Summary Information

Module Code	7409ELE
Formal Module Title	Embedded Systems
Owning School	Engineering
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Engineering

Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	11
Tutorial	11

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	To provide both the theoretical and practical skills in the design and development of advanced embedded systems.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Design and implement complex integrated hardware and software solutions to engineering problems
MLO2	2	Critically compare and contrast the suitability to specific engineering applications of microprocessor hardware
MLO3	3	Critically evaluate the use of real-time operating systems.
MLO4	4	Critically analyse the security implications of network connectivity in embedded applications

Module Content

Outline Syllabus	Development Lifecycle: Design, Development, Testing, Maintenance.Flow Charts, Pseudo codeMicroprocessor Hardware: Functionality, capability, performance, energy considerationsRTOS: Functionality, Security, Driver support, execution time, Security: CIA, Threats, protection, Maintenance/Updates, overheadsSCADA.Interconnections & interfacesNetworking
Module Overview	
Additional Information	This module will provide students with the capability to design and develop an embedded solution to an engineering problem.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Examination	70	2	MLO2, MLO3, MLO4
Report	2000 Words	30	0	MLO1

Module Contacts