Liverpool John Moores University

Title:	Embedded Microprocessor Systems
Status:	Definitive
Code:	**5514NCCG** (129447)
Version Start Date:	01-08-2021
Owning School/Faculty:	Engineering
Teaching School/Faculty:	Nelson Campus

Team	Leader
Christian Matthews	Y

Academic Level:	FHEQ5	**Credit Value:**	20	**Total Delivered Hours:**	60
Total Learning Hours:	200	**Private Study:**	140		

Delivery Options
Course typically offered: S1, S2, Sum, NS2 (S2 for Jan)

Component	Contact Hours
Lecture	36
Workshop	24

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Report	Report	60	
Presentation	Pres.	Presentation (15 mins + Q&A)	40	

Aims

The aim of this module is to provide students with:
An understanding of microprocessor-based systems and their use in instrumentation & control systems.
Practical experience of producing microprocessor-based solution to real-world engineering problems
An ability critically to evaluate the suitability of a range of microprocessors / microprocessor solutions for specific engineering scenarios.

Learning Outcomes

After completing the module the student should be able to:

1	Explore the principle features of a microcontroller and explain the purpose of its constituent parts.
2	Design, produce and test software for a microprocessor-based system to meet a given specification
3	Produce and critically evaluate a microprocessor solution to a specific engineering problem.

Learning Outcomes of Assessments

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

Report	2	3
Presentation	1	

Outline Syllabus

Introduction to microcontroller-based systems, architecture and applications
Comparison of Harvard and Von Neumann architectures, RISC and CISC cores
Development of software for a microprocontroller-based system
Produce and evaluate a microprocessor solution to a specified problem.

Learning Activities

Lectures
These will not normally be traditional didactic lectures in which the student plays little active part, but will be delivered in small groups of up to 20 students in which their interaction with their tutor is a key ingredient of their learning experience.
Students will receive approximately 30 hours of taught material, supported by in-class exercises and discussions designed to help student assimilate learning and to provide early informal feedback on their progress.

Independent Study
Students are expected to undertake personal reading and research into topic areas that have been stimulated from the lectures and seminars. This reading will enhance their academic work and enable valid contribution to lectures and seminars.

VLE support
This will provide links to academic web-sites and on-line journals, facilitate group discussion outside of the classroom, access to outline lecture notes, and provide students with assessment details.

Notes

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