Prepare and deliver lectures**
- **Advertise:**
  - Consultation hours
  - Method of assessment
- **Minimize noise & distraction**
  - Do not talk in lectures
  - Do not pack up early
  - **Turn off your mobile phone**
- **Attendance**
  - Attend all lectures and tutorials (each 12 hours/week)
- **Prepare in advance for Lectures and Tutorials (24 hours/week)**
- **Seek assistance if you are having difficulties**

Unit: General Information

- **Studying is your responsibility**
  - You are in charge of
    - > Lecture and tutorial
      - attendance
      - preparation
    - > handing in assignments
    - > checking whether your marks have been recorded
- **Lecturers are not "teachers"**
  - Lecturers do teaching, research and admin
- **The subject "ramps up" quickly**
  - Make sure you keep up!

Do you have a disability or long/short term medical condition that impacts on your study?

- The Disability Liaison Unit (DLU) provides a range of services to assist students who have a disability or long/short term medical condition
- To register with the DLU, students must be enrolled in an award course at Monash University and provide relevant, current documentation from a qualified professional

- **The DLU can be contacted via email dlu@adm.monash.edu.au or phone 9905 5704**
- **For further information see www.adm.monash.edu.au/sss/equity-diversity/disability-liaison**

Seek Assistance as a preventative measure

- **Discuss any study difficulties you are experiencing**
  - course leader or lecturer
- **Language and learning online has resources that can help you with study methods, language skills and work presentation to improve your performance. http://www.monash.edu.au/lls/llonline/**
- **Seek assistance from the University Counseling Service if you think personal or other issues may be affecting your level of achievement. http://www.adm.monash.edu.au/community-services/counselling/index.html**
- **Access for additional support or help: Monash University Student Support Services Contact List http://www.infotech.monash.edu.au/resources/student/**

Next Lecture Topic

- **Lecture Topic 1**
  - Introduction to Information and network security