

## Flow up the implementation of course syllabus

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<b>Title</b>	Electrical Machines			
<b>Course Objective</b>	The aim of this subject is to make students able to understand the theory and operation of electric machines and the properties of electric and magnetic materials used in their construction, also to apply these ideas to the operation and applications of dc machines and transformers.			
<b>Textbook</b>	‘A Text Book of Electrical Technology-Volume II (AC & DC Machines)’ by B.L Theraja –subsequent edition 2002.			
<b>References</b>	1. Electric machinery / A. E. Fitzgerald, Charles Kingsley, Jr., Stephen D. Umans. 2003 - 6th edition. 2. Principles of electric machines and power electronics / Dr. P.C. Sen, Fellow IEEE. 2014- Third edition.			
<b>Course Assessment</b>	First Term	2 <sup>nd</sup> Term	Project	Final Exam
	20 %	20 %	----	60 %
<b>General Notes</b>				

## Course Weekly Outline

week	Date	Topics Covered	Notes
1	3/10/2015	Introduction, Magnetic Circuits	
2	10/10/2015	Magnetic Circuits	
3	17/10/2015	Basic structure of electric machines	
4	24/10/2015	Classification of DC Machines, Problems with commutation in real machines	
5	31/10/2015	Power Flow And Losses In Dc Machines	
6	7/11/2015	Dc Generators Separately excited generator type	
7	14/11/2015	Dc Generators shunt dc generator type	
8	21/11/2015	Dc Generators Series and compound dc generator types	
9	28/11/2015	Dc Generators Voltage control of dc generators	
10	5/12/2015	Dc Motors Separately excited motor type	
11	12/12/2015	Dc Motors shunt dc motor type	
12	19/12/2015	Dc Motors Series and compound dc motor types	
13	26/12/2015	Dc Motors The permanent-magnet dc motor	
14	2/1/2016	Dc Motors speed control of dc motors	
15	9/1/2016	Dc Motors dc motor starters	
<b>Half-Year Break</b>			
16	20/2/2016	Electrical Transformer Introduction, Types And Construction Of Transformers	
17	27/2/2016	Electrical Transformer Comparison Of Core & Shell Type Transformers, Analysis of Circuits Containing Ideal Transformers	
18	6/3/2016	Electrical Transformer Elementary Theory of an Ideal Transformer	
19	13/3/2016	Electrical Transformer	

		Exact equivalent circuit of a transformer	
<b>20</b>	<b>20/3/2016</b>	Electrical Transformer Approximate equivalent circuit of a transformer	
<b>21</b>	<b>27/3/2016</b>	Electrical Transformer Determination Of Equivalent Circuit Parameters	
<b>22</b>	<b>3/4/2016</b>	Electrical Transformer The open-circuit test and The short-circuit test	
<b>23</b>	<b>10/4/2016</b>	Electrical Transformer The Per-Unit System of Measurements	
<b>24</b>	<b>17/4/2016</b>	Electrical Transformer Transformer Voltage Regulation and efficiency	
<b>25</b>	<b>24/4/2016</b>	Electrical Transformer The Transformer Phasor Diagram	
<b>26</b>	<b>1/5/2016</b>	Electrical Transformer The Autotransformer	
<b>27</b>	<b>8/5/2016</b>	Electrical Transformer Variable-voltage autotransformers	
<b>28</b>	<b>15/5/2016</b>	Electrical Transformer Three phase transformers	
<b>29</b>	<b>22/5/2016</b>	Electrical Transformer Connections of three phase transformers	
<b>30</b>	<b>29/5/2016</b>	Electrical Transformer Parallel connection of transformers	

Instructor Signature:

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