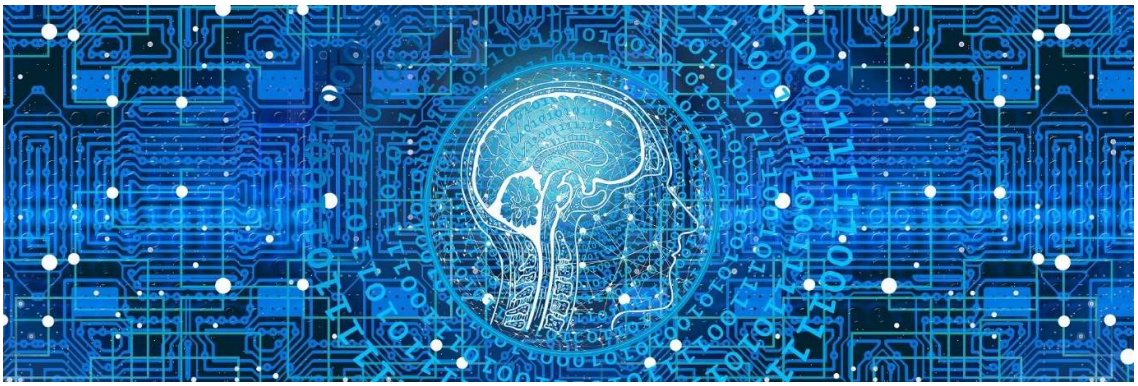
Network system development

5CM510



2024-2025

Assessment Brief

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Network system development: 5CM510

Contents

UNIVERSITY OF DERBY

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Key dates and details

Assessment Type:	Individual Document (pdf or word)
Assessment weighting:	30%
Word count/Length:	10-15 slides, not including title or reference slides
Learning Outcomes:	1,2
Submission Method:	BlackBoard Assignment
Submission Date:	12:00 UK time, 13/05/2025
Provisional Feedback Release Date:	12:00 UK time, 05/06/2025

Description of the assessment

This assessment looks to demonstrate your understanding of the core principles of emerging paradigms within a network system context through a technical report. Pedagogical research has shown that one of the best ways to grasp a topic is through a comprehensive review of literature. By crafting a technical report on a topic supported by references you will solidify your own ability to research and learn independently.

1. Understand the core concepts of circuit and packet-switched networks, P2P communication, and emerging technologies.
2. Evaluate the impact of bandwidth and other factors on communications.

You can however consider a presentation in one of the following topics:

1. Virtualisation of Network functions e.g Firewalls and Intrusion Detection Systems (IDS)

2. Data Encryption
3. Secure Communication Protocols
4. Security Best Practices for End Users
5. Incident Response and Handling
6. Network Monitoring and Security Tools
7. Security Policies and Compliance
8. Network Architecture and Security Design
9. Physical Security and Data Center Protection
10. Threat Intelligence and Security Information Sharing
11. Peer-to-peer (P2P) systems
12. Decentralized technologies: Blockchain
13. Internet of Things (IoT) networks
14. Software Defined Networking (SDN) and Wireless systems
15. Resource Allocation in Fog and Edge Computing
16. 5G, 6G and Network slicing
17. Quantum Networking
18. Bandwidth and Transport Systems
19. Blockchain
20. Reconfigurable intelligent surfaces

Assessment Content

This coursework requires you to produce a technical report with associated analysis and references. Your presentation will introduce and critically discuss an aspect emerging networking paradigms in a manner appropriate for a first-year equivalent student. Your work should introduce a topic, provide an in-depth critical analysis using diagrams if necessary, and a short conclusion/summary of the area with references that support their further understanding of the topic.

Deliverables:

Your assignment MUST be submitted electronically via BlackBoard by the due date and time. You must submit it as ONE word or pdf file following the anonymous submission guidelines at the end of this document. A submission in a format other than that specified (word or pdf) will be considered to be a non-submission.

Marking Criteria:

This coursework is marked against the following rubric based on a percentage breakdown as indicated, the sections are given approximate weightings as academic judgement will be applied to this process. This means that an exceptionally good solution in one area may offset another.

Section	Approximate Weighting
Technical Content	60%
Quality of report	20%
Referencing	20%

Assessment Rubric

% Mark	Mark Descriptors	Class
70-100	**Excellent** Clear evidence that you thoroughly understand the topic area with a clear report supported by more than 15 references. Sources chosen are appropriate for a 1st year undergraduate so are clean and clearly written with excellent support. Technical information is correct, accurate, with minimal errors. For higher grades the work should provide excellent quality and be appropriate to a 1st year curriculum (see SEEC and QAA guidelines) giving consideration to the specific issues of: broad base of knowledge, identify ongoing issues/concerns, judge the reliability of sources. Work follows an excellent scaffolding. 13+ references provided.	First
60-69	**Very good** Evidence that you understand the topic area with the report supported by 10-14 references. Sources chosen are appropriate for a 1st year undergraduate - clearly presented with some support for the further learning. Technical information is correct, accurate, with some errors. Effective short introduction to each of the topics and reaches an appropriate depth	2:1
50-59	**Good** Good evidence that you understand the fundamentals of the topic area with the report supported by 7-9 references. Sources chosen are somewhat appropriate for a 1st year student, e.g. too technical, too simplistic, too many view points.	2:2

	Technical information is not factually incorrect A reasonable introduction to each of the topics and reaches a depth that would allow a 1st year student to progress onwards with sufficient understanding to a 2nd year module	
40-49	**Satisfactory** Evidence that you understand the fundamentals of the topic area with the technical report supported by at least 5 references. Sources chosen show little sign of curation and understanding of the target audience, e.g. are basically from the first page of a Google search. Technical information contains factual errors but none are critical A short introduction to each topic that would require a 1st year student to do additional reading beyond the linked references to progress satisfactorily.	3
35-39	**Unsatisfactory** Overall marginally unsatisfactory; some sound aspects but some of the following weaknesses are evident; inadequate critical analysis and evaluation; little evidence of originality; not well researched; standard of presentation unacceptable; ideas unclear and incoherent; some significant errors and misunderstandings.	Marginal Fail
20-34	**Poor** Below the pass standard; a poor critical analysis and evaluation; virtually no evidence of originality; poorly researched; report is unacceptable and not up to graduate standard; ideas confused and incoherent, some serious misunderstandings and errors. A clear fail, short of pass standard.	Fail
1-19	**Very poor** Well below the pass standard, with many serious errors. Standard of work totally unacceptable, incoherent and may be severely under- length. No evidence of evaluation or application. A very clear fail, well short of the pass standard.	
	Non-submission No work has been submitted.	NS
	Academic offence notation Applies to proven instances of academic offence.	Z

Anonymous Marking

You must submit your work using your **student number** to identify yourself, not your name. You must not use your name in the text of the work at any point. When you submit your work in Turnitin you must submit your student number within the assignment document and in the *Submission title* field in Turnitin. A video showing how to do this can be found here (link)

Assessment Regulations

The University's regulations, policies and procedures for students define the framework within which teaching and assessment are conducted. Please make sure you are familiar with these regulations, policies and procedures.

Additional Support

Examples of technical report will be provided in the lab sessions and you will be given the opportunity for formative feedback on your report around week 17 of the module.