

# PHYSICS 39 – SYLLABUS – SPRING 2014

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

Class starts: 4/14/2014 ends: 6/6/2014

Class Meets:

LEC: M W F 10:35 A.M. – 1:30 P.M. CMS 246

LAB: TU TH 10:35 A.M. – 1:55 P.M. CMS 006

INSTRUCTOR:

Richard Rains

Office Phone (818) 364-7702

Office Location: CMS 237 - 241

Email: [rainsre@lamission.edu](mailto:rainsre@lamission.edu)

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, This is the third part of a three-part calculus-level sequence in introductory college Physics. Topics include thermodynamics, optics, relativity, quantum physics, atomic physics and nuclear physics.

## STUDENT LEARNING OUTCOMES

1. Determine image characteristics for various lens and mirror configurations
2. Demonstrate an understanding of the basic principles of relativity, quantum physics, atomic and nuclear physics, by solving problems relating to these topics
3. Acquire, analyze and graph scientific data collected with instruments during laboratory experiences.

**GRADING:**

The final course grade will be determined by:

Chapter quizzes	22% of final grade
Midterm Exam: Mon. May 12 (Chapters 19-22, 35-38)	22%
Final Exam: Fri, June 6 (Chapters 39-42, 44-46)	22%
Weekly Homework:	11%
Lab Reports:	12%
Lab Final Exam: Thurs, June 5	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	4/14	Ch. 19 Temperature
Wednesday	4/16	Ch. 19/20
Friday	4/18	Ch. 20 First Law of Thermodynamics
Monday	4/21	Ch. 21 Kinetic Theory of Gases
Wednesday	4/23	Ch. 21/22
Friday	4/25	Ch. 22 Second Law of Thermodynamics
Monday	4/28	Ch. 35 Light and Ray Optics
Wednesday	4/30	Ch. 35/36
Friday	5/2	Ch. 36 Image Formation
Monday	5/5	Ch. 37 Wave Optics
Wednesday	5/7	Ch. 37/38
Friday	5/9	Ch. 38 Diffraction and Polarization
Monday	5/12	Midterm Exam (Chapters 19-22, 35-38)
Tuesday	5/13	Ch. 39 Relativity
Wednesday	5/14	Ch. 39/40
Friday	5/16	Ch. 40 Intro to Quantum Physics
Monday	5/19	Ch. 41 Quantum Mechanics
Wednesday	5/21	Ch. 41/42
Friday	5/23	Ch. 42 Atomic Physics
Monday	5/26	Ch. 44 Nuclear Structure
Tuesday	5/27	Non-instructional day
Wednesday	5/28	Ch. 44/45
Friday	5/30	Ch. 45 Applications of Nuclear Physics
Monday	6/2	Ch. 46 Particle Physics and Cosmology
Wednesday	6/4	Ch. 46
Thursday	6/5	Lab Final Exam
Friday	6/6	Final Exam (Chapters 39-42, 44-46 )

**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.