

## EEE.9-2.2 Wireless Propagation

Course contents: \* Introduction to the Course - Overview of Basic Concepts. Planar Wave - Polarization - Antenna fundamentals. \* Fundamental Propagation Mechanisms. Free Space propagation, Reflection, Refraction / Transmission from flat surfaces. \* Fundamental Propagation Mechanisms: Reflection - Multilayer Transmission structures, Scattering from rough surfaces. \* Fundamental Propagation Mechanisms. Diffraction from slots, edges, angles. \* Shading Phenomena and Losses. \* Multipath Propagation and Narrowband Channels Fading). \* Wideband Fading. \* Smooth Atmospheric Refraction and line of sight (LOS) Criteria. \* Attenuation from Rain and Atmospheric Gases. \* Propagation Phenomena and Fixed line of sight links design Principles. \* Propagation Phenomena and Design Principles of Cellular coverage for mobile Communications. \* Propagation Phenomena and Wireless Communications-Networks Transmission and Receiving Technologies.