ZCOM C1201: Computer Hardware 1

Module Title:	Computer Hardware 1
Language of Instruction:	English

Credits:	5

NFQ Level:	6

Module Delivered In	7 programme(s)

Teaching & Learning Strategies:	Combination of lecture and laboratory sessions. Lectures will provide traditional theory. Laboratory sessions will employ formative practical/assessment sheets.

Module Aim:	To familiarize the student with the hardware of computer systems, particularly the PC computing platform

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Identify the purpose of, configure, troubleshoot and replace the principal components/accessories of a PC and select appropriate PC specifications for various applications
LO2	Understand the basic construction of a computer system, understand the different manifestations of programs (e.g. HLL, assembly, machine code, etc) and learn how to develop simple assembly language programs.
LO3	Demonstrate practical skills such as the dismantling and reconstruction of a computer system, fault finding and repair, upgrading and the installation of additional components, both internally and externally.

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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Module Content & Assessment

Indicative Content
Introduction and Fundamentals What is a computer? Computer types - analogue, digital, hybrid; Quantities in computing; Computer classifications; PC components/technologies; System resources; Buying/building/upgrading a PC; Things to do with old PCs
Working on PCs Safety; Rules to upgrade by; Tools; Procedures
Motherboards Characteristics; Choosing; Installing; BIOS upgrade
Processors Intel and AMD processors; Choosing a processor; Forthcoming processors; Installing a processor
Memory Understanding memory; Putting CPU registers, primary and secondary storage into context; Cache; Access; Packaging; How much is enough?; Selection guide; Installing; Troubleshooting;
Storage devices Overview - magnetic disks, optical disks, semiconductor storage
Keyboards Switch Types; Styles; Interfaces; Choosing; Configuring; Cleaning; Troubleshooting and Repairing
Mice, Trackballs and Digitising Pads Characteristics; Comparisons; Choosingand Configuring; Cleaning; Troubleshooting
Serial & Parallel Communications Overview; Serial Ports; Serial Cables; Installing and Configuring Serial Port Hardware; Troubleshooting Serial Port Problems; Mapping Parallel Ports to LPTs
USB Characteristics; Host Controllers; Configuring; Troubleshooting;
Attached Devices Characteristics, configuration and connection of printers, scanners, digital cameras etc
Assembly Language Development environment; Creating and executing a program; Introductory assembly instructions

Assessment Breakdown	%
Continuous Assessment	25.00%
Practical	50.00%
End of Module Formal Examination	25.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Other	Theory examination	1,2	25.00	Week 8

No Project

Practical

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	Laboratory work	1,2,3	50.00	Every Week

End of Module Formal Examination

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	Theory examination	1,2	25.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	Every Week	1.00
Laboratory	Every Week	2.00
Estimated Learner Hours	Every Week	3.00
	Total Hours	6.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_KCCYB_B	Bachelor of Science (Honours) in Cyber Crime and IT Security	1	Mandatory
CW_KCCIT_B	Bachelor of Science (Honours) in Information Technology Management	1	Mandatory
CW_KCSOF_B	Bachelor of Science (Honours) in Software Development	1	Mandatory
CW_KCCYB_D	Bachelor of Science in Cybercrime and IT Security	1	Mandatory
CW_KCCSY_D	Bachelor of Science in Information Technology Management	1	Mandatory
CW_KCSOF_D	Bachelor of Science in Software Development	1	Mandatory
CW_KCCOM_C	Higher Certificate in Science in Computing Programming	1	Mandatory