



Electromagnetic Fields and Waves
ECE 360 – in-class and on-line sections
Spring 2018 – Updated 12/17/17
Course Outline and Syllabus

- Lectures:** Tu Th 5:30-6:45 PM
Woodward-149 – Sec 002 students are welcome to attend the lectures if they wish; otherwise, the recordings will be posted under [Mediasite Recordings](#) at the bottom of the Learn.unm.edu website for this course and available to all students.
- Instructor:** Professor Edl Schamiloglu
Office: 323C ECE Building; Phone: 505-277-4423; Centennial Engineering Suite 3071; Phone: 505-277-6095
e-mail: edls@unm.edu
- Office Hours:** M W 9:00-10:00 AM and by appointment [since I assumed the position of Associate Dean for Research for the School of Engineering I will likely not be able to reliably be in my office for office hours. If you would like to speak with me regarding the course I recommend emailing me so that we can arrange for a time to meet.]
- Prerequisites:** ECE 213, PHYC 161; MATH 264
- Textbook:** 7th Edition of Sadiku, *Elements of Electromagnetics* (this textbook will become available 01/02/2018). We will cover Chapters 9-13 after quickly reviewing Chapters 1-8. Supplemental material will also be provided.
- Course Website:** <http://learn.unm.edu>. You will need your UNM NET ID to access this page if you are registered for the course.
- Course Objectives:** This course is a prerequisite to all higher-level courses in Applied Electromagnetics. We will cover Maxwell's equations, plane wave propagation, waveguides and transmission lines, transient pulse propagation, and dipole antenna.
- Grading:** Problem sets [every two weeks, to be scanned and uploaded to learn.unm.edu 's assignment tool] (30%), two exams (30%) and a final exam (40%).



Lecture Schedule

<u>Week#</u>	<u>Day</u>	<u>Date</u>	<u>Topic</u>	<u>Text Chapter/Ref.</u>
1	Tu	16 Jan	Brief intro and Review	Chapters 1-8
	Th	18 Jan	Brief intro and Review	Chapters 1-8
2	Tu	23 Jan	Maxwell's Equations	Chapter 9
	Th	25 Jan	Maxwell's Equations	Chapter 9
3	Tu	30 Jan	Maxwell's Equations	Chapter 9
	Th	01 Feb	Maxwell's Equations	Chapter 9-Chapter 10
4	Tu	06 Feb	Electromagnetic Wave Propagation	Chapter 10
	Th	08 Feb	Electromagnetic Wave Propagation	Chapter 10
5	Tu	13 Feb	Electromagnetic Wave Propagation	Chapter 10
	Th	15 Feb	Electromagnetic Wave Propagation	Chapter 10
6	Tu	20 Feb	Electromagnetic Wave Propagation	Chapter 10
	Th	22 Feb	Transmission Lines	Chapter 11
7	Tu	27 Feb	Transmission Lines	Chapter 11
	Th	01 Mar	Transmission Lines	Chapter 11
8	Tu	06 Mar	Transmission Lines	Chapter 11
	Th	08 Mar	Exam #1	

Spring Break March 11-18

9	Tu	20 Mar	Metamaterials	Chapter 11
	Th	22 Mar	Waveguides	Chapter 12
10	Tu	27 Mar	Waveguides	Chapter 12
	Th	29 Mar	Waveguides	Chapter 12
11	Tu	03 Apr	Waveguides	Chapter 12
	Th	05 Apr	Waveguides	Chapter 12
12	Tu	10 Apr	Exam #2	
	Th	12 Apr	Antennas	Chapter 13
13	Tu	17 Apr	Antennas	Chapter 13
	Th	19 Apr	Antennas	Chapter 13
14	Tu	24 Apr	Antennas	Chapter 13
	Th	26 Apr	Antennas	Chapter 13
15	Tu	01 May	Review for Final Exam – I	
	Th	03 May	Review for Final Exam – II	

NOTE: I will miss a few lectures due to program reviews, travel, etc. I will provide an updated list of those dates as they become available. There will either be a guest lecturer or I will provide material for students to work on *in lieu* of class. Dr. Ahmed Elfrgani (UNM Research Assistant Professor) will be the guest lecturer for most of the classes I will miss.