UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Network and Protocols
Module Code	COS7024-B
Academic Year	2022/3
Credit Rating	20
School	Department of Computer Science
Subject Area	Computer Science
FHEQ Level	FHEQ Level 7
Pre-requisites	
Co-requisites	

Contact Hours	
Type	**Hours**
Lectures	24
Laboratories	12
Directed Study	164

Availability	
Occurrence	**Location / Period**
BDA	University of Bradford / Semester 1

Module Aims
To give an appreciation of the different types of communication and computer networks currently in use and give an insight into their operational features. To highlight the concepts of network performance analysis and intoduce network securoty concepts,principles and theories.

Outline Syllabus
Introduction to networking and network topologies; TCP/IP protocol stack; Network security goals; accessframework: authorisation, authentication, and availability; attack types: network level, application level andsocial Engineering attacks; attacker models; vulnerability detection and analysis; network defence frameworks;

Learning Outcomes	
01	Demonstrate a systematic understanding of the multilevel protocol stacks used in contemporarynetworks and attacker models to understand the principle of secure communication.
02	Demonstrate a critical awareness of the limitations of specific types of networks and attack models.You will also be able to understand how the performance and security of network communicationcan be evaluated and how to conduct research into specific aspects of networks.
03	Demonstrate ability to use appropriate techniques to assess network vulnerabilities and implementeffective security measures to protect assets of interest.

Learning, Teaching and Assessment Strategy
The basic underpinning material is covered in the lectures. The tutorials demonstrate how the lecture materialcan be applied by the process of working through examples, with lab sessions to simulate networks. Theoretical understanding will be assessed by simulation skills exercised in the coursework assignment.

Mode of Assessment				
Type	**Method**	**Description**	**Weighting**	
Summative	Coursework	Analysis of network traffic to understand various protocols and detect malicious packets		20%
Summative	Examination - Closed Book	Closed book examination- 3 hours	3 hour	80%

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.