EE2005 TEACHING PLAN FOR SEMESTER 2 AY21/22

Acad Unit: 3

Pre-requisite: EE2001 Circuit Analysis

Course Grade: Letter grade

GUIDE TO WEEKLY CLASS SCHEDULE

Week	Lectures	Activities/Tutorials	Action by students before attending the tutorial class
1	Magnetic fields. Magnetic materials and magnetization curves. Magnetic equivalent circuits.	A face-to-face briefing by the tutors on the online lectures, learning outcomes, continuous assessments, laboratory assessments and final examination will be conducted in week 1 in the respective tutorial groups. The tutorials proper will commence in week 2.	
2	Electromagnetic induction. Sinusoidal excitation. Magnetic losses.	Tutorial 1: Magnetization curves and Magnetic circuits.	View Lectures 1 and 2
3	Electromechanical energy conversion. Solenoids, relays and inductors.	Tutorial 2: Magnetic circuits and electromagnetic induction	View Lectures 3, 4 and 5
4	Ideal transformer. Practical Transformer. Equivalent circuits.	Tutorial 3: Electromechanical energy conversion	View Lecture 6
5	Voltage regulation and efficiency. Determination of parameters.	Tutorial 4: Transformer fundamentals and equivalent circuits	View Lectures 7, 8 and 9
6	Autotransformers. Three-phase transformers	Tutorial 5: Transformer efficiency and testing	View Lectures 10 and 11
7	Three-phase transformers. Introduction to principles of AC Machines	Tutorial 6: Autotransformer and three-phase transformers	Lectures 12 and 13
Recess			
8	AC machines	Tutorial 7: Three- phase transformers	View Lecture 13

9	AC machines	Tutorial 8: AC Machines	View LPH's Lectures 1, 2 and 3
10	AC Machines/Introduction to principles of DC Machines	Tutorial 9: AC Machines	View LPH's Lectures 4 and 5
11	DC Machines	Tutorial 10: AC Machines	Tutorial is a revision. View LPH's Lectures 1- 5
12	DC Machines	Tutorial 11: DC Machines	View LPH's Lectures 6, 7, 8 and 9
13	DC Machines	Tutorial 12: DC Machines	View LPH's Lectures 10 and 11

EE3010 ASSESSMENT SCHEDULE

Type	Description	Date
CA – Online Quiz #1 (10%) - Prof John Chan	Scope: On the materials covered from Lecture 1 to Lecture 5 of topic I - Electromagnetic Principles and Actuators. (Lecture 6 on Electromechanical Energy Conversion will not be tested in the quiz) Duration of quiz - 35 mins	**FT students:** Week 6, 16 FEB 2022 WED, 5:30 to 6:05 pm Venue: Designated labs. To be confirmed later.
CA - Online HW assignment (10%) - Prof John Chan	Scope: On single phase transformers only. Homework online assignment - 1 hour duration, i.e., the assignment is to be completed in one hour.	**FT students:** Will be held in Week 8. The system will be open from 7 MAR 2022 MON 8:00 am to 13 MAR 2022 SUN, 11:00 pm.
CA - Online Quiz #2 (10%) -Prof Lee P H	Scope: ONLY on AC machines. DC machines will not be tested in Quiz No 2. Duration of quiz - 35 mins	**FT students:** Week 12, 6 APR 2022 WED, 5:30 to 6:05 pm Venue: Designated labs. To be confirmed later.

CA – Laboratory #1 (5%)	Testing and Operation of a Transformer Venue: S2-B5c-07 For FT students, they will be performing the experiment in Wk 6 as per assigned groups.	14 Feb 2022 to 25 Feb 2022
CA – Laboratory #2 (5%)	Operation and Speed Control of Induction Motors Venue: S2-B5c-07 For FT students, they will be performing the experiment in Wk 12 as per assigned groups.	4 Apr 2022 to 15 Apr 2022
Final Exam (60%)		

Should there be any changes to the above schedule due to unforeseen circumstances, the students will be informed. Further information on the online quizzes and online assignment will be given later.