

<b>Title:</b>	Build Your Own PC <b>APPROVED</b>
<b>Long Title:</b>	Build Your Own PC
<b>Module Code:</b>	COMH6001
<b>Credits:</b>	5
<b>NFQ Level:</b>	Fundamental
<b>Field of Study:</b>	Computer Hardware
<b>Valid From:</b>	Semester 1 - 2017/18 ( September 2017 )
<b>Module Delivered in</b>	<a href="#">3 programme(s)</a>
<b>Module Coordinator:</b>	JOSEPH CONNELL
<b>Module Author:</b>	JOSEPH CONNELL
<b>Module Description:</b>	In this module students learn about personal computer hardware, software and networks. Ideally during this module students will select the components for their own computer, order them and finally assemble and test the finished machine. This module takes a practical hands on approach to computer hardware and software with a strong emphasis on experiential learning ("learning by doing"). On completing this module, students will have the knowledge and experience to solve common computer problems and be familiar with the latest computer technology.
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Identify the main components in a personal computer and describe their function
LO2	Remove,install or upgrade personal computer components.
LO3	Select compatible components for assembling a PC and source suitable suppliers for these components.
LO4	Install and maintain the critical software elements in a personal computer.
LO5	Configure a home network.
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b>	
<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	
<b>Incompatible Modules</b>	
<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	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b>	
<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	
<b>Co-requisites</b>	
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 electrostatic discharge(ESD), 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

**Component selection**

How to select components to achieve performance, performance versus cost, selecting components for specific functionality e.g. gaming or a home media centre, where to source components, checking component compatibility, lead times.

**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

**Assembling a PC**

Assembling all of the components into a PC

**Installing the Operating System**

A discussion of modern operating systems, e.g. Windows and Linux. Practical installation of multiple operating systems, repairing OS faults

**Troubleshooting**

Locating/Identifying hardware and software faults

**Practical Software Maintenance**

Removing viruses, malware and trojans. Data recovery, backing up and cloning hard drives, RAID, Ghosting, virtual machines.

**Networking**

Covering the topics and skills required to build a home network.

**Assessment Breakdown**

%

Course Work

100.00%

**Course Work**

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Other	Combination of multiple choice questions and short answer questions examining the student's ability to identify and describe the functions of the main PC components	1	20.0	Week 4
Written Report	identifying suitable components for assembling a pc and find appropriate suppliers for these components	1,3	20.0	Week 6
Practical/Skills Evaluation	assessing practical work in the laboratory using continuous assessment and project based learning	1,2,3,4,5	60.0	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	2 x 2 hour lab per week	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 per week	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
<i>Recommended Book Resources</i>
<ul style="list-style-type: none"> <li>• Scott Mueller 2013, <i>Upgrading and Repairing PCs</i>, 21 Ed., QUE [ISBN: ISBN-10: 0789750007 , ISBN-13: 978-0789750006]</li> </ul>
<i>Supplementary Book Resources</i>
<ul style="list-style-type: none"> <li>• Kyle MacRae, Gary Marshall 2012, <i>Build Your Own Computer: The Complete Step-by-step Manual to Constructing a PC That's Right for You</i>, 5 Ed., J H Haynes &amp; Co Ltd [ISBN: ISBN-10: 0857332686, ISBN-13: 978-0857332684]</li> <li>• Robert Thompson 2007, <i>Building the Perfect PC</i>, 2 Ed., O'Reilly [ISBN: ISBN-10: 0596526865 ; ISBN-13: 978-0596526863]</li> <li>• Adrian Kingsley-Hughes 2004, <i>Build Your Own PC</i>, Hungry Minds Inc,U.S [ISBN: ISBN-10: 0471760994 ; ISBN-13: 978-0471760993]</li> <li>• Kerry Bourgoine, Matthew Malm 2005, <i>Build the Ultimate Gaming PC: Monster Gaming Machine</i>, Hungry Minds Inc,U.S [ISBN: ISBN-10: 0471755478 ; ISBN-13: 978-0471755470]</li> </ul>
<i>This module does not have any article/paper resources</i>
<i>Other Resources</i>
<ul style="list-style-type: none"> <li>• Website: <i>Toms Hardware Site</i> <a href="http://tomshardware.co.uk/">http://tomshardware.co.uk/</a></li> <li>• Website: <i>BuildYourOwn.org.uk</i> <a href="http://www.buildyourown.org.uk/">http://www.buildyourown.org.uk/</a></li> <li>• Website: <i>Komplett Computer Parts</i> <a href="http://www.komplett.ie">http://www.komplett.ie</a></li> </ul>

Module Delivered in			
Programme Code	Programme	Semester	Delivery
CR_EEPSY_8	<a href="#"><u>Bachelor of Engineering (Honours) in Electrical Engineering</u></a>	3	Elective
CR_EELEC_7	<a href="#"><u>Bachelor of Engineering in Electrical Engineering</u></a>	3	Elective
CR_EELEC_6	<a href="#"><u>Higher Certificate in Engineering in Electrical Engineering</u></a>	3	Elective