UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title:	Networks and Protocols
Module Code:	COS7024-B
Academic Year:	2019-20
Credit Rating:	20
School:	Department of Computer Science
Subject Area:	Computer Science
FHEQ Level:	FHEQ Level 7 (Masters)
Pre-requisites:	
Co-requisites:	

Contact Hours	
Type	**Hours**
Lectures	24
Tutorials	4
Laboratory	8
Directed Study	164

Availability	
Occurrence	**Location / Period**
BDA	University of Bradford / Semester 1 (Sep - Jan)

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 network and network topologies. The TCP/IP protocol stack. Application layer protocols; reliable data transfers approaches; IP addressing schemes and rounting mechanisms; Address resolution protocols; Performance analysis and security in networks :advances in

wireless networks.

Learning Outcomes	
1	demonstrate a systematic understanding of the multilevel protocol stacks used in contemporary networks and how the protocols apply to the underlying networks and to understand the principles of secure communication.
2	demonstrate a critical awareness of the limitations of specific types of networks and be able to make well informed decisions as to the network features that are most suited for specific applications. You will also be able to understand how the performance and security of network communications can be evaluated and how to conduct research into specific aspects of networks.
3	use appropriate parts of the module in a research context and apply these to the development of future networks and secured protocols or some specific application area of these. You will also be able to apply network performance evaluation to other discipline areas, such as routing and congestion in road networks.

Learning, Teaching and Assessment Strategy

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

Mode of Assessment

Type	Method	Description	Length	Weighting
Summative	Examination - closed book	Examination assesses the Knowledge and Understanding and the Subject Specific Skills of the learning outcomes	3 hours	80%
Referral	Examination - closed book	Supplementary examination	3 hours	100%
Summative	Coursework	Analysis of network traffic to understand various protocols and detect malicious packets	0 hours	20%

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.