

## Liverpool John Moores University

Title: NETWORK DESIGN, IMPLEMENTATION AND MANAGEMENT  
Status: Definitive  
Code: **5553NCCG** (129516)  
Version Start Date: 01-08-2021

Owning School/Faculty: Computer Science and Mathematics  
Teaching School/Faculty: Nelson Campus

Team	Leader
Silvester Czanner	Y
Robert Askwith	

**Academic Level:** FHEQ5      **Credit Value:** 20      **Total Delivered Hours:** 60

**Total Learning Hours:** 200      **Private Study:** 140

### Delivery Options

Course typically offered: S1, S2 and NS2 (S2 for Jan)

Component	Contact Hours
Lecture	60

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Assignment	Assignment	100	

<b>Competency</b>	NCC Group Pass/Fail
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### Aims

*This module introduces students to simple network Planning, Configurations, Setup, and Management, including LAN, WAN, NAT, PAN, MAN, using a variety of tools and methods for managing Networks, including Network Monitoring, Network Security such as Snort, Firewalls & IPS, Network Protocols and standards such as SNMP, NETCONF, IEEE, MIBII, RMON, MDIB & ANS.1, as well as industry's best practices. Students will also be introduced to Virtual Networks, Network Operating*

*Systems, Risk Management and Cloud Network Management.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Implement a network using LAN design principles based on a predefined set of requirements.
- 2 Produce an appropriate WAN solution to a set of organisational requirements.
- 3 Configure Network Security measures for the corporate environment.

## **Learning Outcomes of Assessments**

The assessment item list is assessed via the learning outcomes listed:

Assignment	2	3
NCC Group Pass/Fail	1	

## **Outline Syllabus**

*Theory:*

*Network Management Concepts and Principles: effective network management, including different technologies, protocols and activities associated with Networking Management and how they relate to one another.*

*Network Protocols and Standards*

*Introduction to mobile and wireless networking*

*Tools and methods*

*Risk Management*

*Practice:*

- *Plan a network based on a given scenario.*
- *Design a network based on a given scenario.*
- *Setup a network based on a given scenario.*
- *Configure and test a network, including setting up all devices*

## **Learning Activities**

Lectures

These will not normally be traditional didactic lectures in which the student plays little active part, but will be delivered in small groups of up to 20 students in which their interaction with their tutor is a key ingredient of their learning experience.

The material of this module requires the development of significant practical skill. This will be taught within the lecture time, making these sessions a blend of lecture and workshop time. The sessions will be timetabled in spaces with physical resources appropriate to the delivered content.

Students will receive approximately 30 hours of taught material, supported by in-class exercises and discussions designed to help student assimilate learning and to provide early informal feedback on their progress.

### Practical Work

This module contains directed practical work that students will undertake under the supervision of teaching staff and/or technicians. Some elements of this practical work will form part of the assessment for this module.

### Independent Study

Students are expected to undertake personal reading and research into topic areas that have been stimulated from the lectures and seminars. This reading will enhance their academic work and enable valid contribution to lectures and seminars.

### VLE support

This will provide links to academic web-sites and on-line journals, facilitate group discussion outside of the classroom, access to outline lecture notes, and provide students with assessment details.

### Notes

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