The Hashemite University
Faculty of Science
Department of Physics

Department: Physics	
Year: 2012/2013	**Semester:** Summer

Course Information	
Course Title	Electromagnetism (1)
Course Number	2102331
Course Credits	Three credit hours
Prerequisite	Physics 0102381 and 0101403.
Course Duration	8-weeks
Instructor(s)	**Dr. Ghassan Alnawashi**
Course Time	Sun,Mon, Tue, wed, Thu 11:30-12:30
Office Location	Phys/room # 106
Office Hours	Sun - Thu 1:40-2:40

Textbook	
Title	***Introduction to Electrodynamics***
Authors	*David J. Griffiths*
Publisher	Thomson, BROOKS/COLE, *Prentice Hall.*
Edition	*3rd Edition.*

References

(1) Foundations of electromagnetic theory by John R. REITZ, Frederick J. Milford and Robe W. Christy. 4th Edition
(2) Electricity and Magnetism by M.H. Nayfeh and M.K. Brussel
(3) Marshal, DuBroff & Skitek, Electromagnetic Concepts and Applications, 4th Edition. Prentice Hall, New Jersey, 1996.
(4) Lorrain, Corson & Lorrain, Electromagnetic Fields and Waves, 3rd Edition. W.H. Freeman and Company, New York, 1988.
(5) Pollack & Stump, Electromagnetism. Addison Wesley, New York, 2002.
(6) Tewari, Electricity and Magnetism with Electronics, S. Chand & Company LTD. New Delhi, 1995.

Course Description

This course provides a systematic study of electromagnetic force, one of the four fundamental forces in nature, in regards to how electric and magnetic fields behave and interact in vacuum and in various mediums. After finishing this course, the students are expected to have a good understanding of the basic principles of electricity and magnetism, and obtain some basic problem solving skills. These include:

- Learn to calculate electric fields for various types of static charge distributions
- Learn properties of electric fields in matter
- Learn to calculate magnetic fields for various steady current configurations
- Learn properties of magnetic fields in matter
- Learn the significance of each of Maxwell's equations

Course Contents

Week #	Chapter	Description
1	1	Vector Analysis
3	2	Electrostatics 2.1-2.5
3	3	Special Techniques 3.1-3.4
3	4	Electrostatic Fields in Matter 4.1-4.4
3	5	Magnetostatics 5.1-5.4

Student Responsibility:

Attendance: Attendance is checked every class period. You are responsible for determining the contents and extent of any class work made during any period of absence.

Exams: There will be two midterm and one final exams. The two midterm exams are scheduled on June 25, 2013 and July 7, 2013. The final will be scheduled by registration office later. Students are required to take all the exams. There will be no make-up exams, unless approved by instructor in advance or in case of unforeseeable emergency.

Grades: The final grade will be calculated according to the following weighing:

First Exam	25%
Second Exam	25%
Final Exam	50%