

Liverpool John Moores University

Title: Algorithms and Computing
Status: Definitive
Code: **3100FNDET** (121521)
Version Start Date: 01-08-2021

Owning School/Faculty: Computer Science and Mathematics
Teaching School/Faculty: Computer Science and Mathematics

Team	Leader
Kirsty Lever	Y

Academic Level: FHEQ3 **Credit Value:** 10 **Total Delivered Hours:** 34.5
Total Learning Hours: 100 **Private Study:** 65.5

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	11
Practical	22

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Computer Architecture	100	1.5

Aims

This module aims to provide students with an introduction to technical computing and the application of computers in the implementation of simple algorithms. This is supported by a syllabus which covers the key elements of decision mathematics and an introduction to computer programming.

- To introduce the student to the area of computer systems.
- To provide an understanding of the underlying computing platform (hardware, OS, network) upon which applications are developed and hosted.

- To introduce students the key elements of decision mathematics and simple algorithms.

Learning Outcomes

After completing the module the student should be able to:

- 1 Identify the main components of standard computer hardware architectures, the role of an operating system, the file system, networking and standard hardware interfaces.
- 2 Explain the fundamental concepts and issues involved in computer networking.
- 3 Describe the fundamental principles of decision mathematics and the characteristics of an algorithm.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Examination	1	2	3
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Outline Syllabus

The list below provides an indicative list of topics which may be covered in this module:

Computer Systems Architecture

Hardware

Software

Networks

Number Systems and Logic

Introduction to Algorithms

Correctness

Finiteness

Generality

Stopping Conditions

Describing Algorithms

Flow Charts

Pseudo Code

Example Algorithms

Learning Activities

Student-focused learning activities based on a combination of formal lectures and practical, experiential learning in laboratories, with supporting tutorials and seminars designed to reinforce and increase the student learning experience.

Theory oriented lectures followed by tutorials and where applicable lab-based practicals will be used in the module delivery.

Notes

This module introduces the student to the fundamental concepts of the computer science field and their practical application