Course Topics

EEE 643: Advanced Topics in Electromagnetic Radiation

**Prerequisites**: EEE 541, EEE 543 and EEE 641 (both recommended)

**Catalog Course Description:** High-frequency asymptotic techniques, geometrical and physical theories of diffraction (GTD and PTD), moment method (MM), radar cross section (RCS) prediction, Fourier transforms in radiation, and synthesis methods.

**Course Topics:**

* Integral Equations (IE) and the Method of Moments (MoM)
* Scattering from a PEC wedge; modal solution.
* Image theory
* Diffraction
* Geometrical Theory of Diffraction (GTD)
* Uniform Theory of Diffraction (UTD)
* Wedge diffraction with impedance surfaces

* Curved surface diffraction
* Physical Optics (PO)
* Physical Theory of Diffraction (PTD)