

## Physics 4A Syllabus – Fall 2018

**Instructor:** Juming Jiao  
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**Lecture Hours:** MTWRF 1:30 – 2:20 p.m. (Room S32)  
**Lab Hours:** Tuesday/Thursday 2:30 – 5:20 p.m. (Room S11)  
**Office Hours:** Wednesday/Friday 2:30 – 3:20 p.m. (Room S13)

**Final Exam:** Dec.11 Tuesday: 1:45 p.m.-3:45 p.m.  
**Text:** (Optional) Physics for Scientists and Engineers (Vol. 1), 9<sup>th</sup> Edition, by Serway/Jewett

**Prerequisites:** Physics 50 with a grade of C or better, or the equivalent (including high school physics); Completion of Math 1A with a C or higher and concurrent enrollment in Math 1B (or already completed).

**OBJECTIVE:** The goal of this course is to cover the three conservation laws of classical mechanics: energy, momentum, and angular momentum. This includes the necessary details to successfully manipulate those laws: kinematics, vectors, problem solving techniques, mathematical techniques, and various definitions including Newton's Universal Law of Gravitation, and then a little about oscillations at the end of the course. It covers chapters 2, 4 – 11, 13, 15 in the text.

**ATTENDANCE:** You are expected to be here at the beginning of each class. If you miss more than **Five** lectures, you may be dropped from the class. However, it is your responsibility to ensure being dropped or withdrawn from the course in order to avoid an "F" in the course. **The last day to drop a class with a "W" is Friday, Nov. 16.**

**HOMEWORK:** Homework will be assigned for each chapter, but it will not be collected. It's your responsibility to complete it by the expected date. It is essential to your success in this course that you put solid effort into the homework. If you are having difficulties with homework, I am available for help during my office hours.

**QUIZZES:** There will be 6 quizzes. The quiz with the lowest grade will be dropped. Each quiz consists of one problem from lectures or homework. Therefore, it is to your advantage to attend each lecture and complete homework assignments. **On the quizzes and the exams, you need to show all your work in complete detail in order to receive credit.**

**EXAMS:** There will be two mid-term exams and one comprehensive final; all exams are closed book tests! To pass the class, you must take all the exams. There are **NO MAKE-UP** exams without prior consent from the instructor. You can send an email or leave a message before the exam time in case of an emergency. Students who fail to show up for the final exam will receive a grade of **"F"** for the course.

**ACADEMIC HONESTY:** If a student is found cheating, a **ZERO** will be assigned to the work. Using unauthorized notes, copying another student's work, or letting another student copy your work are all considered forms of cheating. If you are caught cheating on a quiz or exam, you will receive a **ZERO** as your final grade on that quiz or exam. If you are caught cheating a second time, you may receive an **"F"** in the course. I reserve the right to assign seats during exams.

**LABORATORY:** Lab attendance is mandatory. A student with **TWO** unexcused absences of lab may be dropped from the class. The 11<sup>th</sup> week will be the lab final.

You will need a quadrill-ruled lab notebook and a scientific calculator.

Lab grade consists of 50% lab work and 50% lab final.

**GRADING:** The grade distribution is as follows:

Homework/Quizzes 15%

Lab 15%

Exams I & II 40%

Final 30%

Grades will be determined as follows:

A: 92-100%      A-: 89-91%

B+: 86-88%      B: 81-85%      B-: 78-80%;

C+: 75-77%      C: 60-74%;

D: 50-59%;

F: 0-49%

**Student Learning Outcome(s):**

\*Critically examine new, previously un-encountered problems, analyzing and evaluating their constituent parts, to construct and explain a logical solution utilizing, and based upon, the fundamental laws of mechanics.

\*Gain confidence in taking precise and accurate scientific measurements, with their uncertainties, and then with calculations from them, analyze their meaning as relative, in an experimental context, to the verification and support of physics theories.