

# PHYSICS 38 – SYLLABUS – SPRING 2014

Ticket No. 0422: Prerequisite: Physics 37 and Math 266

Class starts: 2/10/2014 ends: 4/4/2014

Class Meets:

LEC: M W F 10:35 A.M. – 1:45 P.M. CMS 246

LAB: TU TH 10:35 A.M. – 1:45 P.M. CMS 006

**INSTRUCTOR:** Richard Rains  
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Office Location: CMS 241  
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Web Site: <http://www.lamission.edu/~rainsre>

**REQUIRED TEXTS:** “Physics for Scientists and Engineers” by Serway/Jewett, 8<sup>th</sup> edition  
ISBN 1-4390-4844-4  
Mission College Bookstore: New: \$328; Used; \$246

**OFFICE HOURS:** M-Tu-W-Th-F 2:00 – 3:00 p.m.  
Office number: CMS 237 - 241

**COURSE DESCRIPTION:** Designed for Physics, Astronomy, Chemistry, Engineering & Mathematics majors, Physics 38 is the second semester of a three semester calculus-level sequence in introductory college Physics. Topics include mechanical waves, electric charge and electric fields, electric energy storage, electric currents, magnetism, electromagnetic induction, electromagnetic oscillations, AC circuits, and Maxwell's Equations.

## STUDENT LEARNING OUTCOMES

1. Calculate the magnitude and direction of electrical and magnetic forces and fields under diverse circumstances
2. Find voltages, currents, powers and phases of different a.c. and d.c. electrical circuits
3. Explain the mechanism of wave propagation and determine wavelength, frequency and velocity of mechanical waves.
4. Acquire, analyze and graph scientific data collected with instruments during laboratory experiences.

<b><u>GRADING:</u></b>	The final course grade will be determined by:	
	Chapter quizzes	22% of final grade
	Midterm Exam: Mon. March 10 (Chapters 15-18, 23-26)	22%
	Final Exam: Fri. April 4, (Chapters 27-34)	22%
	Weekly Homework:	11%
	Lab Reports:	12%
	Lab Final Exam: Thursday, April 3	11%

**CHAPTER QUIZZES:** During the first hour on Monday and Thursday, there will be a quiz covering the material of the previous chapter.

The chapter quiz will be given only during the first hour of the class. If a quiz is missed, no make-up quiz will be given, and missed quizzes will be recorded as zero. However, to account for personal emergencies, the two lowest quiz grades will be dropped at the end of the semester.

Quizzes are closed-book, closed-notes. Useful formulas will be provided for use during the quizzes.

**HOMEWORK:** There will be a homework assignment due each day. Homework is accepted only during the first 15 minutes of the class period on the day it is due. No late homework is accepted under any circumstances. However, the two lowest homework grades will be dropped at the end of the semester.

**LAB:** No make-up labs will be given, but the one lowest lab report grade will be dropped at the end of the semester.

**MIDTERM AND FINAL EXAMS:** Exams are closed book, closed notes. Useful formulas will be provided for use during the exams.

No early or late exams will be given under any circumstances. Please arrange your life accordingly.

**GRADES:** will be continually updated and posted at: <http://www.lamission.edu/~rainsre>

Approximate grading scale for quizzes, mini-quizzes, tests and final course grade:

90% – 100% = A, 75% – 89% = B, 65% – 74% = C, 40% – 64% = D

## Lecture Topic Schedule:

Monday	2/10	Ch. 15 Oscillatory Motion
Wednesday	2/12	Ch. 15/16
Friday	2/14	Ch. 16 Wave Motion
Monday	2/17	Ch. 17 Sound Waves
Wednesday	2/19	Ch. 17/18
Friday	2/21	Ch. 18 Superposition and Standing Waves
Monday	2/24	Ch. 23 Electric Fields
Wednesday	2/26	Ch. 23/24 Gauss's Law
Friday	2/28	Ch. 25 Electric Potential
Monday	3/3	Ch. 26 Capacitance and Dielectrics
Wednesday	3/5	Ch. 26/27
Friday	3/7	Ch. 27 Current and Resistance
Monday	3/10	Midterm Exam (Chapters 15-18, 23-26)
Tuesday	3/11	Ch. 28 Direct Current Circuits
Wednesday	3/12	Ch. 28/29
Friday	3/14	Ch. 29 Magnetic fields
Monday	3/17	Ch. 30 Sources of the Magnetic Field
Wednesday	3/19	Ch. 30/31
Friday	3/21	Ch. 31 Faraday's Law
Monday	3/24	Ch. 32 Inductance
Wednesday	3/26	Ch. 32/33
Friday	3/28	Ch. 33 Alternating-Current Circuits
Monday	3/31	Holiday – Cesar Chavez Day
Wednesday	4/2	Ch. 34 Electromagnetic Waves
Thursday	4/3	Lab Final Exam
Friday	4/4	Final Exam (Chapters 27-34)

**PLAGIARISM:** Lab reports must be written by the individual student. Any material which is word-for-word the same as another source must be placed in quotes with the source citation. Any word-for-word segments not in quotes will be considered as plagiarism. The grade for such a lab report will be zero.

**CELL PHONE POLICY:** No cell phone activity is allowed during the lecture or lab.

**EAR BUD POLICY:** Please remove all ear buds and headphones upon entering the lab.

**ETHICS POLICY:** Any student found to be cheating on any quiz or test will receive an immediate zero on that activity. Cheating on the Final Exam will result in a grade of F for the course.

DATES listed on this syllabus may change. Each student is responsible for current class announcements, whether he/she is present in class or not.

TBA

Last Day to drop the class without a "W": February 23

Last Day to drop the class with a "W": May 11

NOTE: It is the student's responsibility to drop the class. After the final census date, the instructor is not responsible to exclude students who have become inactive.