



ECE 5320 Antennas and Wave Propagation

Modified: June 30, 2024

3 Credits, 3 Contact hours

Text: Antennas and Wave Propagation, 5e, J.D. Kraus and R.J. Marhefka

Other materials:

Description: Behavior of radiated electromagnetic waves in atmosphere, space, urban and indoor environments; path, frequency and antenna selection for practical communication systems; propagation prediction.

Pre-requisite(s): ECE 3310.

Educational Objectives:

- Understand antenna fundamentals and definitions
- Apply Biot-Savart's and Ampere's equations to magnetostatic problems
- Apply Maxwell's equations to time-varying fields
- Apply plane-wave reflection and transmission principles.
- Apply transmission line theory
- Apply the Smith chart

Topics:

- Antenna Fundamentals and Definitions
- Radiating Systems and Antenna Practice
- Array Theory
- Resonant Antennas: Wires and Patches
- Broadband Antennas
- Aperture Antennas
- Antennas in Systems
- Antenna Measurements

University Policies:

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