

<b>Module Title:</b>	Avionics Fundamentals 2
<b>Language of Instruction:</b>	English
<b>Credits:</b>	10
<b>NFQ Level:</b>	6
<b>Module Delivered In</b>	<a href="#">2 programme(s)</a>
<b>Teaching &amp; Learning Strategies:</b>	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.
<b>Module Aim:</b>	To give students an understanding of the principles of avionic circuits. To develop the student's ability to analyse the behaviour of avionic circuits.
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner should be able to:</i>	
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.
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b> <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

## Module Content & Assessment

Indicative Content
<b>Generation of Electricity</b> Production of electricity.
<b>Magnetism</b> Theory of magnetism.
<b>DC Motor</b> Basic motor theory.
<b>Inductance/Inductor</b> Induction principles.
<b>Transformers</b> Transformer construction principles and operation.
<b>RLC Circuits</b> Phasor analysis of RLC circuits.
<b>Filters</b> Operation, application and uses of filters.
<b>Transistors</b> Transistor characteristics, properties and applications.
<b>Integrated Circuits</b> 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
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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
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SETU Carlow Campus reserves the right to alter the nature and timings of assessment

**Module Workload**

<b>Workload: Full Time</b>		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
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	<a href="#">Bachelor of Engineering (Honours) in Aerospace Engineering</a>	2	Mandatory
CW_EEACS_D	<a href="#">Bachelor of Engineering in Aircraft Systems</a>	2	Mandatory