Liverpool John Moores University

Title:	COMPUTER SYSTEMS
Status:	Definitive
Code:	**4101COMP** (121199)
Version Start Date:	01-08-2021
Owning School/Faculty:	Computer Science and Mathematics
Teaching School/Faculty:	Computer Science and Mathematics

Team	Leader
Syed Naqvi	Y

Academic Level:	FHEQ4	**Credit Value:**	20	**Total Delivered Hours:**	57
Total Learning Hours:	200	**Private Study:**	143		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	22
Practical	33

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Digital System Design	50	
Exam	AS2	Examination	50	2

Aims

To provide an understanding of the underlying computing platform (hardware, OS, network) upon which applications are developed and hosted

Learning Outcomes

After completing the module the student should be able to:

1	Explain the fundamental principles underlying the operation of modern computer systems
2	Demonstrate a knowledge of the structure and organization of computer systems
3	Demonstrate a knowledge of the interaction between software and hardware, demonstrating how programs are executed
4	Explain the fundamental concepts and issues involved in computer networking

Learning Outcomes of Assessments

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

Digital System Design	1	2	
Examination	1	3	4

Outline Syllabus

Data Representation: Numbers, Text, Images, Binary/Hex
Computer Arithmetic: Addition, Subtraction, Signed/Unsigned Numbers
Computer Architecture: Stored Program (von Neumann) Computer Organization, Instruction Sets, The Processor Cycle (fetch-decode execute), Measuring and improving performance
Logic circuits: Digital Logic, Boolean Algebra, Implementing Hardware with Digital Logic
Memory: Types of memory, Memory Hierarchy, Memory Map
I/O and Peripheral Control: Device Management, Interrupts, Direct Memory Access
Hardware/Software Interface: Machine Code and Assembly Language, Compiling and Interpreting, Script languages
Operating Systems: Resource Management, Processes and Threads, Process Scheduling
Networks: Principles of Data Communication, Network Topologies, Network Protocols, Wireless Networks

Learning Activities

Formal theory will be introduced via lectures and practical knowledge will be acquired via tutorials, laboratory exercises and coursework.

Notes

This module is intended to provide basic knowledge in relation to the computing platform (hardware, OS, network), which students will need as support knowledge for subsequent modules at FHEQ 5 and 6.