Module Definition Form (MDF)

Module code: MOD002580	**Version:** 7 **Date Amended:** 10/May/2023

1. Module Title
Computer Systems

2a. Module Leader
Stiphen Chowdhury

2b. School
School of Computing and Information Sciences

2c. Faculty
Faculty of Science and Engineering

3a. Level
4

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions

Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	None		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module consists of two strands: 'Computer Architecture' and ‘Network fundamentals’. Both strands will enable you to learn materials that are of great interest to employers. This module aims to provide you with an understanding of the fundamental behaviour and components of a typical computer system, and how they collaborate to manage resources and provide services in scales from small embedded devices up to the global internet. You will be introduced to IP networks exemplified through the TCP/IP and OSI models. Laboratory sessions will give you hands-on experience on constructing and configuring network devices.

You will use the Cisco CCNA introduction to data network technology course which is the first of four Cisco courses that can be used to obtain a Cisco CCNA qualification. This module will lay the foundation of and prepare you for the computer software, computer networking and cyber security sector to name a few.

6b. Outline Content

- Basic PC architecture

- CPUs, busses, motherboards and memory

- Operations of data, Program execution, Peripheral devices

- Health and safety/risk awareness

- Number Systems and Boolean logic techniques needed in network configuration

- Data communication principles and devices

- Network standards and why they are important

- The ISO OSI reference model, Ethernet and TCP/IP

- Network security fundamentals

- The Physical layer and cabling

- The Data link layer

- The Network and Transport layers and IP subnet design

- The Application, Sessions and Presentation layers

6c. Key Texts/Literature

The reading list to support this module is available at: https://readinglists.aru.ac.uk/

6d. Specialist Learning Resources

Workshop or laboratory to support practical work involving PC assembly and access to online material.

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	Assess the components of modern computer systems and compare the functionality and features of their operating systems and services.
2	Knowledge and Understanding	Discuss the role, function and security vulnerabilities of common network devices, protocols and applications, and evaluate holistically mitigation approaches to their security risks.
3	Intellectual, practical, affective and transferrable skills	Install, configure and troubleshoot basic PC configurations and their operating systems.
4	Intellectual, practical, affective and transferrable skills	Install, configure and troubleshoot simple network infrastructure solutions.
5	Intellectual, practical, affective and transferrable skills	Apply knowledge of networks to configure and test simple network scenarios.

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2025/6	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	24	1-4	Lectures delivered over 24 weeks
Other teacher managed learning	24	1-4	Practical labs delivered over 24 weeks.
Student managed learning	252	1,2,5	1 hrs/week preparation for, and reflection on, practical's and 2 hrs/week undertaking homework exercises. 80 hrs preparing assignment. 100 hrs background reading & exam preparation provided via VLE.
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Coursework	1-5	100 (%)	Fine Grade	30 (%)
The module is assessed by coursework assignment, which will test students' application of computer systems and networking knowledge and skills through their ability to understand and evaluate a given modern computer system solution (equivalent to 6000 words).					

Assessment components for Element 010				
Component No.	**Assessment Title**	**Submission Method**	**Weighting (%)**	**Components needed for Mark Calculation?**
010/1	Component 1	Scheduled Activity: Timetabled assessment task	25 (%)	All
010/2	Component 2	Scheduled Activity: Timetabled assessment task	25 (%)	
010/3	Component 3	Canvas	50 (%)	

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment as specified above
(b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]