

EE518

Advanced Electromagnetic Theory I

Spring 2005

Location: Lectures: SLOAN 9, MWF @ 3:10 a.m ,

Credits: 3

Instructor:

Dr. Mohamed A Osman

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Office hours : MWF : 9:00 – 10:00, or by appointment

Teaching Assistant:

Name: Taikun Cheng

office hours:

Office:

Phone: 335-

e-mail:

Text Book:

1. C. Balanis, “*Advanced Engineering Electromagnetics*,” Wiley, New York, 1989. (Required)

Grading:

Homework	30%
One midterm exam.	35%
Final [Mandatory & Comprehensive]	35%
	100%

Exam. Policies: The following restrictions will apply to all exams.

1. Make-up exams will be given only if the instructor provides verbal approval before the regular exam is administered. Leaving the instructor voice messages or sending e-mails do not constitute approval for make-up exam. It is very important that you make note of this policy.
2. Any discussion of the graded exams. will be done at a later time in my office provided you return your exam. Please do not place any additional notations or marks on the exam. To avoid such event, you will be asked to clear your desks when exams are returned. This procedure for returning the exams is considered an integral part of administering the exam. Consistent with other instructors, I reserve the right to reduce an exam score if it becomes apparent during your office visit that too much partial credit was given on the student’s exam.
3. Cheating in any form will result in automatic failure of the course and further actions by the School of EECS and WSU.

Homework Policies:

“No late homework accepted”

- Weekly homework assignments are designed to prepare you for the exams and applying the concepts discussed in lectures.
- Turn in your own work for homework assignments. Do not copy your colleague’s homework solutions. The TA will be instructed to give students zero points for any problem that has been copied (regardless of “who did the work”). This policy is not meant to discourage studying together, but to ensure that the homework score provides a measure of the effort the student expends on the homework assignment.
- Homework sets will carry equal weight. The lowest grade will be dropped.

Reasonable accommodations are available for students who have a documented disability. Please notify instructor during the first week of class of any accommodations needed for the course. Late notifications may not guarantee the accommodations due to unavailability. All accommodations must be approved through the Disability Resource Center in Administration Annex room 205, 335-1566, e-mail: drc@mail.wsu.edu in Pullman.

Week	Date	Lecture	Topic	Pages	Chapter
1	1/10	1	Maxwell's Equations & Wave equation	1-32	1
	1/12	2	Maxwell's Equations		1
	1/14	3	Maxwell's Equations		2
2	1/17		No classes (Martin Luther King Day)		
	1/19	4	Electrical Properties of Matter	42-85	2
	1/21	5	Electrical Properties of Matter		2
3	1/24	6	Solution to the Wave equation.	104-126	3
	1/26	7	Solution to the Wave equation.	104-126	3
	1/28	8	Waves Propagation and Polarization	129-173	4
4	1/31	9	Waves Propagation and Polarization		4
	2/2	10	Reflection and Transmission	180-236	5
	2/4	11	Reflection and Transmission		5
5	2/7	12	Reflection and Transmission		5
	2/9	13	Vector potentials A and F	254-261	6
	2/11	14	Solutions using A and F	261-276	6
6	2/14	15	Solutions using A and F	261-276	6
	2/16	16	Wave equation: Far-field radiation	276-282	6
	2/18	17	Radiation and Scattering	282-291	6
7	2/21		No Classes (President's Day)		13
	2/23	18	Duality and Uniqueness		7
	2/25	19	Image Theory		7
8	2/28	20	Reciprocity and Reaction Theorem		7
	3/2	21	Equivalence Theorems		7
	3/4	22	Equivalence Theorems		7
9	3/7	23	(Exam 1)		
	3/9	24	Wave guides		8
	3/11	25	Wave guides		8
10	3/14		No Classes (Spring Break)		
	3/16				
	3/18				
11	3/21	26	Wave guides		8
	3/23	27	Dielectric waveguides		8
	3/25	28	Dielectric waveguides		8
13	3/28	29	Striplines and microstrips		8
	3/30	30	Microstrips and other waveguides		8
	4/1	31	Circular waveguides		9
14	4/4	32	Circular waveguides		9
	4/6	33	Dielectric guides and resonators		9
	4/8	34	Dielectric guides and resonators		9
15	4/11	35	Line sources	570-577	11
	4/13	36	Scattering from Planar surfaces		11
	4/15	37	Planewave expansions		11
16	4/18	38	Scattering from Cylinders	602-634	11
	4/20	39	Scattering from Cylinders		11
	4/22	40	Spherical Waves and scattering from spheres	645-658	11
16	4/25	41	Spherical Waves and scattering from spheres		11
	4/27	42	Integral Equations	671-695	12
	4/29	43	Integral Equations		12
17	5/02				ALL