ROBERT GORDON UNIVERSITY ABERDEEN

MODULE DESCRIPTOR

Module Title

Computing Network Management

Reference	CM3101	Version	4
Created	June 2022	SCQF Level	SCQF 9
Approved	July 2016	SCQF Points	15
Amended	July 2022	ECTS Points	7.5

Aims of Module

To provide the student with an understanding of the protocols and processes used to manage complex computer networks.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Evaluate and use data collection tools and methodologies.
2	Describe and discuss the use of common protocols to manage and analyse computer networks and traffic.
3	Describe the use of service level management in enabling the provision and maintenance of computer networks.
4	Utilise network management tools to manage and analyse network infrastructure and traffic.

Indicative Module Content

Introduction to common network management concepts and techniques. Service Level Management and models: FCAPS, ITIL Network Management Protocols: CLI, Syslog, SNMP, NETFLOW, RPC, RDP, Telnet, SSH Network Traffic and Log analysis tools: Wireshark, Observium, ELK Stack, iPerf, NetFlow Network Security and Vulnerability Assessment: Intrusion Detection Systems (IDS), Intrusion Prevention Systems (IPS), Honeypots, NESSUS, NMAP Network Accounting and Performance Management: AAA.

Module Delivery

Key concepts are introduced and illustrated through lectures and directed reading. The understanding of students is tested and further enhanced through interactive tutorials. In the laboratories, the student will progress through a sequence of exercises to develop sufficient knowledge and skills in network management.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	30	N/A
Non-Contact Hours	120	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	50%	Outcomes Assessed:	1, 4

Description:	A practical coursework to select, design, implement and report on a network management solution.

Component 2

Type:	Practical Exam	Weighting:	50%	Outcomes Assessed:	2, 3

Description:	A practical exam.

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 50% weighting of C1 (coursework) and 50% weighting of C2 (practical exam). An overall minimum grade D is required to pass the module.

		Coursework:						
		A	**B**	**C**	**D**	**E**	**F**	**NS**
Practical Exam:	**A**	A	A	B	B	C	E	
	B	A	B	B	C	C	E	
	C	B	B	C	C	D	E	
	D	B	C	C	D	D	E	
	E	C	C	D	D	E	E	
	F	E	E	E	E	E	F	
	NS	Non-submission of work by published deadline or non-attendance for examination						

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1	Tanenbaum, A.S. and Wetherall, D.J. (2013) Computer networks. 5th edn. United Kingdom: Pearson Education.
2	Kurose, J.F. and Ross, K.W. (2012) Computer networking: A top-down approach. 6th edn. Harlow: Pearson Education.
3	Comer, D. (2015) Computer networks and Internets: Global edition. 6th edn. United Kingdom: Pearson Education.
4	Thomatis, M (2015) Network Design Cookbook: Architecting Cisco Networks. lulu.com