

## Liverpool John Moores University

Title: COMPUTER SYSTEMS ARCHITECTURE  
Status: Definitive  
Code: **4546NCCG** (129508)  
Version Start Date: 01-08-2021

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

Team	Leader
Silvester Czanner	Y
Robert Askwith	

**Academic Level:** FHEQ4      **Credit Value:** 20      **Total Delivered Hours:** 60  
**Total Learning Hours:** 200      **Private Study:** 140

### Delivery Options

Course typically offered: S1, S2 and NS2 (S2 for Jan)

Component	Contact Hours
Lecture	60

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Test	Test	Online Test (90 mins)	50	
Report	Assignment	Assignment	50	

### Aims

*This module introduces students to the foundations of computer systems architecture together with the integrated hardware and software components and subsystems that enable and allow data to be input, processed and output. It further explores the concepts of operating systems, hardware management and computer networks together with the practical skills needed to diagnose, troubleshoot and maintain computer systems taking the security of these systems into consideration.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Explain the relationships between hardware components and the subsystems used in a computer system
- 2 Categorise the key features and services provided by different computer operating systems and hardware
- 3 Demonstrate diagnostic and troubleshooting skills to solve hardware, software and networking related issues.

## Learning Outcomes of Assessments

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

Online Test	1	
Assignment	2	3

## Outline Syllabus

*Principal hardware components and subsystems*

*Microprocessor architectures: Von Neumann & Harvard architectures, Memory, CPU (Arithmetical & Logic Unit (ALU) and Control Unit), Input and output Systems.*

*Memory subsystems: size, speed, operation and structure*

*CISC & RISC architectures.*

*Input/output systems and structures*

*ALU subsystems (mathematical & logical operations, registers, bus, etc.).*

*Control Unit operations: program code & language, fetch, decode, execute, halt.*

*Modern microprocessor design issues (multi-core, pipelining, speculative execution, etc.)*

*Operating system types and hardware*

*Hardware management and connections. Installing and configuring common peripheral devices. Features and services: Operating Systems Architectures.*

*Different hardware and software related problems and the implication of choices with regards to system administration, impact on users and business operations. Methods of maintenance hardware and software. Diagnostic and troubleshooting skills.*

## Learning Activities

Lectures

These will not normally be traditional didactic lectures in which the student plays little active part, but will be delivered in small groups of up to 20

## Notes

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