Module Specification

Computer Systems and Networking Fundamentals

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Contents

Part 1: Information

Module title: Computer Systems and Networking Fundamentals

Module code: UFCFH1-15-0

Level: Level 3

For implementation from: 2022-23

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: The British College Nepal

Delivery locations: The British College Nepal

Field: Computer Science and Creative Technologies

Module type: Standard

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module covers the introductory concepts of computer hardware, computer architecture, operating system, fundamentals of network and network design.

Features: Not applicable

Educational aims: The aim of this module is to provide students with an understanding of the following core aspects of the computer systems:

Components of a computer system and modes of use

Understanding hardware and software

Core concepts in data transmission

Introduction to network design and architecture

Outline syllabus: The syllabus covers:

Number Representation

Combinational Logic

Hardware & Software

Operating system

File allocation systems

Network design (such as IP addressing schemes)

Networking topologies

Overview of protocol models such as ISO and TCP/IP .

Part 3: Teaching and learning methods

Teaching and learning methods: Lecture: In person, Blended Learning, Tutorials, Seminars, Online Lectures.

Lectures will be used to introduce much of the material, with example demos being used as part of the module.

Laboratory sessions will involve practical exercises on networking and operating systems which will enable each student to carry out the practical exercises described in the practical lab sheet under the guidance of the module tutor.

A range of additional resources will be made available via the TBC VLE e.g. short quizzes, further exercises etc.

Students will be using the softwares: packet tracer, wire shark, etc.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Define and describe the purpose of hardware, software, input device, storage device and output device, CPU.

MO2 Identify and compare the different types of operating systems and describe the purpose of operating systems.

MO3 Describe using examples basic network topologies, different types of data transmission, protocol, and communication devices.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 102 hours

Face-to-face learning = 48 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/uwe/lists/A8F74647-A35F-9FA5-1682-50472F9971A8.html?lang=en-GB&login=1

Part 4: Assessment

Assessment strategy: The assessment strategy for this module is based on regular exercises taking place during the teaching semester together with tutor feedback and a lab log book recording the student's work towards the building and configuration of a simple local area network. Together these comprise the Component B portfolio and cover all the learning outcomes.

Component A is a laboratory based examination assessing all learning outcomes through a one and a half hour exam. Module material, student notes and the lab log book may be referred to during the examination to solidify and apply their learning.

Assessment Components:

Component A: (50%) Examination
This is a laboratory based examination assessing all learning outcomes through a one and a half hour exam. Module material and student notes and lab log book may be referred to during the examination

Component B: (50%)
Students are required to submit an individual portfolio of exercises based on lab work. The requirements of the lab work will be provided by the module tutor.

Resit strategy
Component A - new lab based exam
Component B – students will receive feedback on the portfolio and their performance against the requirements criteria. Students are required to submit an individual portfolio. This will include original lab work together with the reworking of exercises failed at the first sit and improvements made to the design and configuration of the simple local area network to pass the specification requirements.

Assessment components:

Examination - Component A (First Sit)

Description: Component A: (50%) Examination (1.5 hours)
This is a laboratory based examination assessing all learning outcomes through a one and a half hour exam. Module material and student notes and lab log book may be referred to during the examination
Weighting: 50 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Portfolio - Component B (First Sit)
Description: Component B (50%) Portfolio
Component B comprises an individual portfolio of exercises based on lab work together with a lab log with notes recording their work towards the design and configuration of a simple local area network. The requirements of the lab work will be provided by the module tutor who assesses the exercises and provides feedback.
Weighting: 50 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Examination - Component A (Resit)
Description: Examination (1.5 hours)

Referral lab based examination (new paper). Module material, lab log book and student notes may be referred to during the exam.
Weighting: 50 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Portfolio - Component B (Resit)
Description: A portfolio of exercises, where students have the ability to demonstrate their understanding through the use of lab work.

Students are required to submit an individual portfolio based on their lab work. This will include original lab work together with the reworking of exercises and design and configuration elements failed at the first sit together with improvements made to the design and configuration of the simple local area network to pass the specification requirements.
Weighting: 50 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

International Foundation (Computing) [NepalBrit] FdCert 2022-23