

Title:	Computer Systems Technology APPROVED
Long Title:	Computer Systems Technology
Module Code:	COMH6005
Credits:	5
NFQ Level:	Fundamental
Field of Study:	Computer Hardware
Valid From:	Semester 1 - 2017/18 (September 2017)
Module Delivered in	6 programme(s)
Module Coordinator:	JOSEPH CONNELL
Module Author:	JOSEPH CONNELL
Module Description:	In this module students learn about the hardware that is used in personal computer systems, their operating systems, software and networks. Practical experience will be gained in the maintenance of the computer's hardware and key software components.
Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Identify and describe the function of the main components in a personal computer.
LO2	Remove and install a personal computer's components.
LO3	Install, troubleshoot and maintain a computer's hardware and operating system.
LO4	Assemble and configure computer network hardware and software.
LO5	Contribute as part of a group to configure computer hardware and software
Pre-requisite learning	
Module Recommendations	
<i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named CIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</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. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.</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. You may not enrol on this module if you have not acquired the learning specified in this section.</i>	
No requirements listed	
Co-requisites	
No Co Requisites listed	

Module Content & Assessment

Indicative Content

Safety, Static and ESD

Discussion of the safety issues when working on electrical equipment, explanation of Electro Static Discharge, techniques to prevent ESD.

How a PC works

Introduction to the main hardware components, the processor, memory, disk drives, motherboard, expansion cards, power supply, case, the display, peripheral interfaces such as USB, the operating system, the boot sequence.

Modern PC components

A study of the most recent components and hardware standards.

Installing and upgrading components

Practical work involving removing/installing the main components, i.e. RAM, CPU, hard disk drive, CD/DVD ROM drive, expansion cards

Operating Systems

A discussion of modern operating systems, e.g. Windows, Linux, installing operating systems, repairing faults

Troubleshooting

Locating/Identifying hardware and software faults

Software Maintenance

Removing viruses, malware and trojans, checking for and correcting drive errors, hard drive back up/cloning/RAID/Ghosting.

Network installation and configuration

LAN technology, ethernet network wiring, configuring and testing networks using various operating systems, wireless LANs, security.

Assessment Breakdown

%

Course Work

100.00%

Course Work

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Short Answer Questions	Identify and describe the function of the main PC components and software using short answer and multiple choice questions.	1,2,3	20.0	Week 7
Project	Group project consisting of assembling the appropriate hardware and installing/configuring the software to perform the assigned task.	1,2,3,5	30.0	Sem End
Practical/Skills Evaluation	Assessment of practical work in lab.	1,2,3,4,5	50.0	Every Week

No End of Module Formal Examination

Reassessment Requirement

Coursework Only

This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.

The institute reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time

<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lab	Practical lab work, 2 x 2 hour labs	4.0	Every Week	4.00
Independent & Directed Learning (Non-contact)	Self study	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

Workload: Part Time

<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lab	1 x 3 hour lab	3.0	Every Week	3.00
Independent & Directed Learning (Non-contact)	Self study	4.0	Every Week	4.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				3.00

Module Resources

Supplementary Book Resources

- Corey Sandler 2007, *Fix Your Own PC*, John Wiley & Sons [ISBN: ISBN-10: 0470107871, ISBN-13: 978-0470107874]
- Kyle MacRae, Gary Marshall 2012, *Build Your Own Computer: The Complete Step-by-step Manual to Constructing a PC That's Right for You*, 5 Ed., Publisher: J H Haynes & Co Ltd [ISBN: ISBN-10: 0857332686 , ISBN-13: 978-0857332684]
- Richmond Adebaye, Theophilus Owusu 2013, *Network Systems and Security (Principles and Practices)*, 1 Ed., CreateSpace Independent Publishing Platform [ISBN: ISBN-10: 1482626713, ISBN-13: 978-1482626711]
- Robert Thompson, Barbara Fritchman Thompson 2007, *Building the Perfect PC*, O'Reilly [ISBN: ISBN-10: 0596526865 , ISBN-13: 978-0596526863]
- Michael Meyers 2003, *Introduction to PC Hardware and Troubleshooting*, McGraw-Hill Osborne
- R Thompson 2006, *Repairing and Upgrading Your PC*, O'Reilly [ISBN: ISBN-10: 059600866X, ISBN-13: 978-0596008666]
- Stuart Yarnold 2011, *Upgrading & Fixing a PC in Easy Steps*, 5 Ed., In Easy Steps Limited [ISBN: ISBN-10: 184078430X, ISBN-13: 978-1840784305]

This module does not have any article/paper resources

Other Resources

- Website: *Toms Hardware Page*
<http://tomshardware.co.uk/>
- Website: *Build your own PC*
<http://www.buildyourown.org.uk/>
- Website: *Komplett Ireland PC parts*
<http://www.komplett.ie>

Module Delivered in

Programme Code	Programme	Semester	Delivery
CR_EEPSY_8	<u>Bachelor of Engineering (Honours) in Electrical Engineering</u>	3	Elective
CR_EELES_8	<u>Bachelor of Engineering (Honours) in Electronic Engineering</u>	4	Mandatory
CR_EELEC_7	<u>Bachelor of Engineering in Electrical Engineering</u>	3	Elective
CR_EELXE_7	<u>Bachelor of Engineering in Electronic Engineering</u>	4	Mandatory
CR_EELEC_6	<u>Higher Certificate in Engineering in Electrical Engineering</u>	3	Elective
CR_EELXE_6	<u>Higher Certificate in Engineering in Electronic Engineering</u>	4	Mandatory