CHAMINADE UNIVERSITY
PHY-252-02: UNIVERSITY PHYSICS II
COURSE SYLLABUS – SPRING 2017

Instructor:	Matthew Cochran
Email Address:	matthew.cochran@chaminade.edu
Office:	Henry Hall Office 7
Office Phone:	739-8361
Office Hours:	After class (specific times will be announced) or by appointment
Course Time:	Monday, Wednesday, and Friday from 9:30 to 10:20 Thursday from 5:30 to 6:20
Course Room:	Ching Hall 254
Prerequisites:	MA-211 and PHY-251. Concurrent enrollment in PHY-252L is assumed.
Required Text:	R. Knight, *Physics for Scientists and Engineers,* 3rd ed., Pearson, New York, 2013. ISBN-10: 0321844351, ISBN-13: 978-0321844354
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. Make-up exams will only be given under extenuating circumstances beyond the student's control.

QUIZZES AND HOMEWORK:
A ten minute quiz will be given most weeks. Quizzes may be given at the beginning of class, so arrive on time. Make-up 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 around 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 or 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 SCHEDULE

Week	Date	L#	Lecture Topic	Reading	Due
1	Jan 16	**H1**	**Martin Luther King Jr Day**		
	Jan 18	1	Intro; Charge		
	Jan 20	2	Coulomb's Law	25.1 to 25.4	
2	Jan 23	3	The Field Model	25.5	**HW 1**
	Jan 25	4	Electric Fields; Q 1	26.1 & 26.2	
	Jan 27	5	Continuous Charge Distributions	26.3 to 26.5	
3	Jan 30	6	Electric Fields and Forces; Q 2	26.6	**HW 2**
	Feb 01	7	Energy and Potential Energy; Q 3	28.1 & 28.2	
	Feb 03	8	Electric Potential	28.4 to 28.6	
4	Feb 06	9	Relating Potential and Field	29.1 to 29.3	**HW 3**
	Feb 08	10	Capacitors	29.4 & 29.5	
	Feb 10	11	Review		
5	Feb 13	**E1**	**EXAM 1 – Chapters 25 to 28**		
	Feb 15	12	Current and Resistance; Q 4	30.3 to 30.5	
	Feb 17	13	Circuits; Kirchhoff's Rules	31.1 to 31.4	
6	Feb 20	**H2**	**Presidents' Day**		
	Feb 22	14	Circuits; Resistors Circuits; Q5	31.6 & 31.7	**HW 4**
	Feb 24	15	RC Circuits	31.9	
7	Feb 27	16	Magnetism	32.1 & 32.2	**HW 5**
	Mar 01	17	Fields from Current; Q 6	32.4 & 32.6	
	Mar 03	18	Force on a Moving Charge or Wire	32.7 & 32.8	
8	Mar 06	19	Lenz's Law	33.1 & 33.3	**HW 6**
	Mar 08	20	Faraday's Law	33.4	
	Mar 10	21	Review		
9	Mar 13	**E2**	**EXAM 2 – Chapters 29 to 32**		
	Mar 15	22	Waves; Sin Waves; Q 7	20.1 to 20.4	
	Mar 17	23	Sound and Light; Intensity	20.5 & 20.6	
-			Spring Break		
10	Mar 27	**H3**	**Prince Kuhio Day**		
	Mar 29	24	Superposition and Standing Waves; Q 8	21.1 to 21.4	**HW 7**
	Mar 31	25	Interference in 1D	21.5 & 21.6	
11	Apr 03	26	Interference in 2D	21.7	**HW 8**
	Apr 05	###	Interference; Q 9	22.1 to 22.3	
	Apr 07	27	Diffraction	22.4 & 22.5	
12	Apr 10	28	Reflection and Refraction	23.1 to 23.5	**HW 9**
	Apr 12	29	Ray Tracing; Lenses; Q 10	23.6 to 23.7	
	Apr 14	30	Review		
13	Apr 17	**E3**	**EXAM 3 – Chapters 33, 20 to 22**		
	Apr 19	31	Mirrors	23.8	
	Apr 21	**H4**	**Good Friday**		
14	Apr 24	32	Modern Physics	37.1 to 37.3	**HW 10**
	Apr 26	33	Modern Physics; Q 11	37.4 to 37.8	
	Apr 28	34	Photoelectric Effect	38.1 to 38.3	
15	May 01	35	Bohr Atom	38.4 to 38.7	**HW 11**
	May 03	36	More Bohr Atom		
	May 05	37	Review		
Mon	May 08	**FE**	**11:00 to 1:00 – FINAL EXAM – Cumulative**		