

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	
<i>On successful completion of this module the learner should be able to:</i>	
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	
<i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

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; Choosing and 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

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
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