AVIO C1605: Avionics Fundamentals 2

Module Title:	Avionics Fundamentals 2
Language of Instruction:	English

Credits:	10

NFQ Level:	6

Module Delivered In	2 programme(s)

Teaching & Learning Strategies:	A series of lectures, tutorials, class-based tasks, and laboratory exercises will be used. The practical sessions will be used to support the theory. The Institute VLE will be used to interactively communicate with students.

Module Aim:	To give students an understanding of the principles of avionic circuits. To develop the student's ability to analyse the behaviour of avionic circuits.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Interpret the fundamentals of electric and electronic circuits.
LO2	Perform calculations to permit the analysis of both DC and AC circuits.
LO3	Comprehend the functional operation of common digital electronic devices.
LO4	Work in an electronic laboratory with due regard for his/her safety and that of others.
LO5	Using schematic diagrams, build and test electrical and electronic circuits in a laboratory environment.

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

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Module Content & Assessment

Indicative Content
Generation of Electricity Production of electricity.
Magnetism Theory of magnetism.
DC Motor Basic motor theory.
Inductance/Inductor Induction principles.
Transformers Transformer construction principles and operation.
RLC Circuits Phasor analysis of RLC circuits.
Filters Operation, application and uses of filters.
Transistors Transistor characteristics, properties and applications.
Integrated Circuits Description and operation of digital logic circuits.

Assessment Breakdown	%
Continuous Assessment	60.00%
Practical	40.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Other	Several in class and/or online assessments.	1,2,3	60.00	Ongoing

No Project

Practical

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	Practical Assignments: The student will complete practical assignments during the module and write a report on each assignment. Practical tests: Learners will complete practical tasks for summative assessment.	1,2,3,4,5	40.00	Every Week

No End of Module Formal Examination

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

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	12 Weeks per Stage	5.00
Practicals	12 Weeks per Stage	4.00
Independent Learning	15 Weeks per Stage	9.47
	Total Hours	250.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_EEAER_B	Bachelor of Engineering (Honours) in Aerospace Engineering	2	Mandatory
CW_EEACS_D	Bachelor of Engineering in Aircraft Systems	2	Mandatory