

### Summary Information

Module Code	4546NCCG
Formal Module Title	Computer Systems Architecture
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

### Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

### Partner Teaching Institution

Institution Name
Nelson and Colne College Group

### Learning Methods

Learning Method Type	Hours
Lecture	60

### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-PAR	PAR	January	12 Weeks
SEP-PAR	PAR	September	12 Weeks

SEP_NS-PAR	PAR	September (Non-standard start date)	12 Weeks
------------	-----	-------------------------------------	----------

## Aims and Outcomes

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.
------	--

**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Explain the relationships between hardware components and the subsystems used in a computer system
MLO2	2	Categorise the key features and services provided by different computer operating systems and hardware
MLO3	3	Demonstrate diagnostic and troubleshooting skills to solve hardware, software and networking related issues.

## Module Content

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.
Module Overview	
Additional Information	

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Test	Online Test	50	0	MLO1
Report	Assignment	50	0	MLO2, MLO3

## Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Silvester Czanner	Yes	N/A

**Partner Module Team**

Contact Name	Applies to all offerings	Offerings
--------------	--------------------------	-----------