



SLCA SYLLABUS 2018-2019

PHYSICS

Mission Statement: SouthLake Christian Academy exists for the sake of God's glory and mission; proclaiming the gospel and discipling the whole person in all aspects of God's reality.

Course Description:

Physics is the study of the behavior and structure of matter. This is a problem solving course designed to build on and reinforce the conceptual concepts. Lab work reinforces concepts and familiarizes the students with methods of taking, recording, and analyzing data. Class discussions and debates enhance concept comprehension and critical thinking skills. Students who complete this course will receive an introduction to the major divisions of physics and will develop a greater understanding and appreciation for the order and design of God's creation.

Course Objectives:

This course includes three general fields of physics – linear and rotational kinematics and dynamics (including torque, momentum, and energy), periodic/wave motion and sound, and electricity. If time allows, we may continue into optics and thermodynamics. These fields line up with what most students will encounter in a first-semester college physics course, giving them a framework to build on as they progress further in their education.

Required Text: Giancoli, Douglas, C. Physics, 5ed. Prentice Hall: Upper Saddle River, NJ, 1998

Technology: Students will be required to use their TI-83/84 graphing calculator and/or Logger Pro 3 software throughout the course. Logger Pro 3 software is free to students via the SLCA site license and available for Windows or Mac computers. All formal written work should be prepared according to the teacher: if not specified all computer submissions should use Arial or Times New Roman font in 12 point double spaced so there is room in the page for instructor comments. Students may be required to use presentation, spreadsheet, and graphic software such as found in Microsoft Office or its equivalent (Apple Numbers, Google Sheets).

Evaluation:

The course will be evaluated as follows:

- ❖ **Tests** will make up 80% of the grade. Tests will typically cover 1 to 2 chapters and will take the entire time allotted for class. Completed homework sets will allow for a student to earn back up to 25% of the points missed, with a maximum of five points earned back; see "Expectations" for further details.
- ❖ **Test make-up policy:** If a student comes into school late and as a result has missed a test, the student will immediately report to the office to make-up that test.

Students have **ONE** day for each day absent (excused) to makeup all tests and quizzes; if this is not possible for any reason, arrangements should be made with the instructor within this window of time. If the test/quiz is not made up in this period, **10 pts will be deducted** from the final test/quiz grade **for each day past the makeup day**. After the makeup window (without penalty) has elapsed, an "M" will be input on RenWeb, until the test has been made up.

- ❖ **Quizzes** will make up 20% of the grade. Quizzes may or may not be announced.

- ❖ Labs may count as either quiz or test grades, depending on the length of the lab. This will be communicated both via the RenWeb gradebook and the lab sheet which provides instruction for each lab.

Expectations of the Student:

- ❖ Follow all rules and procedures listed in the SouthLake handbook.
- ❖ Respect your teacher and other classmates and yourself. This includes, but is not limited to listening attentively while the teacher or other students are talking and coming to class prepared to learn with all required materials (text, notebook/binder, calculator, pens, #2 pencils, etc.) and a positive attitude, **keeping food, drink and gum out of the science lab.**
- ❖ Always do your best!
- ❖ Be in the classroom when the bell rings. Tardiness will be noted for any student not within the confines of the classroom at the conclusion of the bell's ring, unless a note from a teacher is given. If you know that you will not be in class on time, see the office for a note.
- ❖ While use of technology will be permitted, its use should only be for classroom activity. Students found to be misusing technology will lose this privilege for a duration determined by the instructor.
- ❖ Assigned homework, while not graded, should be completed to aid in understanding of material. The quantity of assigned work should be seen as a minimum to demonstrate proficiency; if a student is struggling on problems from a certain section, I would encourage them to attempt more. Most problems will be odd-numbered, allowing for students to check their answers with the key in the back of the book.
 - For students who complete the homework by the test date, a percentage of points missed on the test may be earned back, in proportion to the amount completed. The homework sets are to be turned in at the beginning of the class period in which the test is taken; late homework will not be accepted.

Needed Supplies:

- ❖ 1 box of tissues for the class to use throughout the year would be appreciated.
- ❖ A graphing calculator – TI-84 or higher
- ❖ A notebook for taking notes and doing homework – I would encourage use of a graph paper notebook to make drawing diagrams easier