

Full Title:	Electrical Engineering
Language of Instruction:	English
Module Code:	ELEC E7006
Credits:	10
Valid From:	Semester 1 - 2014/15 (September 2014)
Module Delivered in	3 programme(s)
Module Description:	Electrical Engineering provides the fundamental structures for the study and implementation of electrical theory.
Learning Outcomes:	
<i>On successful completion of this module the learner should be able to</i>	
<ol style="list-style-type: none"> 1. Employ analysis techniques to examine & predict the behaviour of single and three phase systems. 2. Calculate transformer parameters for single phase and three phase applications. 3. Recognise the attributes of power transmission systems and interpret power flow and fault conditions. 4. Demonstrate an ability to interpret power distribution systems from point of supply to final circuit application. 5. Assimilate the principles of redundancy, back up systems, power factor and harmonics. 	

Module Content & Assessment

Indicative Content
Fundamentals Review SI Units, Phasors, Matrices
Electrical Theory Three Phase Electrical Theory, Active, Reactive and Apparent Power
Transformers Single Phase and Three phase transformer models
Electrical Transmission systems Transmission lines / Power Flow / Faults (balanced and unbalanced)
Distribution Substation Equipment and configuration / Medium Voltage Systems
Power Factor and Harmonics Harmonic Analysis and power factor correction theory
Reliability Reliability of Electrical and Electronic Equipment
Uninterrupted power Systems Back up systems

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

Full Time

Course Work							
Assessment Type	Assessment Description	Outcome addressed	% of total	Marks Out Of	Pass Marks	Assessment Date	Duration
Class Test	Mid semester class test.	1	5.00	0	0	n/a	0
Continuous Assessment	Series of practical laboratory experiments and simulation exercises designed to reinforce the theories explored in lectures.	1,2	20.00	0	0	n/a	0
Class Test	End of semester Class Examination incorporating an assessment of all content to the end of semester 5.	1,2	25.00	0	0	n/a	0
Class Test	Mid semester class test	3,4	5.00	0	0	n/a	0
Presentation	Presentation of student researched project on an aspect of electrical engineering.	1,2,3,4,5	5.00	0	0	n/a	0
Continuous Assessment	Series of practical laboratory experiments and simulation exercises designed to reinforce the theories explored in lectures.	3,4,5	10.00	0	0	n/a	0

No Project

No Practical

End of Module Formal Examination							
Assessment Type	Assessment Description	Outcome addressed	% of total	Marks Out Of	Pass Marks	Assessment Date	Duration
Formal Exam	n/a	1,2,3,4,5	30.00	100	0	End-of-Semester	0

Reassessment Requirement							
<p>A repeat examination <i>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.</i></p>							

DKIT reserves the right to alter the nature and timings of assessment

Module Workload & Resources

Workload: Full Time

Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Lecture	No Description	3.00	Every Week	3.00
Practical	No Description	2.00	Every Second Week	1.00
Directed Reading	No Description	2.00	Every Week	2.00
Independent Study	No Description	2.00	Every Week	2.00
Total Weekly Learner Workload				8.00
Total Weekly Contact Hours				4.00

This course has no Part Time workload.

Resources

This module does not have any book resources

This module does not have any article/paper resources

This module does not have any other resources

Module Delivered in

Programme Code	Programme	Semester	Delivery
DK_EELEG_8	Bachelor of Engineering (Honours) in Electrical and Electronic Engineering	5	Mandatory
DK_EELES_7	Bachelor of Engineering in Electrical and Electronic Systems	5	Group Elective 2
DK_EELES_7	Bachelor of Engineering in Electrical and Electronic Systems	5	Group Elective 3