

Title:	Industrial Electronics 2 APPROVED
Long Title:	Industrial Electronics 2
Module Code:	ELEC6025
Credits:	5
NFQ Level:	Fundamental
Field of Study:	Electrical Engineering
Valid From:	Semester 1 - 2014/15 (September 2014)
Module Delivered in	3 programme(s)
Module Coordinator:	JOSEPH CONNELL
Module Author:	
Module Description:	This module with provide the students with the ability to test, make measurements, and evaluate electronic circuits
Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Apply transistor to various switching circuits and calculate circuit values
LO2	Use logic gates in combinational logic circuits such as; half-adder, full adder, bit compare circuits.
LO3	Simulate, build and test circuits.
LO4	Analyse circuits and write technical reports.
Pre-requisite learning	
Module Recommendations	
<i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named CIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i>	
No recommendations listed	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.</i>	
No requirements listed	
Co-requisites	
No Co Requisites listed	

Module Content & Assessment

Indicative Content

Transistors

Theory of operation, circuit polarities for PNP and NPN types and biasing methods. Applications of transistors in switching circuits.

Logic Gates

Introduction to basic logic gates, ANSI/IEEE standard circuit symbols. Design of basic logic circuits.

Laboratory Programme

Simulate, construct and test various circuits

Assessment Breakdown		%
Course Work		30.00%
End of Module Formal Examination		70.00%

Course Work

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Practical application of theory in labs.	1,2,3,4	30.0	Every Week

End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	End-of-Semester Final Examination	1,2	70.0	End-of-Semester

Reassessment Requirement

Repeat examination

Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.

The institute reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Industrial Electronics Theory	2.0	Every Week	2.00
Lab	Circuit analysis and verification	2.0	Every Week	2.00
Independent & Directed Learning (Non-contact)	Revision of theory, preparation for and processing of practicals	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

This module has no Part Time workload.

Module Resources
<i>Recommended Book Resources</i>
<ul style="list-style-type: none"> • Thomas L. Floyd 2013, <i>Electronic Devices</i>, 13 Ed., Pearson [ISBN: 13-978-1292025643] • Thomas L Floyd 2013, <i>Digital Fundamentals</i>, 10 Ed., Pearson [ISBN: 978-1292025629]
<i>This module does not have any article/paper resources</i>
<i>This module does not have any other resources</i>

Module Delivered in			
Programme Code	Programme	Semester	Delivery
CR_EEPSY_8	<u>Bachelor of Engineering (Honours) in Electrical Engineering</u>	2	Mandatory
CR_EELEC_7	<u>Bachelor of Engineering in Electrical Engineering</u>	2	Mandatory
CR_EELEC_6	<u>Higher Certificate in Engineering in Electrical Engineering</u>	2	Mandatory