UNIVERSITY of BRADFORD

# Module Descriptor

| Module Details | |
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| Module Title | Introduction to Computer Systems |
| Module Code | BIC3019-A |
| Academic Year | 2022/3 |
| Credits | 10 |
| School | UoB International College |
| FHEQ Level | RQF Level 3 |

| Contact Hours | |
|---|---|
| Type | Hours |
| Directed Study | 50 |
| Lectures | 40 |
| Laboratories | 10 |

| Availability | |
|---|---|
| Occurrence | Location / Period |
| BDA | University of Bradford / Semester 2 |
| BDA | University of Bradford / Semester 3 |

## Module Aims

This module introduces students to the structure and components of a computer system. The module will also discuss the key components and responsibilities of an operating system. By providing students with an understanding of how their computer and its operating systems work, the module will provide them with a good grounding for their degree studies.

## Outline Syllabus

Central Processing Unit (CPU) - the von Neumann (Princeton) and Harvard models.
Definitions and uses of memory and the bus (communications) system.
Different technologies used to connect peripherals.
Binary data representation.
Role of an operating system from a programmer's perspective.
Introduction to Linux system (overview of shell commands).
Introduction to good editors for programmers.
Introduction to visualization tools like VirtualBox, enabling students to run different operating systems for different purposes on their hardware.

| Learning Outcomes | |
|---|---|
| Outcome Number | Description |
| 1 | Explain the components of a computer system and their usefulness to a programmer. |
| 2 | Describe a CPU, memory and the bus system and how they are used. |
| 3 | Demonstrate how the Linux system can be configured to meet a user?s needs. |
| 4 | Describe the different technologies available to connect computer peripherals. |

## Learning, Teaching and Assessment Strategy

Students will learn in small interactive groups (max 18 students) on learner-centred tasks and with a highly interactive approach to learning and teaching. Students will be encouraged to bring their own relevant experiences to the class discussions. There will be an opportunity to engage in the practical aspects of programming through sessions based in a computer laboratory. During the module, formative assignments will be set to provide students with detailed and helpful feedback. The students will be encouraged throughout to reflect on their own performance and the feedback they receive informs sessions with their personal tutor. The personal tutor monitors student performance and supports suggestions for improvement. The personal tutor can draw the senior team's attention to a struggling student through the 'at risk' process.

Summative assessment of this module is achieved through an interim theory test set mid-way through the module and testing recall and the students' ability to organise relevant responses in a limited time-scale. The second element in the summative assessment is a submission of a report on the methods that could be employed to gain maximum benefit from a computer system in the context of client requirements. The creation of the report involves research, selection of material and the production of a well-structured report.

| Mode of Assessment | | | |
|---|---|---|---|
| Type | Method | Description | Weighting |
| Summative | Classroom test | Interim test on the theory of Computer Science (1 Hr) | 50% |
| Summative | Coursework - Written | Report on gaining maximum benefit from a computer system (1500 words) | 50% |

## 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.*

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