

Module: Introduction to Cyber Security (CMP-6044A/CMP-7034A)

Assignment: Understanding cyber security

Set by: Oli Buckley (o.buckley@uea.ac.uk)

Date set: Week 5

Value: 60%

Date due: 15-Dec-2021

Returned by: 21-Jan-2022

Submission: Blackboard

Learning outcomes

- Evaluate, identify and analyse cyber-attacks, vulnerabilities and threats
- Analyse and evaluate cyber risks
- Develop an understanding of the legal, professional and ethical issues relating to cyber security

Specification

Answer any ONE question

Select **one question** from the list below and write a **10-page report** outlining your answer, your arguments and conclusions. You should provide evidence and reference good peer-reviewed sources where appropriate.

1. Are humans the most significant threat to cyber security? Cyber security is not a purely technical problem, with arguably the most significant threat being posed by the human in the loop. Recent years have seen a significant number of high-profile incidents where a person been directly responsible for a significant cyber incident.

Consider the role of people within cyber security and the potential risks they may bring. You could include:

- Attacks, threats and vulnerabilities faced by organisations and their impacts
- The controls that are (or could be used), including the academic state of the art
- The core risks posed by the human elements of cyber security and how they can be mitigated

2. Should strong encryption be banned? Recent security incidents have seen some call for strong encryption to be banned, or at least have a 'back door'. The reasoning that is often cited is that it will keep people safe and enable wrong doing to be quickly identified.

Consider the role that encryption plays within our lives and technolog as a whole. You might include:

- Why is encryption important (if you believe it is) and how does it work?

- The benefits of encryption and the privacy/security that it affords.
- The risks presented by encryption to the wider world
- Should private companies be responsible for monitoring their platforms and providing access to government/law enforcement.

3. Who is responsibility for regulating disinformation online? In recent years there has been a significant rise in ‘fake news’ both online and in traditional media. There have been frequent calls for the regulation of online content, but who’s responsible for ensuring the validity of the internet (if anyone is at all).

Consider the possible groups/people who might be responsible for regulation and monitoring disinformation online (e.g. government, social media companies, individuals, law enforcement). You might include:

- What is disinformation/fake news/misinformation?
- How has it been used by different groups?
- What are the implications and outcomes?
- The current state of the art in academic literature on the controls in place to monitor and protect.

Relationship to formative assessment

This assignment builds on the formative assessment within the seminars and in-class discussions, with particular focus on the sessions on cyber threats, the human-aspects of cyber security and social engineering. Additionally, this assignment will build on the group assignment around security incidents and their causes.

Deliverables

Report

You need to produce a report that contains:

- An introduction to the topic, which provides the motivations and current positions.
- Critical analysis of the current state of the art in your chosen area, for example it is worth reviewing the current best practice in academic research.
- Arguments that are reasoned and based on evidence, which are developed clearly, concisely and logically.
- Clear and well-formed conclusions, based on the research.

You are required to produce a written report of **no more than 10 pages words** (excluding appendices, references and an optional title page) in line with the presentation conventions described in the School’s guidelines for written work

(<https://www.uea.ac.uk/computing/current-students/report-writing>) using the UEA CMP referencing style

(<https://www.uea.ac.uk/documents/429378/2431331/CMP%2Breferencing.pdf/10423fdd->


[b132-4c3b-a696-4912df033472](#)). Your report should use the UEA LaTeX style sheet (<http://websvr1.cmp.uea.ac.uk/resources/zip/ueacmpstyle.7z>).

Any queries or clarifications regarding the assignment can be sent to Oli Buckley (o.buckley@uea.ac.uk). Where the responses will be of general interest to the class they will be copied to the class mailing list or to Blackboard. Any further clarifications to the requirements will also be posted there

Marking scheme

Report

Student Reg. Number		
Introduction (10%)	<i>A well-presented introduction that explains the topic and outlines the arguments and structure.</i>	
Analysis of existing literature and sources (30%)	<i>A good range of relevant and timely sources, which have been critically analysed.</i>	
Structured position or arguments (30%)	<i>Arguments that are clear, concise and logical and that have been well-presented using appropriate evidence. A logical flow to the structure of the position.</i>	
Conclusions (20%)	<i>Clear and well-formed conclusions that demonstrate an understanding of the topic and the position that has been presented.</i>	

Quality of writing (10%)	<i>Content, delivery and appearance of the report, appropriate and accurate referencing</i>	
Additional Comments		
		Total

Grade	%	Marking Attributes
Excellent	80 and above	<p>Demonstrating a comprehensive knowledge and understanding of the subject and subfields. All stated intended learning outcomes exceeded. High capacity for critical evaluation. Novel application of the subject matter to a specific context. Requiring a student to have:</p> <ul style="list-style-type: none"> • Undertaken extensive further reading. • Produced a well-structured piece of work. • Demonstrated excellent communication skills. • Exercised a high level of original thought.
Very Good	70-79	<p>Demonstrating an extensive knowledge and understanding of the subject and subfields. Many stated intended learning outcomes exceeded. Very good capacity for critical evaluation. Effective application of the subject matter to a specific context. Requiring a student to have:</p> <ul style="list-style-type: none"> • Undertaken substantial further reading. • Produced a well-structured piece of work. • Demonstrated very good communication skills. • Exercised a significant level of original thought.
Good	60-69	<p>Demonstrating a good knowledge and understanding of the subject and subfields. All stated intended learning outcomes met, with some exceeded. Good capacity for critical evaluation. Competent application of the subject matter to a specific context. Requiring a student to have:</p> <ul style="list-style-type: none"> • Undertaken some further reading. • Produced a well-structured piece of work. • Demonstrated good communication skills.
Satisfactory	50-59	<p>Demonstrating a satisfactory knowledge and understanding of the subject and subfields. All stated intended learning outcomes met. Standard critique of the subject matter. Adequate application of the subject matter to a specific context. Requiring a student to have:</p> <ul style="list-style-type: none"> • Undertaken adequate further reading. • Produced an adequately-structured piece of work.

		<ul style="list-style-type: none"> • Demonstrated basic but satisfactory communication skills.
Poor	40-49	<p>Demonstrating an inadequate knowledge and understanding of the subject and subfields. Most stated intended learning outcomes met. Lacking critique of the subject matter. Limited application of the subject matter to a specific context.</p> <p>Requiring a student to have:</p> <ul style="list-style-type: none"> • Undertaken some relevant reading. • Produced a piece of work with a simple structure. • Demonstrated marginal communication skills
Very Poor	39 and below	<p>Demonstrating a lack of knowledge and understanding of the subject and subfields. Many stated intended learning outcomes not met. Absence of critique of the subject matter. Lacking application of the subject matter to a specific context.</p> <p>Requiring a student to have:</p> <ul style="list-style-type: none"> • Undertaken inadequate reading. • Produced a poorly-structured piece of work. • Demonstrated poor communication skills.