Global Learning Semesters
Course Syllabus
Course: EENG-230 Electromagnetics I
Department: Engineering
Host Institution: Intercollege, Nicosia, Cyprus

Course Summary		
Course Code	**Course Title**	**Recommended Credit Hours**
EENG-230	Electromagnetics I	3
Semester Offered	**Contact Hours**	**Prerequisites**
Fall	42	EENG-120 Network Analysis I, MATH-270 Signals and Systems, MATH-330 Differential Equations, PHYS-160 General Physics II. Fundamentals of electrical laws, theorems and methods of analysis; analysis of signals and systems with applications; various methods for solving ordinary differential equations; basic concepts and principles of Physics in the area of static electricity and electromagnetism and familiarization with experimentation.
Department	**Level of Course**	**Language of Instruction**
Engineering	Lower Division	English

Course Description

Covers a wide range of topics including an introduction to the concept of electromagnetism, vector calculus, Coulomb's and Gauss's laws, electric potential, dielectrics, boundary conditions, capacitance, energy and force, Poisson's and Lap lace's equations, method of images, Boundary Value Problems (BVP), current density, Ohm's law, EMF, Kirchoff's current and voltage laws, static magnetic fields, vector potential, Biot-Savart law, magnetic dipole, magnetic boundary conditions, inductance, magnetic energy, forces and torques.

Instructor

Dr Anastasis Polycarpou

Course Aims and Objectives

The course seeks to provide an introduction to the fundamentals of electrostatics and magnetostatics.

Teaching Methods

The course is delivered through a mixture of lectures and practical exercises and assignments.

Course Teaching Hours

The course is 42 hours long and is delivered in 14 weeks (3 hours/week)

Evaluation and Grading

Homework:	10%
Test 1:	25%
Test 2:	25%
Final Exam:	40%

Readings and Resources

Required Textbook
D. K. Cheng, Fundamentals of Engineering Electromagnetics, Addison-Wesley, 1993

Recommended Reading
W. H. Hayt, Engineering Electromagnetics, Fifth Edition, McGraw Hill, 1989