

14:332:481 – Electromagnetic Waves

16:332:580 – Electric Waves and Radiation

Rutgers University, Department of Electrical and Computer Engineering

Fall 2023

Lectures: Tuesday/Friday 8:30 AM - 9:50 AM, EE-203

Introduction to static boundary value problems, dielectrics, wave equations, propagation in lossless and lossy media, boundary problems, waveguides and resonators, radiation fields, antenna patterns and parameters, transmit-receive systems, antennas and arrays.

Instructor:

Chung-Tse Michael Wu

Room 232, Electrical Engineering

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Office Hour: By Appointment

Learning Objectives:

1. Understand basic concepts of Maxwell's Equations.
2. Understand and analyze plane waves and EM wave propagation characteristics.
3. Understand and analyze waveguide, transmission lines and microwave resonators.
4. Understand and analyze antennas and arrays.
5. Understand basic principles of communication systems and radar.

Textbook: Fawwaz T. Ulaby *Fundamentals of Applied Electromagnetics 8th edition*

Other useful references:

Pozar, David M. *Microwave engineering*. John Wiley & Sons, 4th edition.

Grading Policy:

The final numerical grade will be determined according to the following percentages:

5 Homeworks: 25%

1 Quiz: 10%

1 Midterm: 30%

1 Final: 35%

No late homework will be accepted, unless for true emergency reasons (illness, etc.), and in these cases you must present supporting documentation (from a doctor, dean, etc.).

The final letter grade will be derived from the final numerical grade.
Grading scale (subject to change)

A	90-100
B+	85-89
B	75-84
C+	70-74
C	60-69
D	50-59
F	0-49

No makeup exams will be given, so please email me within the first week of classes if you have a conflict on the dates given in the course calendar.