

CHAMINADE UNIVERSITY
PHY-252: UNIVERSITY PHYSICS II
COURSE SYLLABUS – SPRING 2013

Instructor: Matthew Cochran
Email Address: matthew.cochran@chaminade.edu
Office: Henry Hall room 7
Office Phone: 739-8361
Office Hours: After class (specific times will be announced) or by appointment
Course Time: Monday, Wednesday, and Friday from 10:30 to 11:20
and Thursday from 5:00 to 5:50
Course Room: Ching Hall 254 or Henry Hall 210
Prerequisites: MA-211 and PHY-251. Concurrent enrollment in PHY-252L is assumed.
ISBN-10: 0321751213
Required Text: Young and Feedman, *Sears and Zemansky's University Physics, Volume 2*, 13th ed.,
Pearson, New York, 2012. ISBN-10: 0321751213
Other Materials: Scientific Calculator

COURSE DESCRIPTION:

This course is the second part of a two-semester introductory physics sequence focusing on the application of physical principles, logical reasoning, and mathematical analysis needed to understand a broad range of natural phenomena. Topics include classical electricity and magnetism, waves and optics, and modern physics.

EVALUATIONS AND GRADING SCALE:

Exam 1	20%
Exam 2	20%
Exam 3	20%
Final	20%
Homework and Quizzes	20%
90% – 100%	A
80% – 90%	B
70% – 80%	C
60% – 70%	D
0% – 60%	F

Incomplete grades (I) will be given in accordance with college regulations as outlined in the college catalog. Withdrawals (W) from the class are the responsibility of the student and deadlines are set by the college.

EXAMS:

There will be four examinations as part of the requirements for the course. The exams will be, by necessity, cumulative. Physics is sequential and its concepts must be learned in order. Material for exams will be drawn primarily from homework problems. Hence, the best way to review for an exam is to review previous homework assignments. Makeup exams will only be given under extenuating circumstances beyond the student's control.

QUIZZES AND HOMEWORK:

A ten minute quiz will be given most week. Quizzes may be given at the beginning of class, so arrive on time. Makeup quizzes are not given.

To be successful in this course, it is essential that you complete all homework assignments. Be prepared to spend three hours or more on homework every week. If you are having trouble, get help from the instructor, the tutor, or your classmates. Do not fall behind. Homework is due at the beginning of class. Late homework is not accepted. In particular, homework over a week late is never accepted.

During the semester, there will be approximately twenty-five homework assignments and quizzes. Of these, the twenty highest scores will be used to calculate your grade. Lower scores will be dropped.

ATTENDANCE:

Regular attendance is expected of all students. Read material prior to lecture. If a topic is still not clear after it has been discussed in class, ask questions. Time will be spent working through homework problems and reviewing for exams in addition to lecturing. You will work with partners in class. It is important that partners engage in discussion of their work and avoid working as isolated individuals.

STUDENT LEARNING OUTCOMES:

Upon successful completion of the course, the student will be able to:

- Solve given problems involving electricity and magnetism using algebra and trigonometry.
- Solve given problems involving light and optics using algebra and trigonometry.
- Solve given problems involving relativity and quantum physics using algebra and trigonometry.

MUSIC DEVICES AND CELLPHONES:

Unless specifically permitted by your instructor, use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes at Chaminade, as it is discourteous and may lead to suspicion of academic misconduct. Students unable to comply will be asked to leave class.

ADA ACCOMODATIONS:

Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from CUH Counseling Center (Dr. June Yasuhara, 735-4845) by the end of the third week of classes. Failure to provide written documentation will prevent your instructor from making necessary accommodations. Please refer any questions to the Dean of Students and review procedures at:

www.chaminade.edu/student_life/sss/counseling_services.php

TENTATIVE WEEKLY SCHEDULE:

Week	Date	L#	Lecture Topic	Reading	Due
1	Jan 14	1	Intro; Charge	21.1 & 21.2	
	Jan 16	2	Coulomb's Law	21.3	
	Jan 18	3	Electric Field	21.4 to 21.6	
2	Jan 21	H1	Martin Luther King Day		
	Jan 23	4	Flux; Q1	22.1 & 22.2	HW1
	Jan 25	5	Gauss's Law	22.3	
Jan 28	6	Applications; Q2	22.4 & 22.5		
3	Jan 30	7	Electric Potential Energy	23.1	HW2
	Feb 01	8	Electric Potential	23.2 & 23.3	
	Feb 04	9	Potential Surfaces; Q3	23.4	
4	Feb 06	10	Gradient	23.5	HW3
	Feb 08	E1	EXAM1 – Chapters 21 to 23		
	Feb 11	11	Capacitance	24.1 & 24.2	
5	Feb 13	12	Dielectrics	24.3 to 24.5	
	Feb 15	13	Current and Resistance	25.1 to 25.3	
	Feb 18	H2	Presidents' Day		
6	Feb 20	14	Circuits; Kirchhoff's Rules; Q4	26.1 & 26.2	HW4
	Feb 22	15	Measuring Instruments	26.3	
	Feb 25	16	RC Circuits; Q5	26.4	
7	Feb 27	17	Magnet and magnetic fields	27.1 to 27.3	HW5
	Mar 01	18	Force on a moving charge	27.4 & 27.5	
	Mar 04	19	Force on current carrying wire; Q6	27.6	
8	Mar 06	20	Fields from Wires and Loops	28.3 to 28.5	HW6
	Mar 08	E2	EXAM2 – Chapters 24 to 28		
	Mar 11	21	Lenz's and Faraday's Laws	29.1 to 29.4	
9	Mar 13	22	Motional EMF	29.5	
	Mar 15	23	Waves	15.1 to 15.5	
	Mar 18	24	Superposition and Standing; Q7	15.6 to 15.8	HW7
Mar 20	25	Sound; Normal Modes	16.1 to 16.4		
Mar 22	26	Interference	16.5 to 16.7		
-			Spring Break		
11	Apr 01	27	Doppler Effect; Q8	16.8	HW8
	Apr 03	28	Light; Reflection and Refraction	33.1 to 33.4	
	Apr 05	29	Mirrors	34.1 to 34.3	
12	Apr 08	30	Thin Lenses; Q9	34.5	HW9
	Apr 10	31	Optical Devices	34.6	
	Apr 12	E3	EXAM3 – Chapters 29, 15, 16, 33, 34		
13	Apr 15	32	Two source interference of light	35.1 to 35.3	
	Apr 17	33	Thin films	35.4	
	Apr 19	34	Single Slit Diffraction	36.1 to 36.4	
14	Apr 22	35	Diffraction Gratings; Q10	36.5	HW10
	Apr 24	36	Relativity of Simultaneity	37.1 & 37.2	
	Apr 26	37	Time Dilation	37.3	
15	Apr 29	38	Length Contraction; Q11	37.4	HW11
	May 01	39	Momentum and Energy	37.5 to 37.7	
	May 03	40	Review		
Thurs	May 09	FE	11:00 to 1:00 – FINAL – Cumulative		

