Hashemite University
College of Engineering
Department of Electrical Engineering
EE 361- Electric Machines I (3 Credit Hours/Dept. Compulsory)

Instructor

Email:	*Wafaa.al-sharo3@hu.edu.jo*
Office:	
Office hours:	

Grading info

Mid	40%
Quiz/Att	20%
Final	40%

Class Info

Days	
Time	
Location	

Course

Course Number:	110409361
Prerequisite:	Electromagnetic (Amperes Law/ Magnetic Field)
Textbook:	**Electric Machinery Fundamentals**, by Chapman, 4th edition, McGraw Hill, 2005.
Course Description:	The course provides the students foundation knowledge of the magnetic fields and magnetic circuits. The construction and principle of operation of different types of transformers are investigated. It also outlines different types of DC and AC machines, their construction, classification and performance characteristics under different loading conditions.
Specific Outcomes of Instruction (Course Learning Outcomes):	1) Analyze magnetic circuits. (a) 2) Describe construction and applications of different types of transformers. (e) 3) Analyze terminal characteristics of transformers. (a,j) 4) Describe construction and applications of different types of DC and AC machines (Synchronous Generator and Three-Phase Induction Motor). (e) 5) Analyze terminal characteristics of of different types of DC and AC at different loading conditions. (a,j)
Important material	- Lecture notes - References - Internet resources

References:

- Nagrath I. J and Kothari D. P. 'Electric Machines', Fourth Edition, Tata McGraw Hill Publishing Company Ltd, 2010.
- M.N.Bandyopadhyay, Electrical Machines Theory and Practice, PHI Learning PVT LTD., New Delhi, 2009.

Major Topics Covered and Schedule in Weeks:

Topic	# Weeks	# Contact hours*
Magnetic Fields and Magnetic Circuits.	2	6
Transformers.	3	9
Fundamentals of DC Machines.	2	6
DC Machines.	2	6
Fundamentals of AC Machines.	2	6
Synchronous Generator.	1	3
Three Phase Induction Motor.	3	9
Total	**15**	**45**

Course Policy

- If you miss class, there won't be a makeup test, quiz, etc. and you WILL get a zero unless you have a valid excuse.
- Cheating and plagiarism are completely prohibited.
- If you miss more than 15% of classes you will automatically fail the class.

Student Outcomes (SO) Addressed by the Course:

#	*Outcome Description*	*Contribution*
	General Engineering Student Outcomes	
(a)	An ability to apply knowledge of mathematics, science, and engineering	***H***
(b)	An ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d)	An ability to function on multidisciplinary teams	
(e)	An ability to identify, formulate, and solve engineering problems	***H***
(f)	An understanding of professional and ethical responsibility	
(g)	An ability to communicate effectively	
(h)	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	A knowledge of contemporary issues	***M***
(k)	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	

H=High, **M**= Medium, **L**=Low