Networks and Systems Security

Portfolio Assessment Brief

Specification

This assignment is weighted at 30% of the overall module and will be marked out of 30. This assessment requires approximately 15 hours to complete.

The aim of this assessment is to provide you with an opportunity to demonstrate your understanding and practical skills in Networks and Systems Security. You are required to submit a portfolio of evidence from practical exercises and lecture work undertaken during the course.

Learning Outcomes

LO1	•Appraise the need and requirements for computer security within social, commercial and contexts
LO2	Describe the role which cryptography plays within the broader subject of computer security
LO3	Measure the security requirements of particular situations and propose security solutions
LO4	Describe security weaknesses for different security systems.
LO5	Construct security systems and test for weaknesses through breaking them.
LO6	Identify and address ethical, social, legal and professional issues in Network and Systems Security, including how they manifest in the workplace

Deadlines

Files must be submitted via learn.gold. **Please check learn.gold deadline**

Important Information

All work is to be **completed individually**, except where explicitly stated, and you will only be able to receive Marks for your own work. You are responsible for the security and integrity of your own files, and you must not permit others access to your assignment work. **Plagiarism** or paraphrasing without due accreditation will be dealt with severely as set out in the University Infringement of Assessment Regulations and detailed in the Programme Handbook. You can also refer to the university guidebook on plagiarism such as Academic Misconduct Policy and Procedures

Students are permitted to use **AI tools** used in an assistive role within the assessment. However, the student must declare in the submission the used tool(s) and how did you use it. Examples of where AI might be used in an assistive category include:

- Drafting and structure content.
- Supporting the writing process in a limited manner.
- As a support tutor.
- Supporting a particular process such as translating content.
- Giving feedback on content or proofreading content

However, **students cannot use AI tools to do the assessment** for you as the work must be completely done by the students. All AI generated content **must be validated by the student**.

You are expected to submit work in the file formats requested. Submitting links to files saved elsewhere in the cloud will not be

considered and will result in a zero mark. The actual files must be loaded to learn.gold and readily available to the assessor. After uploading and submitting your files, you must check that you can also retrieve and open them. It is your responsibility to ensure files are not corrupted at the time of submission and to report any issues immediately to the help desk, copying in your lecturer and to seek alternative arrangements when required.

Tasks

E-Portfolio of Evidence (30%):

Compile a portfolio of evidence from practical exercises completed during the course. This may include code samples, design documents, project notes, or any relevant material that demonstrates your practical engagement with the course material.

Deliverables

E-portfolio link showing your weekly work. The portfolio **must be accessible** to the module delivery teams (must be made public).

E-portfolio Specification

The portfolio must be hosted online on GitHub or a similar publicly accessible platform. It should be organised as a weekly log of your work. You may include Jupyter Notebooks, python scripts, or PDF files that clearly document your progress, practical engagement with the course material, and reflections on your learning journey. Ensure that the portfolio link is correctly submitted and accessible to the module delivery team.

Marking Criteria

		Level	Description
Fail	0-3	Not Attempted	E-Portfolio is missing or contains minimal, unstructured content (e.g., only a few labs uploaded). There is no discernible effort to document or reflect.
	3-6	Very Basic	Less than half of the required labs are uploaded. Documentation is sparse, lacking technical detail, clear organisation, or any meaningful evidence of successful execution. Reflections are absent or extremely brief.
	6-9	Basic	Most labs are uploaded. Documentation is often incomplete or lacks quality and clarity, with significant gaps in explaining the security principles or practical steps. Reflections are simple descriptions of the task.
	9-12	Developing	All required labs are uploaded. Documentation is present but inconsistent; some technical explanations are unclear or contain minor inaccuracies. Reflections are basic, generally focusing on what was done rather than why or what was learned.
3rd	12-15	Clear and Complete	All labs are uploaded and logically organised. Solutions are generally correct, with clear steps and evidence of execution. Documentation is functionally complete. Reflections begin to touch on key challenges and immediate learning points.
2.2	15-18	Thorough and Technically Sound	All labs and challenges are completed. Solutions are accurate and well-explained. The documentation demonstrates a good understanding of the core security principles applied. Reflections are dedicated, identifying security implications and minor technical lessons.
2.1	18-21	Comprehensive and Analytical	Well-documented, accurate solutions for all labs and challenges. The student clearly explains the purpose and mechanism of the security tools/techniques used. Reflections offer a sound analysis of the practical work, linking outcomes to broader module concepts.
First	21-24	Detailed and Professional	High-quality, complete execution of all labs and challenges, with full and professional-grade documentation. Work is clean, efficient, and clearly organised in the online repository. Reflections show critical thinking, discussing the trade-offs or limitations of the security measures implemented.
	24-27	Rigorous and Insightful	Exceptional detail, insight, and full documentation for all labs and challenges. The student demonstrates a proactive approach (e.g., debugging complex issues, exploring alternate solutions). Reflections are highly analytical, showing an expert command of the relationship between the practical work and theoretical security models.
	27-30	Expert-Level Mastery	E-Portfolio is expertly completed with professional, industry-standard documentation. Work is flawless, efficient, and demonstrates deep mastery of all labs and challenges. Solutions may include original improvements or optimisations. Reflections provide a comprehensive evaluation of the practical domain and offer sophisticated, well-supported conclusions on network and system security.