

## GENERAL PHYSICS II (419609)

**COURSE:** PHY 2054; *General Physics II*

**CREDIT HOURS:** 3

**PRE-REQUISITE:** PHY 2053 with a grade of at least a C.

**PRE- OR CO-REQUISITE:** MTB 1322 or MAC 1133

**CO-REQUISITE:** PHY 2054L

**TIME:** Tuesday and Thursday 11:00 AM to 12:20 PM

**CLASSROOM:** 7-272

**INSTRUCTOR:** David Michael Judd

**OFFICE:** 7-142 **PHONE:** 954-201-6707 (There is voicemail at this number!)

**TEXT:** *College Physics, Volume Three: Classical Electromagnetism*

This text can be found free of charge in PDF format at:

<http://browardcentralscience.org/judd.htm>

**AUTHOR:** David Michael Judd

**CATALOG DESCRIPTION:** The second part of a two term physics course employing algebra and trigonometry to explain the quantitative aspects of electricity, magnetism, and optics.

### **COURSE OUTCOMES:**

- 1.0 The students should be able to analyze and solve problems involving electrostatics, AC and DC circuits, magnetism, and electromagnetism.
- 2.0 The students should be able to analyze and solve problems involving geometrical and physical optics.

## Classical Electromagnetism

**DATE**    **TOPIC**

### Electrostatics

#### *Electrical Interactions*

1/	5	Electric Charge	(Chapter 33)
	10	The Electric Force	(Chapter 34)
	12	The Electric Field	(Chapter 35)
	17	Gauss' Law	(Chapter 36)
	19	Problem Solving	
	24	Problem Solving	
	26	Problem Solving	
	31	Problem Solving	
2/	2	<b>EXAM I</b> ( <i>The Electric Force and the Electric Field</i> )	

#### *The Work Done In Moving Electric Charges*

	7	Electric Potential Energy	(Chapter 37)
	9	Electric Potential Energy	(Chapter 37)
	14	Electric Potential	(Chapter 37)
	16	Problem Solving	
	21	Problem Solving	
	23	Problem Solving	
	28	Problem Solving	
3/	1	<b>EXAM II</b> ( <i>The Electric Potential and Electric Potential Energy</i> )	

- 6 **No Classes**
- 8 **No Classes**

## **Electrodynamics**

### *Electric Current*

- 13 Electric Current and Conductors (Chapter 38)
- Power Supplies and EMF (Chapter 39)
- Kirchhoff's Rules (Chapter 40)

### *Magnetic Interactions*

- 15 The Magnetic Force (Chapter 41)
- 27 The Magnetic Field (Chapter 42)
- 20 Ampère's Law
- 22 Problem Solving
- 27 Problem Solving
- 29 Problem Solving
- 4/ 3 **EXAM III (*Magnetic Force and Magnetic Fields*)**

### *Currents Induced by Changing The Magnetic Flux*

- 5 Magnetic Flux and Ampère's Law (Chapter 43)
- 10 Faraday's Law (Chapter 44)
- 12 Electromagnetic Radiation (Chapter 47)
- 17 Problem Solving
- 19 Problem Solving
- 24 Problem Solving
- 5/ 1 **FINAL EXAM (10:30 AM to 12:20 PM)**

## EVALUATION OF STUDENTS:

**ATTENDANCE:** You are expected to be in class and to be on time! While in class, I expect your **undivided attention** to the subject matter and to my scintillating lectures. I want you to feel free to ask questions about physics and know that I am not going to try and ridicule or embarrass you. I expect you to show the same respect to your classmates as you would wish others to show you. Enough said.

**GRADING:** Your grade will be determined by using the following:

Exam I	22.5%
Exam II	22.5%
Exam III	22.5%
Final Exam	22.5%
Assignment One	2.5%
Assignment Two	2.5%
Assignment Three	2.5%
Assignment Four	2.5%

I will provide an equation sheet for each exam. Using any other materials during the exam, including your cell phone, will result in an F. Doing the homework problems is the most important thing you can do to succeed in this class. Having said that, I will assume that you have done the homework and give you a score of one hundred for the assignments component of your grade. There will be **no make-up exams except under the most dire of circumstances! I expect to be notified when you can not make it for an exam! You can leave messages on my voicemail.** Your final grade for this course will **not** be posted nor will I give it to you over the phone. You may, however, always feel free to discuss your grades with me **in person**.

**GRADING SCALE:**

90-100	A
80-89	B
70-79	C
60-69	D
59-0	F

## OFFICE HOURS:

My tentative office schedule is given below. I am also happy to schedule appointments if needed. **If you are having difficulty solving physics problems, you do not need to hire a tutor, you need to see me!**

<b>Time</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>8 : 00</b>		Office	Office	Office	B
<b>8 : 30</b>		Office	Office	Office	Y
<b>9 : 00</b>		PHY2053L	PHY2053L	Office	
<b>9 : 30</b>		PHY2053L	PHY2053L	Office	A
<b>10 : 00</b>		PHY2053L	PHY2053L	PHY2054	P
<b>10 : 30</b>		PHY2053L	PHY2053L	PHY2054	P
<b>11 : 00</b>	PHY2053	PHY2054	PHY2053	PHY2054	O
<b>11 : 30</b>	PHY2053	PHY2054	PHY2053	PHY2054	I
<b>12 : 00</b>	PHY2053	PHY2054	PHY2053	PHY2054	N
<b>12 : 30</b>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	T
<b>1 : 00</b>	Office	PHY2053L			M
<b>1 : 30</b>	Office	PHY2053L			E
<b>2 : 00</b>	PHY2053	PHY2053L	PHY2053	PHY2054L	N
<b>2 : 30</b>	PHY2053	PHY2053L	PHY2053	PHY2054L	T
<b>3 : 00</b>	PHY2053	Office	PHY2053	PHY2054L	
<b>3 : 30</b>	PHY2054	Office	Office	PHY2054L	O
<b>4 : 00</b>	PHY2054				N
<b>4 : 30</b>	PHY2054				L
<b>5 : 00</b>	PHY2054				Y
<b>5 : 30</b>	PHY2054				
<b>6 : 00</b>	PHY2054				
<b>6 : 30</b>	PHY2054				
<b>7 : 00</b>					