

Liverpool John Moores University

Title: Microcontrollers and Interfacing
Status: Definitive
Code: **5080ENG** (116954)
Version Start Date: 01-08-2016

Owning School/Faculty: Electronics and Electrical Engineering
Teaching School/Faculty: Electronics and Electrical Engineering

Team	Leader
Ronan McMahon	Y
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Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 62
Total Learning Hours: 200 **Private Study:** 138

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Practical	24
Tutorial	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam		50	2
Practice	Prac CW1		25	
Practice	Prac CW2		25	

Aims

To enhance knowledge and understanding of Microcontrollers, the technique and method for Interfacing with them.

Learning Outcomes

After completing the module the student should be able to:

- 1 Identify & describe the fundamental components of a Microcontroller, a typical Architecture and associated instruction set.
- 2 Identify & describe Microcontroller based memory subsystem, I/O Interfacing and Data transfer.
- 3 Design/Test programs using PIC specific Flowcode, and "C".
- 4 Develop and execute simple application using a standard PIC development board and associated accessories.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Exam	1	2	3
Practical Coursework 1	3		
Practical Coursework 2	3	4	

Outline Syllabus

Typical Microcontroller architecture.
Digital to analogue and analogue to digital converter.
Microcontroller-based system interfacing and data transfer.
C programming & PIC specific programming
Basic logic function and ladder logic programming
Combinational and sequential problem

Learning Activities

By series of lectures, tutorials and practical lab work.

Notes

This module extends the knowledge of Microcontrollers, including their programming and interface.