

AVIO C1602: Avionics Fundamentals 1

Module Title:			Avionics Fundamentals 1				
Language of Instruction:		n:	English				
Credite: 10		10					
NFQ Level:		6					
Module Delivered In			<u>3 programme(s)</u>				
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 electric circuits. To develop their ability to apply circulaws to basic electric circuits.				
Learning Ou	itcomes						
On successfi	ul completio	n of th	nis module the learner should be able to:				
LO1	Interpret the fundamentals of electric circuits.						
LO2	Describe the basic measurement units and their pre-fixes, used in electrical engineering.						
LO3	Perform calculations to permit the analysis of an electrical circuit (AC/DC).						
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 circuits in a laboratory environment.						
Pre-requisite	e learning						
Module Recommendations This is prior learning (or a practical skill) that is recommended before enrolment in this module.							
No recomme	ndations list	ted					
<i>Incompatible Modules</i> 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							
Electron Theory Molecular structure of conductors, semiconductors and insulators.							
Static Electricity and Conduction Static electricity and distribution of electrostatic charges; Conduction of electricity in solids, liquids, gases and a vacuum.							
Electrical Terminology Electrical terms, their units and factors affecting them.							
DC Sources of Electricity Construction and basic chemical action of batteries.							
DC Circuits Ohms Law, Kirchhoff's Voltage and Current Laws;							
Power Power, work and energy.							
Capacitance/Capacitor Operation and function of a capacitor.							
AC Theory Properties of Sinusoidal waveforms.							
Diodes Diode characteristics, properties and applications.							
Assessment Brea	kdown			%			
Continuous Assess	sment			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	
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No Project							
Practical							
Assessment Type	Asses	essment Description		Outcome addressed		Assessment Date	
Practical/Skills Practic Evaluation assigni summa		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 E		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 Delivery Programme Code Semester Programme CW_EEAER_B Bachelor of Engineering (Honours) in Aerospace Engineering 1 Mandatory CW_EEACS_D 1 Mandatory Bachelor of Engineering in Aircraft Systems CW_EEPLT_D Bachelor of Science in Pilot Studies 1 Mandatory