

Module Code	Pre-requisite Module codes	Co-Requisite Modules code(s)	ISCED Code	Subject Code	ECTS Credits	NFQ Level (CPD)#
CMPU1109					10	6
Module Title	Computer Technology 1					

Computer Technology 1

School Responsible:	School of Computing
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Module Overview:

Computer technology encompasses the technical aspects of hardware, software and the features surrounding them. This module explores the operation of typical, modern digital computers such as desktops, servers and mainframes. The module provides a broad understanding of Information Technology Systems. The aim of this module is to provide the student with the necessary background knowledge to understand modern computers – how they are physically structured and how they operate.

Learning Outcomes (LO):

On Completion of this module, the learner will be able to

1	Identify and describe the major components of a typical general-purpose computer
2	Describe the operation of an idealised generic computer
3	Describe the purpose and operation of an operating system
4	Identify and differentiate between different types of computer systems
5	Identify and describe the operation of basic logic circuits
6	Understand the number systems of binary, octal and hexadecimal and be able to perform elementary arithmetic operations in these number systems

Indicative Syllabus:

Computers: introduction and history – from valves to integrated circuits

Electrical fundamentals: voltage, current, resistance, Ohm's Law

Boolean algebra and combinational logic

Logic gates: AND, OR, NOT, NAND, NOR XOR, XNOR

Sequential logic: latches, flip-flops, shift registers and counters

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<p>Binary, octal and hexadecimal</p> <p>Von Neumann architecture</p> <p>Components: internal hardware and interfaces</p> <p>Input, output and storage devices</p> <p>Operating systems history: from batch to distributed systems</p> <p>Kinds of operating systems: task-pointers, monitors, embedded and general purpose</p> <p>Functions of operating systems</p> <p>Components of operating systems: kernel, utilities, shells, libraries</p> <p>Build a PC: How each hardware component is combined to build a General Purpose PC today</p>

Learning and Teaching Methods:	
The course delivery involves a combination of lectures and labs which may incorporate the use of blended learning techniques as appropriate throughout the delivery.	
Total Teaching Contact Hours	39
Total Self-Directed Learning Hours	148

Module Delivery Duration:
This module is delivered over one semester

Assessment		
Assessment Type	Weighting (%)	LO Assessment (No.)
Final Exam	70	1,2,3,4,5,6
Continuous Assessment	30	5,6
Module Specific Assessment Arrangements (if applicable)		
(a) Derogations from General Assessment Regulations		

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(b) Module Assessment Thresholds	
(c) Special Repeat Assessment Arrangements	

Essential Reading:

Englander, I. (2014), The Architecture of Computer Hardware and System Software: An Information Technology Approach, John Wiley & Sons, New Jersey, USA

Supplemental Reading:

Comer, D.E. Essentials of Computer Architecture, 1st Edition, Pearson Education, New Jersey, USA, 2005

Web references, journals and other:

<http://www.informaworld.com>

Version No:		Amended By	
Commencement Date		Associated Programme Codes	

Modules that are to be offered as Stand-Alone CPD Programmes must have an NFQ level assigned

*Details of the assessment schedule should be contained in the student handbook for the programme stage.

Date of Academic Council approval

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