

PHYS4610 : Electromagnetics

A vector calculus-based study of the laws of Gauss, Biot-Savart, Ampere and Faraday; application of the equations of Laplace and Poisson to boundary valued problems. Development of Maxwell's equations for electric and magnetic fields. Electromagnetic properties of materials. Wave equation, plane waves and Lorentz force law. Polarization, Poynting's vector, transmission lines, waveguides, and antenna radiation.

Credits 3

Prerequisite Courses

MATH3530

MATH3540

PHYS2120