

## SCP 201.644 Fundamentals of Physics I, Syllabus – Fall 2021

Instructor	Dr. Chandra Nepali	Phone
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Office Hours	WeFr: 3:00 PM – 5:00 PM (or by appointment)	Office: via Zoom
Lectures	Tu: 5:45 PM – 9:05 PM Th: 5:45 PM – 6:45 PM	Classroom: via Zoom
Laboratory	Th: 6:55 PM – 9:05 PM	Classroom: via Zoom

**Note:** If you have questions about the course, email is the best way to reach me – I will respond within 24 hours.

**Textbook (free, required):** “College Physics”. It is free and available at <https://openstax.org/details/books/college-physics>. There is also a [pdf](#) version available.

**Textbook (optional):** “Physics” by Douglas C. Giancoli, (Addison-Wesley). Any edition will work just fine. Please note that this textbook is not required.

**Description:** This is the first course of a 2-term non-calculus based Physics sequence. Among the subjects covered are vectors, kinematics, dynamics, momentum, energy and circular motion. Other subjects covered are equilibrium, thermodynamics, rotational motion and waves, as time permits. The aim of the course, together with SCP202, is to provide the student with a firm grounding of the basic laws and principles that govern the behavior of matter.

### Course Objectives:

- To understand how the relationship between experiments and theory in doing science is accomplished by implementing the scientific method.
- To learn fundamental principles of Physics that help us understand how natural phenomena emerge, the workings of technology, and develop practical solutions to problems such as energy loss in mechanical systems and climate change.

### How the course works:

- Lectures covering selected topics will be presented in a synchronous format via Zoom. There will be two lecture sessions each week (see the course schedule).
- Homework assignments will be completed each week on a free MyOpenMath platform.
- Laboratories will be completed using various free Interactive Simulations resources.
- Lecture notes and laboratories instructions will be available on Blackboard.

**Help with technology required for the course:** With any technical questions please contact your instructor. The instructor will provide you with the login information for the MyOpenMath platform. Please check Blackboard for more details. The lectures and office hours will be held via Zoom. It is desirable to have at least a microphone (better if you have a webcam too). To access your homework assignments please create a student account here: <https://www.myopenmath.com/> and enroll in the course with following information:

**The course ID: 124913**

**The enrollment key: *physics-F2021***

**Evaluation:** The grade in this course will be based on the 3 exams (70 points), homeworks (20 points), laboratories and in-class activities (10 points). The exams and homework will be hard. Expect an average between 50% and 75% for each exam. **There is NO extra credit available.**

Exams	70 points
Homework assignments	20 points
Laboratories	10 points
<b>Total</b>	<b>100 points</b>

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. Unless the exams are in an open-book format, the calculator 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 (20% of your grade):** 11 homework assignments will be distributed on-line using MyOpenMath platform. 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.

**MyOpenMath:** You will submit your solutions to the problems over the Internet. The MyOpenMath system gives you instant feedback, telling you whether your answers are correct. If not, MyOpenMath allows you to try again without penalty, up to a certain limit set for each problem (usually 15).

**Logging on:** All you need is a stable 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.

**Disclaimer:** MyOpenMath 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 exams, the laboratory, and the research project assignment.

**Exams (70% of your final grade):** There will be two midterm exams and one noncumulative final exam:

- **Midterm #1:** October 12<sup>th</sup> (Tuesday)
- **Midterm #2:** November 16<sup>th</sup> (Tuesday)
- **Final:** December 14<sup>th</sup> (Tuesday)

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 15-20 multiple choice questions. Both quantitative and qualitative questions will be asked. Each exam will be worth about 23.3% of your final grade. Again, exams will be hard. Practice, practice, practice.

**Laboratory and Invited talks (10% of your final grade):** 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 several points out of 10 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 10% 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, 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. 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:

- 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.
- 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.
- I urge you to attend every class and carefully take notes.
- 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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