COS30015 IT Security
Assignment 1

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

Due Date: Thursday the 8th of Sept 2022 at 23:59pm.

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 https://swinburne.instructure.com/ (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:
      o the unit code and title,
      o title of the assignment,
      o the topic,
      o the authors (by name and student ID),
      o the submission date/time,
      o 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.

Structure:
For this assignment, students should choose one topic and deliver a report about its literature review. The report should follow a similar structure listed below.

- Cover sheet

- Title page

- Abstract
  - Adequate background (1~2 sentences)
  - Correct definitions of the problem and key terms (2~4 sentences)
  - Key findings
  - Convincible importance (2~4 sentences)

- Introduction
  - Adequate background
  - Convincible importance
  - Correct definitions of the problem and key terms
  - Originality of the report (own ideas, views, analysis, etc.)
  - Structure of the report

- Overview/Background
  - Overview of the literature review (How literature is organized in Literature Review?)
  - Selection criteria of the literature (How do you select the literature to review?)
  - Any further background about the problem you mentioned/reviewed?

- Literature Review
  - Adequate description of major issues/challenges
  - Proper description about existing systems, methods, strategies, mechanisms, solutions, etc. (What it is and how it works?)
  - Proper analysis of these existing systems, methods, strategies, mechanisms, solutions, etc. (What issue/challenges they solved and why can be solved?)
  - At least 10 references and proper citation of them

- Discussion
  - Critical analysis of these literatures (advantage and disadvantage)
  - Proper arguments about their impacts (positive and negative)
  - Possible solutions from your understanding (own ideas, views, analysis, etc.)

- Conclusion
  - Proper summarization of the problem reviewed and impact.
  - Proper description of your findings and conclusion.

*Hint: this semester **LAS study skill workshops** are offered to support students a range of study skills from Planning and Motivation to Essay Structure to Exam Preparation including writing skills.*

Marking Criteria

Criteria	15-10	10-5	5-0	Points
Abstract		Background, definitions, findings, and importance statements provided.	Some of these (background, definitions, findings, and importance statements) provided.	10
Introduction	Background with importance statement, definitions, originality statement, and report structure provided clearly, in-dept, with reasoning.	Background with importance statement, definitions, originality statement, and report structure provided at a basic level.	Some of Background with importance statement, definitions, originality statement, and report structure provided.	15
Overview / Background	Overview, selection criteria and additional suitable background information is provided clearly and in-depth, with reasoning	Overview, selection criteria and additional suitable background information is provided at a basic level	Little to no overview, selection criteria and additional suitable background information provided	15
Literature Review	High standard, logical, links across issues/challenges, descriptions of literature review, and analysis (provided clearly, in-depth, with reasoning)	Acceptable logic in issues/challenges, descriptions of literature review, and analysis (provided at a basic level)	Basic to no issues/challenges, descriptions of literature review, and analysis provided	15
Discussion	Analysis, arguments, and solutions provided with high standard, logical, links across surveyed literature, additional supporting references provided	Analysis, arguments, and solutions provided with acceptable standard, logical, links somewhat to literature reviewed	Basic to no analysis, arguments, and solutions provided	15
Conclusion	Summarization of problem and impact, and findings provided clearly and in-depth	Summarization of problem and impact, and findings provided	Little to no summarization of problem and impact, and findings provided	10
Language			Academic language used, proofed, logical	5
Word Count			Correct word count	5
References			15 + used in total, 10+ used for actual review	5
Formatting			Correct structure, header, footer, title page and other requested submission information provided	5