



# Wireless Propagation and Remote Sensing

## ECE 5010

**Credit Hours:**

3.00

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**Course Levels:**

Undergraduate (1000-5000 level)

Graduate (5000-8000 level)

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**Course Components:**

Lecture

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**Course Description:**

Practical methods for predicting tropospheric, groundwave, and ionospheric propagation, including refraction, reflection, and extinction effects. Study of remote sensing systems and their applications.

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**Prerequisites and Co-requisites:**

Prereq: 3010, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences.

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**Course Goals / Objectives:**

- Master analytical and empirical methods for predicting the propagation of electromagnetic waves over a wide range of frequencies
  - Be competent in basic remote sensing concepts
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**Course Topics:**

- Review of electrodynamics
  - Direct transmission and satellite communications
  - Propagation through reflection and refraction
  - Propagation over irregular terrain
  - Groundwave propagation
  - Ionospheric effects on propagation
  - Remote sensing systems and applications
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**Designation:**

Elective