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Information Technology

FIT2093 INTRODUCTION TO CYBER SECURITY

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Unit Information

Outline

- **People involved**
- **Unit objectives**
- **Teaching Methods**
- **Resources**
- **Unit structure**
- **Assessment**
- **Responsibilities**

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People Involved

- **Lecturers**
  - Dr Nandita Bhattacharjee
    - > Building 63, room 109 (CL), Phone: 9905 3293
    - > Email: Nandita.Bhattacharjee@monash.edu
    - > Consultation (subject to change) : Fri 3 PM – 4 PM
  - Associate Professor Carsten Rudolph
    - > Building 63, room 204 (CL), Phone: 9905 9975
    - > Email: Carsten.Rudolph@monash.edu
- **Tutors**
  - Trung Dinh (Head Tutor)
  - Passindu Epa
  - Muhammed Aziz
  - Orcun Bahadir

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Learning Outcomes:

- **critically assess cyber threats and risks to an organisations' information systems and apply appropriate countermeasures to defend against cyber security threats;**

- **implement access control mechanisms to prevent unauthorised access;**

- **apply cryptographic techniques to disguise information;**

- **describe the ethical and privacy issues relating to security of information systems;**

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Teaching Methods

- **Lecture**
  - Principles
  - Major theories
  - 2 hours / week

- **Tutorial/Laboratory Class**
  - Applying the principles and theories to day-to-day activities.
  - You need to come prepared for the tutorial/lab classes.
  - 2 hours / week

Resources:

- **Moodle at Monash**
- **FIT2093 Unit Information**
- **Lecture notes**
- **Tutorial/Lab exercises**
- **Newsgroups/discussion areas**
- **Additional support material**

Resources: Textbooks and Software

- **Textbook**
  - Computer Security: Principles and Practice 3rd Edition

    Authors: William Stallings & Lawrie Brown
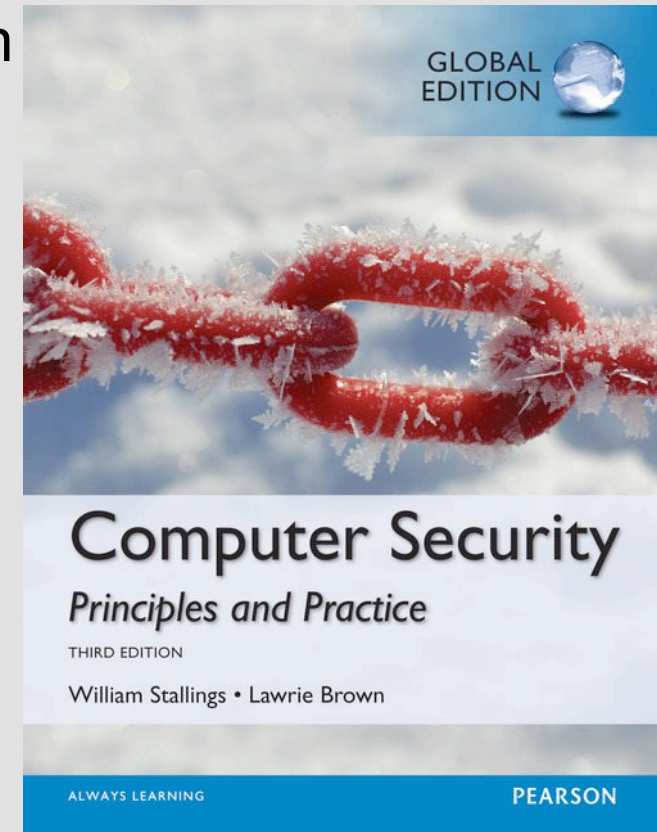
    Publisher: Prentice Hall, 2015

    ISBN: 9781292066172

- **Supplementary textbooks**
  - Can be used as additional support material by students

- **Software**
  - Virtual Machine image with required tools, software and libraries installed in the lab machines

Resources: Other Materials

- **Lecture Notes**

  - Lecture Notes

    > Learning objectives

    > Supporting information for lectures

- **On-line resources on the web**

Unit Structure: Lecture Topics

Week	Topic	Key Dates
1	Introduction to cyber security	
2	Authentication	
3	Access Control	
4	Fundamental concepts of cryptography	Tutorial Quiz 1
5	Symmetric encryption techniques	
6	Introduction to number theory	
7	Public key cryptography	Tutorial Quiz 2
	Mid-semester break	
8	Integrity management	Mid-semester Test
9	Practical aspects of cyber security	Tutorial Quiz 3
10	Hacking and countermeasures	
11	Database security	
12	Risk management & Ethics and privacy	Lab assignment due 26-5-2017

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Unit Structure: Timetable

- **Lecture:**
  - **–Fri**: 1 PM - 3 PM in Room **CL_21Col/E2**
- **Tutorials**
  - see Allocate+
  - Start in Week 2
- **Reading:**
  - Text Book
  - Other resources on the website
- **Student Workload**
  - 4 hours Lectures & Tutorial classes each week
  - 8 hours of personal study to satisfy the reading and assessment expectations.

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Assessment

- **Quizzes, Lab Assignment & Test: 40%**
  - Tutorial Quizzes and lab assignment: 25%
  - Mid-semester test : 15%
  - Hurdle of 16 out of 40
- **Final Exam: 60%**
  - Hurdle of 24 out of 60
- **To pass FIT2093**
  - 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 49N

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Assessment : Tutorial Quizzes & Test

- **Tutorial Quizzes 1- 3 and lab assignment**
  - in Weeks 4, 7, 9, 12
  - Weighting 25 % (5% for each quiz and 10% for lab assignment)

- **Mid-semester Test**
  - Week 8, Fri, **28 Apr, 2017**
  - Weighting 15 %
  - Closed book

- **Final Exam**
  - 60% weighting
  - 3 hours closed book

> **You can attend tutorial quizzes ONLY in the tutorial where you are enrolled**

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Attending a Different Tutorial Quiz

- **If you can't attend your tutorial quiz (with legitimate reason), you will need to receive permission from the head tutor to attend a different tutorial quiz**

- **To obtain this permission, you need to email Trung.Dinh@monash.edu with the following details:**
  - NAME:
  - ID NUMBER:
  - REGULAR TUTORIAL: (time and room)
  - PROPOSED REPLACEMENT TUTORIAL: (time, room and **date**)
  - **REASON FOR CHANGE OF TUTORIAL**
  - **SCANNED CERTIFICATION (OR STATEMENT THAT CERTIFICATION HAS BEEN HANDED IN AT THE CLAYTON GENERAL OFFICE)**

Missed Tutorial Quizzes

- **If you miss a tutorial quiz, you will get a mark of 0, unless you had an illness or emergency**
- **If you had an illness or emergency**
  - If you
    - Obtain Medical Certificate or Police Accident Report
    - Fill out the Absentee Form
    - Submit the form and documentation to the head tutor
  - Then your mark will be changed from 0 to SICK
- **At the end of the semester**
  - a SICK mark for **one tutorial quiz** will be changed to the average of your marks in the tutorial quizzes you attended, **provided you have attended at least 1 tutorial quiz**
  - any additional missed tutorial quizzes will receive a mark of 0

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Missed Mid-Semester Test

- **If you miss the mid-semester test, you will get a mark of 0, unless you had an illness or emergency**
- **If you had an illness or emergency and**
  - If you
    - Obtain Medical Certificate or Police Accident Report
    - Fill out the Absentee Form
    - Submit the form and documentation to the head tutor
  - Then your mark will be changed from 0 to SICK
- **At the end of the semester**
  - a SICK mark for **the mid-semester test** will be changed to your exam mark

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Useful Study and Unit Resources

- **Refer to the quick links on the unit moodle page**
    - Useful study resources

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Next Lecture Topic

- **Lecture Topic 1**
  - Introduction to cyber security