Automation

Module Information

2022.01, Approved

Summary Information

Module Code	6500ELEMM
Formal Module Title	Automation
Owning School	Engineering
Career	Undergraduate
Credits	10
Academic level	FHEQ Level 6
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Auston College Myanmar, Yangon, Myanmar

Learning Methods

Learning Method Type	Hours
Lecture	11
Practical	22

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
APR-PAR	PAR	April	12 Weeks
JAN-PAR	PAR	January	12 Weeks

SEP_NS-PAR	PAR	September (Non-standard start date)	12 Weeks

Aims and Outcomes

Aims	To develop the students' knowledge and understanding of automation systems used in manufacturing and process industries

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Evaluate the differences between the various types of programmable logic controllers (PLC) to choose an appropriate device for an application
MLO2	2	Produce PLC programs using ladder logic
MLO3	3	Produce PLC programs using sequential function charts
MLO4	4	Select appropriate external devices and integrate them into a PLC based industrial automation system

Module Content

Outline Syllabus	Programmable Logic Controller systems. Programming with IEC 61131-3 standards – ladder diagram (LD), function block (FBD) and sequential function chart (SFC) programming. Designing sequential systems using a State Machine paradigm. PLC input/output considerations. Integration of proximity sensors, fail safe sensors, flow, pressure, level and temperature measurement sensors, linear and rotary valve positioners, code reading sensors.
Module Overview	
Additional Information	On completion of the module the student should be able to design and implementautomation systems for a range of industrial applications from factory automation toprocess control.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Portfolio	Portfolio of Evidence	100	0	MLO1, MLO2, MLO3, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Clifford Mayhew	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings