University of Arkansas - Fort Smith
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General Syllabus

EET 3703 Electromagnetics

Credit Hours : 3 Lecture Hours: 3 Laboratory Hours: 0

Prerequisites: MATH 2403 Survey of Calculus, PHYS 2823/2831 College Physics II/Lab

Effective Catalog: 2018-2019

I. Course Information

A. Catalog Description

Analysis of transmission lines with sinusoidal and transient excitation. Other topics include: development and use of vector analysis, electrostatics, magnetostatics, and impedance matching.

B. Additional Information - None

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Use vectors in Cartesian, cylindrical, and spherical coordinate systems.
2. Solve electrostatic and magnetostatic problems, in particular the use of Ampere's law, Gauss's Law and Lorentz's Equation.
3. Analyze transmission lines.
4. Analyze and match impedances.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Analytical Skills
Critical Thinking - Students will use concepts of electromagnetics to solve application problems.
Quantitative Reasoning - Students will use their math and physics skills in solving electromagnetic problems.

Global and Cultural Perspectives
Students will study the contributions by various researchers and inventors that moved this field forward in a global environment.

III. Major Course Topics

A. Maxwell's Equation
B. Coordinate Systems
C. Vector Functions
D. Transmission Lines
E. Electrostatics
F. Magnetostatics