

EE3407: Electromagnetics Laboratory

Update and detailed information is at
http://www.uta.edu/faculty/jcchiao/classes_index.htm

Description (3-3)

EE 3407 ELECTROMAGNETICS (3-3)

Time varying electric and magnetic fields, displacement current, Maxwell's equations and transverse electromagnetic waves; plane waves in an unbounded medium, waves in media with planar interfaces, boundary conditions, reflection and transmission, plane waves in lossless and lossy media; electromagnetic waves in a bounded medium, guided waves, wave guides, propagation modes; transmission lines, circuit models of transmission lines, transmission line equations, reflection at discontinuities, terminations, transient response, steady state waves on transmission lines, open and short circuited lines, power flow, impedance matching and the Smith chart, antennas. Problems and experimental demonstrations will be covered during recitation and laboratory sessions.

Prerequisites:

C or better in both EE 2347 and PHYS 1444. Co-requisite is EE 3446.

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Syllabus

The lab sessions will focus on hands-on experience with several demonstrations and experimental assignments. Students are required to attend the laboratory sessions, complete construction of hardware, conduct the experiments, obtain and analyze measurement data. Students are required to send the lab session reports before deadline for grades. The lab sessions include noise investigation, antenna designs, fiber optics and transmission lines.