National College of Ireland

H6ARCH: Computer Architecture Extra Header Data

Module Delivered in

Programme Code	Programme	Semester	Delivery
BAMTB	BA in Management of Technology in Business	2	Mandatory
BSHBIS	BSc (Hons) in Business Information Systems	2	Mandatory
BSHC	BSc Honours in Computing	2	Mandatory
HCC	Higher Certificate in Computing	2	Mandatory

Module Delivered in

Programme Code	Programme	Semester	Delivery
BAMTB	BA in Management of Technology in Business	2	Mandatory
BSHBIS	BSc (Hons) in Business Information Systems	2	Mandatory
BSHC	BSc Honours in Computing	2	Mandatory
HCC	Higher Certificate in Computing	2	Mandatory

Short Title:	Computer Architecture APPROVED
Full Title:	Computer Architecture

Module Code:	H6ARCH	**NFQ Level:**	6	**ECTS Credits:**	5

Module Coordinator:	Faculty Member

Description:	The aim of this module is to give students detailed understanding of the internal workings of a digital computer and in doing so impart to them the basic knowledge and skills required to install, maintain and upgrade PC hardware and software

Learning Outcomes:

On successful completion of this module the learner will be able to

1. Identify and describe the relationship between each component of the computer system and how each individual component works
2. Distinguish between different computer number systems
3. Understand the constructs and the functionality of assembly language programming.
4. Adhere to lab practices and procedures in relation to computer hardware
5. Dismantle and Assemble a PC
6. Diagnose and Correct device conflicts in relation to computer hardware

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is required before enrolment on this module. While the prior learning is expressed as named NCI module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).*
No recommendations listed
Requirements *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.*
No requirements listed
Co-requisites
No co-requisites listed listed

National College of Ireland

H6ARCH: Computer Architecture Extra Header Data

Module Content & Assessment

Indicative Content
Computer Architecture (40%) Computer Architecture (40%) **Assembly Language (30%)** • Introduction to Assembly Language • Evolution of embedded development • Upiquitous Computing **Hardware (30%)** • The PC – Types of Systems, Documentation and Warranties, The Case, System BIOS, Hardware Resources • Lab Practices – Precautions, Electrostatic Discharge, Hazards, Basic Test Equipment, Disassembly and Reassembly Procedures, Preventative Maintenance and Backups, Safety and Recycling • Diagnostic Tools – Power On Self Test, Diagnostic Software: General Purpose, Disk and Shareware **Teaching methodology:** The learning strategy involves the use of lectures, tutorials and homework assignments. Students will also have access to web based support.

Assessment Breakdown	%
Course Work	50%
End of Semester Formal Examination	50%

	Outcome addressed	*% of total*	*Assessment Date*
Formal End-of-Semester Examination	None	50%	Semester End

Coursework Breakdown				
Type	*Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Project	No Description	None	50	Sem 1 End

NCIRL reserves the right to alter the nature and timings of assessment

National College of Ireland

H6ARCH: Computer Architecture Extra Header Data

Module Workload & Resources

Workload	Full-time			
Type	*Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Lecture	No Description	2	Every Week	2.00
Lab	No Description	1	Every Week	1.00
			Total Weekly Learner Workload	3.00
			Total Weekly Contact Hours	3.00

Workload	Part-time mode			
Type	*Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Lecture	No Description	2	Every Week	2.00
			Part-Time Total Weekly Learner Workload	2.00
			Part-Time Total Weekly Contact Hours	2.00

Resources
Recommended Book Resources
Patterson, D and Hennessy, J 2007, *Computer Organization and Design: The Hardware/Software Interface.*, 3rd ed revised Ed., Morgan Kaufmann; ISBN: 978-0123706065 **Mike Meyers 2007, *A+ Certification Passport,*, 3rd ed(Mike Meyers' Certification Passport), Ed., McGraw Hill**
Supplementary Book Resources
Morris, M. and Kime C. 2008, *Logic and Computer Design Fundamentals,*, 4th ed Ed., Pearson International Edition.