



Microwave Remote Sensing

ECE 7814

Credit Hours:

3.00 - 3.00

Course Levels:

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Description of microwave remote sensing systems. Theories of scattering from random media and rough surfaces.

Prerequisites and Co-requisites:

Prereq: 6010.

Course Goals / Objectives:

- Gain experience in applying and understanding the limitations of random medium theory in remote sensing, propagation, and radar applications
 - Learn about microwave remote sensing systems and techniques
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Course Topics:

- Description of microwave remote sensing systems
 - General capabilities of radar remote sensing
 - General capabilities of microwave radiometry
 - Independent scattering theory
 - Scattering from continuous random media
 - Radiative transfer theory and applications
 - Small perturbation method for surface scattering
 - Physical optics approximation of surface scattering
 - Applications to remote sensing of sea and land surfaces and planetary atmospheres
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Designation:

Elective