Santa Monica High School

AP PHYSICS C

### COURSE SYLLABUS 2015 - 2016

Ms. Yaghoubian Location: I - 115

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“The most incomprehensible thing about the world is that it is comprehensible."

– Albert Einstein

Welcome to AP Physics! We too will strive for an understanding of how the universe works as we explore the world around us. I have very high expectations of all of you, both academically and personally. Each day when you enter the classroom you must be prepared to think critically and ask questions.

This course is equivalent to a first-semester calculus-based physics class in mechanics. It is designed to prepare you for the AP Physics C Mechanics Exam given in May and follows the syllabus for that examination. AP C requires and employs a basic understanding of calculus (differentiation and integration). Therefore you should have either taken a calculus course already or be taking it right now.

**Course Outline**

Fall Semester Spring Semester

*Graphical Analysis, 1D Motion Circular Motion*

*Vectors, 2D Motion Gravity and Satellite Motion*

*Forces and Newton’s Laws Simple Harmonic Motion*

*Forces II Rotational Motion*

*Work and Energy Review for AP C Exam*

*Momentum Post AP Exam Unit*

**Class Materials**

Notebook: A three ring binder accommodates the large number of handouts the best. I recommend using dividers to organize your notebook by units.

Calculator: Graphing or scientific – the one on your phone is not an option. There will be no sharing of calculators during a quiz or test, so don’t forget to bring your own.

Textbook: Physics for Scientists and Engineers by Serway and Beichner (5th Edition). Unless I tell you ahead of time, you do not need to bring this to class.

**Class Rules**

* **Do not cheat**. Cheating of any kind is NOT tolerated. Students should show work/calculations on all assignments, quizzes, and exams to receive credit. A first cheating offense will result in a ZER0 grade for that assignment, a parent meeting, and a referral to administration for further consequences. A secondary offense will result in a FAIL grade in the course.
* Arrive to class on time and prepared.
* Clean up after yourself

**Late Work Policy**

A calendar and all relevant assignments will be posted on the website ([www.samohiphysics.weebly.com](http://www.samohiphysics.weebly.com)), so students are responsible for being aware of assignment due dates. Assignments turned in one day late will receive a maximum score of 1/3. No assignments will be accepted after one day.

**Grading System**

Grades will be calculated using total points. Every unit is worth 100 points and so is the semester exam. Each unit grade will have the following scoring breakdown:

10 pts – Quiz #1

15 pts – Quiz #2

30 pts – HW and Labs

40 pts – Unit Test

5 pts – Challenge Problem

HW and Labs

Doing all of your assignments is the key to success in this course. I cannot stress this enough! At the start of each unit you begin with a 100% in this category – 30 points. This is your grade to keep or lose. Throughout the unit I will check assignments for completion and effort. You will receive a deduction of -2 or -3 in my grade book for any assignment that is not completely done up to standards. This can turn into a -1 if the assignment is fixed by the next class period. At the end of the unit I will add up all the deducted points and reduce your grade of 30 by that amount. At the start of each unit I will provide you with a schedule (also available online) that shows which assignment is due each day. If you are absent from class, it is **your responsibility** to show me any assignments I checked while you were gone on the first day you return to class.

Quizzes and Tests

Quizzes are very straightforward assessments that are timed, but do not take the whole class period. The questions asked will be very similar to ones that you have seen in warm ups, labs, and HW problems. Sometimes they will even be identical. They will help make sure that you are up to speed on your assignments, and they will help me to determine which students need additional help on certain topics.

Tests are given at the end of each unit and are more challenging than quizzes. Tests must be completed within the class period unless a student is legally entitled to extended time. Equation sheets are allowed on quizzes and tests.

I expect all students to take the quizzes and tests on the assigned day. To encourage your presence on exam days, you will receive 1 extra credit point on your quiz or test if you take it with your class period on the assigned day. If you are absent the day of a quiz or test, you must make up the quiz **on the day you return** - no exceptions! The make-up quizzes and exams are different than the regular class quizzes and exams and are more difficult. If you miss more than **TWO quiz days or ONE test day** per semester, you will be ineligible for all extra credit (even extra credit you may have already earned) during that semester. A cumulative semester exam will conclude each semester.

Challenge Problem

The AP Physics C Free Response section consists of three challenging problems. What makes these problems difficult is the fact that they draw upon concepts from many units and they are often problems that you have not seen before. You will simulate this experience by solving a timed problem at the end of each unit that will require you to utilize the skills you have acquired during the course of the year. Based on your performance you will earn a score from 0 – 5. Missed challenge problems may not be retaken. Missed challenge problems count as one of your two missed quiz days.

Grading Scale

A+ 97

A 93

A- 90

B+ 87

B 83

B- 80

C+ 77

C 73

C- 70

D+ 67

D 63

D- 60

Class policies may be modified during the school year as needed. I will inform the class if and when that becomes necessary.

\*Please keep the syllabus for your records and return THIS PAGE ONLY to Ms. Yaghoubian

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### COURSE SYLLABUS 2015 - 2016

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Last First

Class Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I have read and understood the 2015-2016 AP Physics C Syllabus. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Initial)

I agree to abide by the SAMOHI Academic Honor Policy. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Initial)

I understand it is my responsibility to find out the work I’ve missed and

turn it in the day I return from an absence. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Initial)

I understand quizzes and tests should be taken on time and that I will

forfeit my opportunity for extra credit if I miss more than 2 quizzes or

1 test per semester. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Initial)

I agree to participate safely in all lab activities. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Initial)

Student Signature Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent Name Parent Signature