

<b>Full Title:</b>	Electrical Fundamentals
<b>Language of Instruction:</b>	English
<b>Module Code:</b>	EENG E7001
<b>Credits:</b>	5
<b>Valid From:</b>	Semester 1 - 2014/15 ( September 2014 )
<b>Module Delivered in</b>	<a href="#">1 programme(s)</a>
<b>Module Description:</b>	The aims of this module are to introduce the vocabulary, terminology, symbols and notation relating to DC circuits. To enable the student to apply the basic laws and theorems applied to DC circuits. And to be able to recognise, select, apply, test and measure basic DC circuits.
<b>Learning Outcomes:</b>	
<i>On successful completion of this module the learner should be able to</i>	
<ol style="list-style-type: none"> <li>1. Recognise basic electrical science definitions and principles.</li> <li>2. Identify series, parallel and series-parallel dc circuits.</li> <li>3. Apply basic circuit and component laws to dc circuits.</li> <li>4. Analyse and test dc circuits.</li> </ol>	

**Module Content & Assessment**

<b>Indicative Content</b>
<b>Components, Quantities, and units</b> Electrical components, instruments and units, scientific and Engineering Notations
<b>Voltage, Current and Resistance</b> Atomic Structure, Voltage, Current, Resistance
<b>Ohm's law, Energy and Power</b> Ohm's Law, Energy and Power
<b>Series Circuits</b> Kirchhoff's Voltage Law, voltage dividers, trouble shooting, total series resistance
<b>Parallel Circuits</b> Kirchhoff's Current Law, current dividers, trouble shooting, total parallel resistance
<b>Series-parallel Circuits</b> Identifying series-parallel relationships, loaded potential divider, Wheatstone bridge, maximum power transfer theorem, superposition theorem, Thevenin's theorem, trouble shooting
<b>Capacitors</b> Basic capacitor, types of capacitor, series capacitors, parallel capacitors, capacitors in DC circuits
<b>Inductors</b> Basic inductors, types of inductors, series inductors, parallel inductors, inductors in DC circuits

<b>Assessment Breakdown</b>	<b>%</b>
Course Work	50.00%
End of Module Formal Examination	50.00%

**Full Time**

<b>Course Work</b>							
<i>Assessment Type</i>	<i>Assessment Description</i>	<i>Outcome addressed</i>	<i>% of total</i>	<i>Marks Out Of</i>	<i>Pass Marks</i>	<i>Assessment Date</i>	<i>Duration</i>
Other	Online Quizzes.	1,2,3,4	30.00	0	0	Every Week	0
Class Test	A written examination will be given half way through the semester. It will test the students understanding of the content covered in the first half of the semester and give them an appreciation of the level of understanding needed for the main exam at the end of the semester.	1,2,3,4	10.00	0	0	Week 6	60
Class Test	A written examination will be given near the end of the semester. It will test the students understanding of the content covered in the second half of the semester and give them an appreciation of the level of understanding needed for the main exam at the end of the semester.	1,2,3,4	10.00	0	0	Week 12	60

No Project

No Practical

<b>End of Module Formal Examination</b>							
<i>Assessment Type</i>	<i>Assessment Description</i>	<i>Outcome addressed</i>	<i>% of total</i>	<i>Marks Out Of</i>	<i>Pass Marks</i>	<i>Assessment Date</i>	<i>Duration</i>
Formal Exam	Students are examined on content covered in the semester.	1,2,3,4	50.00	0	0	End-of-Semester	0

<b>Reassessment Requirement</b>
<p><b>A repeat examination</b>  <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
Tutorial	No Description	1.00	Every 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**

*Recommended Book Resources*

**Floyd, Thomas L., *Electronics fundamentals : circuits, devices and applications* [ISBN: 9780135096833]**

*This module does not have any article/paper resources*

*Other Resources*

**Website: Moodle**

**Module Delivered in**

Programme Code	Programme	Semester	Delivery
DK_EELES_7	<a href="#">Bachelor of Engineering in Electrical and Electronic Systems</a>	1	Mandatory