Anglia Ruskin University

Module Definition Form (MDF)

Module code: MOD005448	**Version:** 1 **Date Amended:** 04/May/2016

1. Module Title
Connecting the Network

2a. Module Leader
David Cameron

2b. Department
Department of Computing and Technology

2c. Faculty
Faculty of Science and Technology

3a. Level
6

3b. Module Type
Standard (fine graded)

4a. Credits
15

4b. Study Hours
150

5. Restrictions

Type	**Module Code**	**Module Name**	**Condition**
Pre-requisite:	MOD005453	Network Scaling	Compulsory
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:			

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module is based on the CCNA 4 element of the Cisco Routing & Switching curriculum. It builds on the Network Scaling Module by focusing on the Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. In this module the student will learn about the selection criteria of network devices and WAN technologies to meet network requirements.

The course will investigate different WAN technologies and their benefits as well as the operations and benefits of virtual private networks (VPNs) and tunnelling. The student will learn how to configure and troubleshoot both serial and broadband connections.

This module will also explore IPsec tunnelling operations as well as monitoring and troubleshooting network operations using analytical tools such as syslog, SNMP, and NetFlow.

At the end of the module the student will be able to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPsec and Virtual Private Network (VPN) operations in a complex network.

The module is delivered as a mixture of theory, delivered through a series of lectures, and practical implementation, delivered through a series of guided laboratory exercises. In the lab sessions students will gain deep understanding on the routing and switching concepts and acquire hands-on-skills using advanced network simulation tools that comply with industry standard router platforms.

Students studying this module will be able to access on-line materials including the Cisco

Networking Academy online curriculum, the VLE, and access a specialist laboratory.

6b. Outline Content

Describe different WAN technologies and their benefits

Describe the operations and benefits of virtual private networks (VPNs) and tunneling

Configure and troubleshoot serial connections

Configure and troubleshoot broadband connections

Configure and troubleshoot IPsec tunneling operations

Monitor and troubleshoot network operations using tools such as syslog, SNMP, and NetFlow

Describe network architectures

6c. Key Texts/Literature

The reading list to support this module is available at: http://readinglists.anglia.ac.uk/modules/mod005448

6d. Specialist Learning Resources

Packet Tracer Software

Specialist Networking Lab

7. Learning Outcomes (threshold standards)		
No.	**Type**	**On successful completion of this module the student will be expected to be able to:**
1	Knowledge and Understanding	Select suitable equipment, protocols and configurations for use in larger scale Local Area Networks and Wide Area Networks.
2	Knowledge and Understanding	Diagnose problems and propose solutions to problems in equipment selection, protocol use and configurations in larger scale Local Area Networks and Wide Area Networks.
3	Intellectual, practical, affective and transferrable skills	Analyse and design and IP addressing schemes larger scale networks.
4	Intellectual, practical, affective and transferrable skills	Configure larger scale Local Area Networks and Wide Area Networks

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2017/8	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	**Hours**	**Learning Outcomes**	**Details of Duration, frequency and other comments**
Lectures	12	1,2,3,4	Lecture 1 hr x 12 weeks
Other teacher managed learning	24	1,2,3,4	Practical 2hr x 12 weeks
Student managed learning	114	1,2,3,4	Assignment preparation and reading
TOTAL:	150		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Coursework	1,2	50 (%)	Fine Grade	30 (%)
Written assessment with practical element (1,500 words equivalent)					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Examination	3,4	50 (%)	Fine Grade	30 (%)
1hr 15, closed book (1,500 words equivalent)					

In order to pass this module, students are required to achieve an overall mark of 40%.
In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment of as specified above
(b) pass any pass/fail elements