Syllabi:

EE3221 ELECTROMAGNETIC FIELD THEORY

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Catalog description:

This course covers: Wave propagation and Vector analysis, Fundamental of Laws and concepts of static and time harmonic electromagnetic fields.

Motivation:

The electrical engineers need to understand and applied the fundamentals principles and laws to design better electronics systems: analog and digital.

Textbook (Required)

Fawwaz T. Ulaby
Pearson Prentice-Hall 2010

Course: Outline:

Module 1  Vector Analysis
Module 2  Electrostatics
Module 3  Magnetostatics
Module 4  Wave propagation and Transmission lines
Module 5  Waveguides

Critical course outcome:

Apply vector calculus to understand statics electric fields
Apply vector calculus to understand statics magnetic fields
Describe and analyze electromagnetic wave propagation in free space
Describe and analyze transmission lines
Project to connect the theory with the real world of and Electrical Engineer
UTEP Backboard:

**UTEP Backboard** is used on the entire course for material presentation, assignment and homework.

**Mandatory attendance:**

We reserve the right to withdraw any student who has more than four unexcused absences.

**Homework:**

Weekly (individual assignment)

**Grading:**

- Exam 1: 15 points + 5 points of weekly homework
- Exam 2: 15 points + 5 points of weekly homework
- Exam 3: 15 points + 5 points of weekly homework
- Exam 4: 15 points + 5 points of weekly homework
- Project: 20 points
- Total: **100 points**

**Final letter grade scale:**

- A: 100-90
- B: 89.9-80
- C: 79.9-70
- D: 699-600
- F: below 600

**Academic integrity and Professional Ethics**

As described on the policy on academic dishonesty: [http://www.utep.edu/dos/acadintg.htm](http://www.utep.edu/dos/acadintg.htm)

And IEEE code ethics: [http://www.ieee.org/about/whatis/code.html](http://www.ieee.org/about/whatis/code.html)