

# ELECTRICITY & MAGNETISM (PHYS 3710)

COURSE SYLLABUS – SPRING 2015

Lecture in Brown 264, TR at 9:45-11:05, W at 10:25-11:20

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Instructor:	Richard Ignace Department of Physics & Astronomy
Email:	ignace@etsu.edu
Web:	<a href="http://faculty.etsu.edu/ignace/astrophysics/astrophysics.html">http://faculty.etsu.edu/ignace/astrophysics/astrophysics.html</a>
Office:	274 Brown Hall
Office Hours:	11:00-12:00, Tues and Thurs; or by appointment
Office Phone:	(423) 439-6904
Fax:	(423) 439-6905

## Objectives:

An intermediate-level course in electromagnetism: electrostatics, magnetostatics, and the fields of moving charges. Material relies on the use of vector calculus.

## Grading:

The course is for 4 credit hours. Grades will be assessed as follows.

- 25% – 8 Problem Sets
- 35% – Three mid-term exams
- 25% – Intensive writing component
- 15% – Final exam

## Required Materials:

The text for the course is *Electricity and Magnetism*, by Purcell and Morin.

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**Honors Students:** Students taking the course for honors credit will do all of the normal assignments plus an additional experiment assignment. Honors students should meet with the instructor for details concerning the experiment.

**Students with Disabilities:** I need to hear from anyone who has a disability which may require some modification of seating, testing, or other class requirements so that appropriate arrangements may be made. Please see me after class or during my office hours.

**Complaint Procedures:** In the event of a “complaint”, the first step would be to speak with the Instructor. Alternatively one could speak with the Physics & Astronomy Chair in 277 Brown Hall.

## Schedule:

There are 16 weeks in the semester, including finals week and spring break. The following is a *loose* schedule of material that will be covered in the course.

Week	Date	Topic	Chapter	Homework
1	01/20	Intro	1	
	01/21	HW	–	
	01/22	Coulomb Force	1	
2	01/27	Electric Field	1	
	01/28	Writing	–	Draft #1a
	01/29	Electric Flux	1	HW #1
3	02/03	Electric Energy	1	Draft #1b
	02/04	HW	1	
	02/05	Potential	–	HW #2
4	02/10	Potential	2	Writing #1
	02/11	<b>EXAM #1</b>	–	
	02/12	Gauss's Law	2	
5	02/17	Laplace's Eqn	2	Writing #0a
	02/18	HW	–	
	02/19	Conductors	2	HW #3
6	02/24	Conductors	3	Draft #2
	02/25	Writing	–	
	02/26	Capacitance	3	Writing #2
7	03/03	Capacitance	3	
	03/04	HW	–	
	03/05	Issues of Potential	3	HW #4
8	03/10	<b>Spring Break</b>		
	03/11	<b>Spring Break</b>		
	03/12	<b>Spring Break</b>		
9	03/17	Energy and Capacitors	3	
	03/18	HW	–	
	03/19	Current	4	HW #5
10	03/24	Conduction	4	
	03/25	<b>EXAM #2</b>	–	
	03/26	Circuits	4	Writing #0b
11	03/31	Networks	4	Draft #3
	04/01	HW	–	
	04/02	Variable Currents	4	HW #6
12	04/07	Magnetic Forces	5	
	04/08	Writing	–	
	04/09	Frames of Reference	5	Writing #3
13	04/14	Moving Charges	5	
	04/15	HW	–	
	04/16	Magnetic Field	6	HW #7
14	04/21	Vector Potential	6	
	04/22	<b>EXAM #3</b>	–	
	04/23	Fields from Currents	6	Writing #0c
15	04/28	Rings and Coils	6	
	04/29	HW	–	
	04/30	Review for Final	–	HW #8
16	05/07	FINAL EXAM (Thurs, 8:00a-10:00a)		