

COMP604/712 - Routing and Switching Essentials

AROMATAWAI TUARUA | ASSESSMENT TWO

Module:	Routing and Switching Essentials
Module code:	COMP604/712
Weightings:	This assessment is worth 70% of Module's total.
Pass criteria:	You must achieve a minimum of 50% average across all assessments AND you must attain a minimum of 40% average across all supervised assessments.

NGĀ PUTANGA | LEARNING OUTCOMES

This assessment covers selected topics from learning outcomes 2, and 3.

- **LO 2.** Configure and troubleshoot switches and routers to support a scalable and secure LAN (LocalArea Network) for a small to medium network.
- **LO 3.** Design, build, troubleshoot, document, and analyze a secure network solution using advanced LAN technologies.

Please Note:

Ability to '**analyze**' a network solution in learning outcome number 3 does not apply to COMP604.

GUIDELINES

PREPARING FOR THE CASE STUDY

Use PowerPoints in Moodle that contain configuration commands and explanations, as well as packet tracer configuration activities in Netacad.

NGĀ AROMATAWAI | ASSESSMENT DETAILS

This summative assessment is a case study based on a given scenario. The tutor will advise if this is to be done individually in a group depending on the size of the class. It is designed so that you can work on it each week as you learn new aspects of building and configuring a network. You should spend 1-2 hours ever week working on your case study.

The supplementary '**Case study scenario and documentation template**' provides the implementation details and initial template for the documentation of each section. It will be marked as follows:

	Marks	Guidance
Demonstration with tutor verbal questioning	70 Marks VLAN, Trunking & EtherChannel (20) Switch security (20) DHCP (20) Static routers (10)	This must be implemented on the real equipment provided in the classroom. See timetable for the demonstration day. It is an assignment so you can bring any configuration files and notes on the day
Documentation	30 Marks - All sections complete - Detailed written descriptions and justifications of all sections - Testing strategy reflection - Troubleshooting reflection - Command journal - Network Analysis (Comp712 only)	Document the IP address design, network diagram, configuration details and reflections according the Case study scenario and documentation template provided on Moodle. It is advised to document what you did at each step in this template while you are doing the practical tasks otherwise you may forget what you did. The documentation submitted at the end of each section needs to be detailed to demonstrate understanding and critical thinking involved. It must be written in the student's own words. Copied or plagiarized content could result in loss of marks or disqualification..

Please Note:

The assessor can decide to reduce your marks based on the quality of your implementation, verbal answers and documentation. The tutor needs to assess each student's practical skills and depth understanding gained from the project and assigns marks accordingly.

There may be cases where the tutor may decide to give partial marks for partially completed sections if the majority of the task is complete. This is solely at the tutor's discretion.

OBJECTIVES

You will complete the following tasks:

- Assign addresses to interfaces and document them in the address table provided
- Cable the network according to the topology diagram
- Erase the startup configuration and reload routers and switch to the default state
- Configure VLANs, trunks and inter-VLAN routing
- Configure IPv4 and IPv6 Static Routes
- Configure security configuration on the switches
- Configure an EtherChannel
- Configure DHCPv4 and DHCPv6
- Configure a few techniques to mitigate LAN attacks
- Troubleshoot any errors that are found
- Test and verify full connectivity