



EELE 3331 - Electromagnetics I
Course Syllabus

Instructor	Dr. Hala J. El-Khozondar Office: N519 Tel.: 2860700 Ext.: 1014 E-mail: hkhonzondar@iugaza.edu Homepage: http://site.iugaza.edu.ps/hkhonzondar/
Course Description	Vector algebra, coordinate system and transformation, vector calculus, electrostatic fields, electric fields in material space, electrostatic boundary-value problems, magnetostatic fields, and magnetic forces, materials and devices
Prerequisite:	MathC 2301 and PhysB 1301
Textbook	Matthew Sadiku "Elements of Electromagnetics", 4ed, 2007
References	<ul style="list-style-type: none">▪ William H. Hayt , "Engineering Electromagnetics", 5th ed., 1989▪ Bhag Singh Guru, Hüseyin R. Hiziroglu, " Electromagnetic Field Theory Fundamentals", 2004.▪ Jack VanderLinde, "Classical Electromagnetic Theory (Fundamental Theories of Physics)", 2005
Topics	Vector algebra, coordinate system and transformation, vector calculus, electrostatic fields, electric fields in material space, electrostatic boundary-value problems, magnetostatic fields, and magnetic forces, materials and devices
Course objectives	<ol style="list-style-type: none">1. To get to know the vector algebra, scalar and vector, components of a vector2. To get to know the coordinate systems and transformation3. To be familiar with the vector calculus, differential length, area, volume, del operator, divergence and curl4. To be familiar with electrostatic fields, Coulomb's law, Gauss's law, electric potential, electric dipole5. To analyze electric fields in material space6. To solve electrostatic boundary-value problems7. To recognize magnetostatic fields, magnetic forces, materials and devices

Course intended learning outcomes	<ul style="list-style-type: none">• To do vectors analysis• To derive the divergence and curl of a vector• To apply Coulomb's and Gauss's laws to electrostatic problems• To solve electrostatic boundary-value problems• To calculate magnetostatic fields and magnetic forces
Assessment	Midterm Exam (35%) Assignments (10%) Quizzes (10%) Final Exam (45%)
Homework Policy	Homework assignments will be given in a regular basis. Each assignment is to be returned within one week. <i>No delay will be accepted except with good excuse.</i>
Office Hours	As posted on the office door, or by appointment.