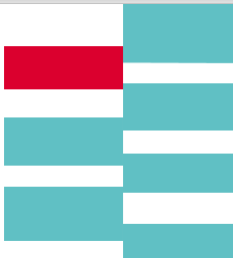
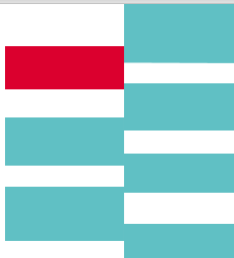




Assessment Details and Submission Guidelines	
<b>Trimester</b>	T2 2025
<b>Unit Code</b>	BN321
<b>Unit Title</b>	Advanced Network Design
<b>Assessment Type</b>	Individual Assignment – (Formative Assignment 1)
<b>Assessment Title</b>	Company Network Design
<b>Purpose of the assessment (with ULO Mapping)</b>	Students should be able to demonstrate their achievements in the following unit learning outcomes: a) Analyse the need for advanced networks, standards and network solutions.
<b>Weight</b>	10%
<b>Total Marks</b>	50
<b>Word limit</b>	NA
<b>Due Date</b>	02 Aug 2025, Saturday
<b>Submission Guidelines including the use of Gen AI Tools</b>	<ul style="list-style-type: none"><li>• <b>Generative AI USE IS PROHIBITED- students are expected to complete assessments without using automated tools</b></li><li>• All work must be submitted on Moodle by the due date along with a completed Assignment Cover Page.</li><li>• The assignment must be in MS Word format, 1.5 spacing, 11-pt Calibri (Body) font and 2.54 cm margins on all four sides of your page with appropriate section headings.</li><li>• Reference sources must be cited in the text of the report and listed appropriately at the end in a reference list using the IEEE Referencing style.</li></ul>
<b>Extension</b>	<ul style="list-style-type: none"><li>• If an extension of time to submit work is required, a Special Consideration Application must be submitted directly on AMS. You must submit this application three working days prior to the due date of the assignment. Further information is available at: <a href="https://www.mit.edu.au/about-us/governance/institute-rules-policies-and-plans/policies-procedures-and-guidelines/assessment-policy">https://www.mit.edu.au/about-us/governance/institute-rules-policies-and-plans/policies-procedures-and-guidelines/assessment-policy</a></li></ul>
<b>Academic</b>	<ul style="list-style-type: none"><li>• Academic Misconduct is a serious offence. Depending on the seriousness of the case, penalties can vary</li></ul>
Unit Code:BN321	Unit Name: Advanced Network Design
Author: Krishna Paudel	Moderator: Dr Urvashi Rahul Saxena



<b>Misconduct</b>	<p>from a written warning or zero marks to exclusion from the course or rescinding the degree. Students should make themselves familiar with the full policy and procedure available at: <a href="https://www.mit.edu.au/about-mit/institute-publications/policies-procedures-and-guidelines/AcademicIntegrityPolicyAndProcedure">https://www.mit.edu.au/about-mit/institute-publications/policies-procedures-and-guidelines/AcademicIntegrityPolicyAndProcedure</a> For further information, please refer to the Academic Integrity Section in your Unit Description.</p>
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### **Assignment Task and Description**

Suppose you are working as a Graduate Network Engineer for a Company in Australia. As a part of the design task force, you are required to come up with a network design proposal.

Consider that the company has five departments, namely Reception, Finance, Sales, IT and Research and Development (R & D). The company requires seamless communication with all the departments and to the Internet. You may assume that there are not more than 20 hosts in each Department for IP addressing design requirements. You are allocated 192.168.xy.0 network to use in your design, where x and y are the last two digits of your MIT ID.

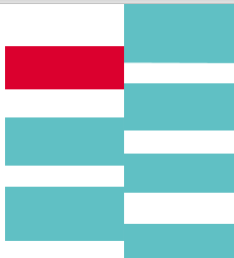
The network design proposal should include the following six sections:

1. **Project Scope:** This section should clearly define and outline the high-level requirements and limitations of your network design project. The requirements should specify the essential functionalities, performance expectations, and security objectives that the network must achieve. The limitations should describe any constraints or boundaries, such as budget, technology choices, regulatory compliance, or physical infrastructure considerations, that may affect the design process.
2. **Requirements:** This section should list at least ten questions that help in understanding the requirements for your network design. Each question must be accompanied by a justification and a sample answer. The justification should explain why the question is important and how its answer will guide critical design decisions.
3. **Hardware and Software Requirements:** This section should list the name, type, number, specification, series, cost, model of hardware devices, media or cables and software.
4. **IP allocation table:** This section should provide IP allocation for all the devices including PCs, servers, routers and switches with interface details. All the IP used should only be from the above allocated Ips (192.168.xy.0).
5. **Network Design:** This section shows your network design diagram. The diagram should be self-explanatory and as detailed as possible. You can have more than one diagram if you can't show everything in one diagram.
6. **Design review:** This section should discuss how your network design addresses key issues related to performance, security, scalability, and failover/redundancy. You are required to provide a comprehensive review and analysis.

### **Submission**

Your report should be well-structured, professional in content and formatting with cover page, table of contents, page numbers and submitted to the Moodle submission link before the due date.

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## References

Your report must have at least five current references and follow IEEE referencing style. **Do not use** Wikipedia, lecture slides and GenAI tools as source or a reference.

Make sure you properly reference any **diagrams/ graphics** used in the report.  
The report must be checked for similarity through Moodle Turnitin before submission.

You must include Individual contribution table at the end of the report if your assignment is group assignment.

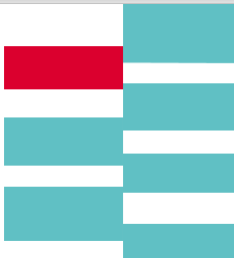
## Marking Criteria for Assignment 1

Section	Description of the section	Marks
Project Scope	Clear, concise project scope including high- level requirements and Project limitations (if any).	<b>5</b>
Questionnaire for Requirements Gathering	At least 10 questions for requirements gathering with justification and sample answers.	<b>10</b>
Hardware, Software and Media Requirements	Detail description of hardware, software and media required for the Network.	<b>10</b>
IP Allocation	Table of IP allocation for your devices including PCs, Servers, Routers and Switches	<b>5</b>
Network Diagram	Network diagram(s) showing your design	<b>5</b>
Design Review	Describe how your network Design addresses various performance, security, scalability and failover/redundancy issues.	<b>10</b>
References	IEEE referencing with at least five references	<b>5</b>
<b>TOTAL MARKS</b>		<b>50</b>



**Marking Rubric for Assignment #**

<b>Grade/Mark</b>	<b>HD 80% + Excellent</b>	<b>D 70%-79% Very Good</b>	<b>CR 60%-69% Good</b>	<b>P 50%-59% Satisfactory</b>	<b>Fail &lt;50% Unsatisfactory</b>
Project Scope	Excellent Scope	Clearly written scope	Generally good scope	Brief but relevant scope	Poorly written scope
Questionnaire	Excellent, questions, justifications and Answers	Clearly written questions, justifications and Answers	Generally good questions, justifications and Answers	Brief but relevant questions, justifications and Answers	Poorly written questions, justification and Answers
Hardware, Software and Media Details	Excellent and comprehensive list	Very good list	Generally good list	Brief list and some items missing	Poor list/ missing many details
Design Diagram	Excellent design	Clear Design	Generally good design	Some aspects are missing but working diagram	Poor design / many errors in design
Performance, Security, Failover/Redundancy considerations	Excellent description and analysis of related issues	Clear description and analysis of related issues	Generally good description and analysis of related issues	Brief description and analysis of some issues	Poor description / irrelevant information
Reference	Clear style with excellent sources of references	Clear referencing /Style	Generally good referencing/style	Unclear referencing/style	Lacks consistency with many errors
<b>Overall Marks</b>					<b>/50</b>



<b>Overall Comments</b>	
<b>Lecturer</b>	<b>Krishna Paudel</b>