

1 WM143 NCCD Coursework

Pre COVID-19, Networks, Communications and Cyber Defence was assessed by examination and coursework with the examination weighted 30% and the coursework weighted 70%. For academic year 2020-21, conventional examinations will not take place due to COVID-19. The examination component for 2020-21 will be replaced by an alternative assessment. This document defines how both the alternative assessment, and the coursework component will be organised.

2 Assessment Components

The assessment mark for the module will comprise three components:

- portfolio of netkit labs,
- network mapping exercise,
- network architecture assignment.

The portfolio of netkit labs represents your endeavours against the lab activity throughout the early part of the module; predominantly from term 1. Effectively, this means up to lab 10 - the firewalls lab. How this will be organised is the subject of this document.

The network mapping exercise will take place in the lab sessions - 8th March 2021. This will be a time constrained exercise of approximately one hour. This will be specified separately. A practice mapping exercise will be issued in January that will follow the same format.

The network architecture assignment will be a take away netkit activity requiring you to restructure an organisation's infrastructure to make it more secure. This exercise is separately specified.

3 Assessment Component Weightings

- 30% - portfolio of netkit labs,
- 20% - network mapping exercise,
- 20% - network architecture assignment (contribution to coursework)
- 30% - network architecture assignment (alternative to examination)

4 Portfolio

Throughout the lab sessions in the early part of the year, you will have worked on a variety of supplied netkit labs. Specifically these include:

- lab01 - fabricating a pcap file from bash
- (lab02 – constructing the abr network)
- lab03 - switching
- lab04 - DHCP and ARP

- lab05 - IPv4 addressing,
- lab06 - IPv4 static routing
- lab07 - UDP
- lab08 - TCP
- lab09 - stateless firewalls
- lab10 - stateful firewalls

You should ensure that you have completed and understood all the activities in these labs. Specifically you should be able to explain any aspect of the configuration files (lab.conf, xyz.startup, etc as well as files in the various directories that form part of the lab). You should also be able to use tcpdump to capture relevant traffic within the netkit lab and Wireshark to explain the significance of relevant frames in captured traffic. In short, you should have full intellectual ownership of the labs.

Only those labs that function adequately with Netkit v0.1.8 will be used for the viva.

5 Viva Voce / Demonstration

The viva voce (living voice if translated literally) examination is effectively an academic interview. This is being combined with a demonstration so that this particular viva will be an interview based on what you demonstrate.

Informally, the viva is chat about the work you have done. More formally, some specific questions will be asked "What would happen if ... ?", "Why is ... set to that value?" "What is the relationship between ...?" etc to which you will be expected to give specific answers. Some questions will seem to have really obvious answers. Please give the obvious answer. Please do not waffle. If you do not know, then say so and we can get on to a different question.

The presumption at the viva is that you have done the work. You will confirm this by the calibre of your answers.

You are free to use either your personal laptop or one of the lab machines to demonstrate your work.

The portfolio will be sampled. You should be really well prepared:

- to run any of the labs,
- to answer questions on any of the labs.

Be aware however that not all labs will be demonstrated.

6 Deadlines and Timings

The portfolio demo / vivas are provisionally scheduled to take place during the lab sessions in the three weeks commencing 1st, 8th and 17th February 2021.

The viva will take place over MTeams with the tutor remote from the lab. You will need functioning audio and screenshare over MTeams on the machine from which you demonstrate. Having functioning video over MTeams will be important for the start and end of the viva. You may want to use one device to run the demo / screenshare and a separate device for the live audio / video. This is your choice.

Each individual viva will last approximately 20 minutes.