

SCP 232.269AB HONORS, General Physics II, Syllabus - Spring 2020.

Instructor	Roman Senkov	Phone
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Office Hours	M: 3:30 PM – 5:00 PM Tu: 3:30 PM – 5:00 PM	Office: M-211
Lectures:	M: 1:00 PM – 3:15 PM Tu: 1:00 PM – 3:15 PM	Classroom: M-312 Classroom: M-312
Laboratory:	Th: 11:45 AM – 2:00 PM	Classroom: E-348

Textbook: 11th ed., Halliday, Resnick and Walker (Wiley). Chapters 16, 17, 21-36.

Description: This course is the second term of a calculus based, two-semester lecture and laboratory course in classical and modern physics. Topics include the analysis of mechanical waves (sound and waves on a string), electrostatics, the analysis of electric circuits, magnetostatics, electrodynamics, electromagnetic waves, and the interaction of light with matter: optics, diffraction, and interference. A great deal of emphasis will be placed on understanding the theory of classical electricity and magnetism. Physical principles will be demonstrated with a “hands on” laboratory experience.

This course has prerequisite SCP231.

Evaluation: The grade in this course will be based on the 4 exams (60 points), homeworks (20 points), research project (12 points), laboratories and reflections (8 points). Exams and homework will be hard. Expect an average between 50% and 75% for each exam. **There is NO extra credit available.**

4 Exams	60 points
Homework assignments	20 points
Research project	12 points
Laboratories	8 points
Total	100 points

Letter grades will be determined by your instructor so you should ask him for details regarding what percentages are required for a specific letter grade.

Calculators: You are allowed to use scientific and graphing calculators for solving problems in this class, which includes exams. The calculator, however, is not permitted to have an internet connection or have a purpose other than that of performing calculations: TI-89 is fine to use. In addition, cell phones and tablets are not allowed during exams.

Homework: 11 homework assignments will be distributed on-line using WileyPLUS. The deadline for getting help from me is on Friday 16:00. Except for certain weeks the absolute deadline for submitting answers is 11:59 PM Sunday. Needless to say, the absolute deadline on Sunday at one minute before midnight (plus or minus 5 minutes) is absolute. No excuses are accepted. Please check the class calendar for a detailed schedule of this course, including homework deadlines and exams.

Suggestion: Do not wait until the last day to do your homework. It is not a good strategy to wait for the weekend to do your homework. I emphasize that is important that you develop the ability of coming up with an answer by yourself. The purpose of the homework is that you learn and practice, not that you earn points! It is also a good idea to review those questions/problems that you did wrong in the homework (if any) to understand what went wrong. Knowing all the answers does not guarantee a good performance in the exams.

WileyPLUS: You will submit your solutions to the problems over the Internet. The WileyPLUS system gives you instant feedback, telling you whether your answers are correct. If not, WileyPLUS allows you to try again without penalty, up to a certain limit set for each problem (usually 3-5).

Logging on: All you need is an Internet connection and your favorite web-browser (Safari, IE, Firefox, etc.) There are many computers located all over campus you may use. Many of you also have Internet access from your apartment. It is your responsibility to obtain an access code and register for Wiley+. You can order an eBook and code with access to all sorts of multimedia for about \$100 on Wiley's website. Once registered you can access the full content of the text book, the accompanying resources and complete the homework problems assigned by me.

Disclaimer: WileyPLUS has been successfully used over the past few years in many Physics Departments and I am confident that it will work fine for this course. However, in the unlikely event that the system fails to perform as planned and homework grades are not available, I will base course grades entirely on the results of the four exams and the laboratory.

Research project (12 percent of your final grade, almost as big as one exam): The detailed guidelines for the research project will be provided separately by the instructor. In general, you will be asked to perform a semester-long research project and write an article presenting the results of your work. You are required to use a scientific writing style that includes sections such as: title, abstract, introduction, theory outlines, results (with figures and tables), conclusion and references. LaTeX (**strongly preferred**) or MS Word (try to avoid it!) formats should be used (templates and guidelines will be provided). The physics problem you will be solving in your project is significantly harder than an average HW problem, so expect a lot of self researching and communication with your instructor. The special time slots (in addition to the office hours) for getting help on your research project will be

assigned (see the time frames below). Your work on the project will be split into several stages: you will be asked to pick a physics problem (a list of available problems will be provided), turn in the first draft of the paper, turn in the paper and make an oral presentation on your research project (some kind of defense). Each stage has a due date and will be evaluated separately.

Preliminary time frames and points for the research project (see the calendar):

- Due date #1. Pick a project (**0 points**): March 9th (Monday)
- Due date #2. First draft/time sheets (**2 points**): April 27th (Monday)
- Due date #3. Second draft/time sheets (**2 points**): May 18th (Monday)
- Due date #4. Submit the article (**4 points**): June 1st (Monday)
- Due date #5. Oral defense, mock presentation: June 6th (Saturday)
- Due date #6. Oral defense (**4 points**): June 8th (Monday)
- Meetings (in E-338, E-348 or M-211): by appointment

Exams: There will be three midterm exams and one final noncumulative exam:

- **Midterm exam 1:** March 26th (Thursday)
- **Midterm exam 2:** April 30th (Thursday)
- **Midterm exam 3:** May 21st (Thursday)
- **Final exam:** June 11th (Thursday)

Please note that no make-up exams will be given. If legitimate circumstances (as judged by me) cause you to miss one of the first three exams, and you notify me (or leave a message at the Natural Sciences Department Office, M-204) of your predicament, then this missed exam will be counted according to your average performance on other tests. Even under these strict conditions, you can miss only one midterm exam. In addition, all students must take the final exam in order to pass this course.

Calculators may be used but not shared during the exams. However, phone calculators may not be used. You may bring one 3" x 5" index card to each exam. All exams will consist of 20 multiple choice questions. Both quantitative and qualitative questions will be asked. Each exam will be worth 15% of your final grade. Again, exams will be hard. Practice, practice, practice.

Laboratory and Invited talk: Laboratory instructions will be available online on blackboard unless otherwise noted. They will be made available to you before the Laboratory meeting and it is highly recommended that you familiarize yourself with the experiment BEFORE you go to lab. Students must complete and hand in all reports.

Please note that 2 points out of 8 are reserved for a **special assignment**, for which you will be asked to attend an invited talk (or read a scientific article) and write a 2-pages reflection. The specific dates for the talk and the instructions for your reflections will be provided by the instructor separately. Although laboratory and reflection counts only 8% of the grade, a student cannot receive a passing grade without completing all the requirements.

Course Schedule: Please check the class calendar.

Office Hours: I will be happy to help you during my office hours. Please try to respect office hours as much as possible. Office hours may change depending upon your convenience and my own.

Academic Integrity Policy: Instructors of this course are required to implement the College Policy regarding cheating on examinations and quizzes. A complete statement of the policy is available at the student counseling services.

Attendance Policy: Attendance at all class sessions, lecture and laboratory, it is essential for proper understanding and mastery of the course material. A student who is absent from more than one class seriously jeopardizes his/her grade for the course. Three absences will reduce your final score by one letter grade, for example from an “A” to “A-”. A student who is absent 10 or more classes fails the class automatically without any exceptions. Being in class on time is as important as attending the class.

Final Words: Physics is not an easy subject for most students. In addition, you will find this course to be very fast paced. This is necessary to complete all the material. Please be aware of the following:

- 1. It is easy to fall behind in physics but very hard to catch up. As a result, it is impossible to cram for a physics test. You must keep up with homework assignments and class lectures.
- 2. Physics is a cumulative discipline. You must understand Chapter 2 before moving onto Chapter 3 and principles learned in Chapter 4 will be applied in Chapter 14.
- 3. I urge you to attend every class and carefully take notes.
- 4. Since homework is worth 20% of your grade, it is very difficult to pass the class if you do not do your homework.

Students with disabilities: LaGuardia Community College provides students with disabilities reasonable accommodation to participate in educational programs, activities, or services. Please contact the Office for Students with Disabilities at (718)-482-5279 in room M-102.

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