SYST C2603: Drives and Actuators

Module Title:	Drives and Actuators

Credits:	5

NFQ Level:	6

Module Delivered In	2 programme(s)

Module Aim:	To provide the student with the knowledge to specify appropriate drive actuator type for a given application

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Define, describe and demonstrate the use of pneumatic and hydraulic actuators
LO2	Define, describe and demonstrate the use of mechanical actuators
LO3	Define, describe and demonstrate the use of electrical actuators
LO4	Employ an appropriate drive and actuator type for a given application and specify appropriate components

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

SYST C2603: Drives and Actuators

Module Content & Assessment

Indicative Content
Pneumatics and Hydraulics Principles of pneumatics and hydraulics, Linear and rotary actuators
Mechanical Actuation Chains, Cams, Gears, Belt Drives, Bearings
Electric Drives Conventional DC motors, Induction Motors, Stepper Motors, Brushless Motors, Servo systems
Design considerations for given application areas Problem specification, Advantages and disadvantages of electric motor and associated drives drive types

Assessment Breakdown	%
Continuous Assessment	20.00%
Practical	20.00%
End of Module Formal Examination	60.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Examination	Various assessments to reinforce learnings given throughout the semester	1,2,3,4	20.00	n/a

No Project

Practical

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	Aset of regular practical exercises to complement the theory elementsof the module	4	20.00	n/a

End of Module Formal Examination

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	End of Semester Examination	1,2,3,4	60.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

SYST C2603: Drives and Actuators

Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	Every Week	3.00
Laboratory	Every Week	2.00
Independent Learning Time	Every Week	4.00
	Total Hours	9.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_EEROB_B	Bachelor of Engineering (Honours) in Robotics and Automated Systems	3	Mandatory
CW_EEROO_D	Bachelor of Engineering in Robotics and Automated Systems	3	Mandatory