COS30015 IT Security
Assignment 1

This assignment is worth **40%** of the subject assessment.

Due Date: Refer to Canvas

Introduction:
In recent decades, the development of Internet and communications technologies has introduced a virtual world to everyone's daily life. In this virtual world, people are able to do a large number of activities similar in the real world. Especially with the growth of Internet of Things (IoT) and 5G, the field of IT security is becoming more important. To help you better understand the field, you are required to write a literature review on any one of the following related IT security topics, either from the attack or defence view. The literature review should consist of 2500-4000 words (*at least 6 pages, single spaced, 12pt fonts, on a normal A4 paper*).

Topics:
Choose **One** only:
- *Attacks:*
    - Advanced persistent threat
    - Insider threat
    - Emerging Attacks on Blockchain or the defences
    - Emerging Attacks on IoTs or the defences
    - Emerging Attacks on AI or the defences
    - Backdoor attacks or the defences
    - Denial of service or Distributed Denial of service
    - Eavesdropping
    - Exploits
    - Malware
    - Spam
    - Phishing
    - Ransomware
    - Vulnerabilities
- *Defences:*
    - Access control
    - Application security
    - Secure coding
    - Authentication
    - Multi-factor authentication
    - Authorization
    - Data-centric security
    - Encryption
    - Intrusion detection/prevention system
    - Mobile security
    - cloud security
- *or you are allowed to choose your own IT security topic even it is not listed above*

Amount of work:
Each student should spend at least 30 hours working on the assignment. Documentary evidence of the time taken may be requested by the convenor after submission, so log books, repositories should be maintained. The literature review should consist of 2500-4000 words (*at least 6 pages, single spaced, 12pt fonts, on a normal A4 paper*).

Marks will be allocated depending on the amount of original work submitted. <mark>0 Mark will be given for plagiarized and/or un-attributed work.</mark> eForensic examination of the assignment will be carried out to verify its authenticity.

Grading:
This assignment will be graded as Fail, Pass, Credit, Distinction or High Distinction.
Please see the details of the marking criteria at the end of this document.

Submission
Submissions should be made through Canvas before the due date. Reports should be in commonly used PDF document format (.pdf) and should not exceed 15 pages in length.

- The first page should be a filled-in copy of the cover sheet available on Canvas.
- The second page must be a title page indicating:
    - the unit code and title,
    - title of the assignment,
    - the topic,
    - the authors (by name and student ID),
    - the submission date/time,
    - the due date/time.

Pages must be numbered starting with the first page AFTER the cover sheet and title page. A table of contents is NOT to be used.
Appendices and a list of references **will not be** included in the page count.

Late submissions will be penalised by 10% per day (for 3 days maximum), submissions which are 3 days after due date will not be allowed and 0 mark will be given.

References
All externally sourced information (i.e. not common knowledge or course material) must be cited. Referencing conventions required for this unit are: Vancouver (as used by IEEE).

Helpful information on referencing can be found at
https://www.swinburne.edu.au/library/referencing/
https://ieeeauthorcenter.ieee.org/wp-content/uploads/IEEE-Reference-Guide.pdf

Each citation must have a corresponding reference at the back of the report.
ALL REFERENCES MUST BE CITED.
There is no minimum requirement for the number of references.

Marking Criteria

1. The importance and background of your essay is clearly specified (15%).
a. Correct definitions of the problem and key terms: 4%
b. Adequate background: 4%
c. Convincible importance: 3%
d. Brief description of the essay (eg. Abstract, introduction, or summary, etc.): 4%
2. An adequate literature review (in particular, you have read and properly cited at least 10 references) is conducted and such review is clearly shown in the essay (15%)
a. Adequate description of major issues/challenges: 5%
b. Major existing systems, methods, strategies, mechanisms, solutions, etc.: 5%
c. At least 10 references and proper citation of them: 5%
3. Adequate analysis, investigation, and/or research have been conducted and the result is clearly shown in the essay (50%).
a. Proper example/case and the analysis of it: 10%
b. Proper arguments (positive and negative): 10%
c. Originality of the essay (own ideas, views, analysis, etc.): 10%
c. Clarity: 10%
e. Proper description of result / conclusion: 10%
4. The essay must have title, author's details, abstract, introduction / literature review, main body, conclusions, and references. Clearly structured and nicely presented (20%)
a. Declaration and clearly marked student info: 5%
b. Properly structured: 5%
c. Adequate length (main text at least 4 pages single-spaced range): 5%
d. Correct use of language: 5%