Syllabus For Physics 260; sec. 030- and 0301H, Fall 2020
Prof. Rabindra N. Mohapatra

Lecture hours: On line: TTh-2:00-3:15: zoom link will be sent

Text book for the course is: **"University Physics" by Young and Freedman, 14th edition (Pearson)**.

Office hours: tentative: Monday: 2:00-3:00 PM; Wednesday 2-3 PM ; The office hours will be via Zoom. Send me emails about any physics issues you may like to discuss during the office hours: rmohapat@umd.edu

Physics 260 is the second of a three semester introductory physics course for engineers and other sciences. It consists of three regular lecture classes every week conducted by me and one discussion class for each section conducted by the TAs. There is a lab for this course (Phys. 261) for which there is a separate meeting time. The physics 261 (LAB) will be graded separately from the Phys. 260 class. The final grade for Phys. 260 will be based on the home works, class quizzes, three midterms and a final exam. This will not include the grade for the lab. (i.e. Phys 261). The Phys 261 grade will be decided by the lab instructor. Note however that lab (Phys 261) is an important part of this course. If you do not pass Phys. 261 separately, you will not pass the course and have to retake it again. So please pay special attention to the lab.

Below is a description of the organization of the Phys. 260 course.

Discussion session: Please check the schedule of discussion classes for your section. Purpose of the discussion session is to go over the material that you were taught in the lecture class. Its main purpose is to solve problems (other than the ones assigned as homework) and clear up difficulties with concepts and math steps etc. This is an important part of the course. Please attend these classes regularly and make good use of them.

Teaching Assistants: Your teaching assistant will take the discussion classes, grade midterms, final. Your quizzes will be graded by an undergraduate TA.If you have any questions on the grades, home works, quizzes etc, you need to talk to me and not the TAs. Also any issues regarding the quizzes should be cleared within a week of the quiz.

If you do not follow any math step discussed in the class, I can clear up in the office hours or ask the TA in the discussion class. Do not delay clearing up the difficulties-otherwise they will pile up and halt your progress.

Important dates for Phys. 260 students;
midterm dates are tentative and may change depending on how the course progresses (and possibly weather). If they change, they will be announced in the class or by email.

First day of classes	Monday, Aug. 31
Midterm I	Thursday, Oct. 15
Midterm II	Thursday Dec. 3
Final Exam.	Dec. 17 (6:30-8:30 PM)

Homeworks, Quizzes, Midterms and Grading

You must leave your webcam on during the quizzes, midterms and the final for proctoring purposes.

There will be one weekly 20 minute quiz in the lecture class, on the Thursdays except the first week and the weeks when there are the midterms. It will focus on the chapter covered during the preceding week although you will need the ideas from previous chapters as well. This will be a closed book quiz. You are allowed to bring one page formula sheet. The quizzes will be graded and will count towards your final grade. No quiz will be dropped. So make sure to take all the quizzes. Quizzes are an important test of how much material you are understanding in the class and it is also a practice for the midterms and final.

Online home works

There will be weekly online homework assignments; they will be graded automatically and will also count towards your final grade. The online homework assignments will be from the web site of the book *masteringphysics.com*. The homework assignments may not necessarily be similar to the quiz problem since there is a longer time for doing the home works. They are designed to test your understanding of the subject matter being discussed.

You need to register for this using the course ID below:

MPMOHAPATRA8748020

Registering in mastering physics should be done before the first day of classes Talk to me if you need help with this. There are time limits on the assignments and if you miss them once, there is no way to correct for this later on.

When solving mastering physics problems, read the instructions carefully before you start working since there are only few chances to click on the answer button. Any technical problems with mastering physics website should be resolved by sending a message to **support@masteringphysics.com and not to me**.

Midterms

There will be two midterm exams and all of them will count towards the final grade. The final exam will cover material covered during the whole semester.

The **final grade** will be decided as follows:

Home works(Mastering Phys.)	40
Quizzes(in class)	80
Midterms; 2×80	160
Final	120
Total	400

Missing an Exam: You must have a valid, medical excuse acceptable by the rules of the university to make up any missed midterms or the final exam. The excuse must be presented to the Professor (and not the TA) **before** the exam. How the missed exam will be made up, will be decided by the professor at that time, assuming the excuse is acceptable. Under very special circumstance, an incomplete final grade may be issued- see the specific University rules for this and how an incomplete grade can be changed to a regular grade.

Honors section Those enrolled in the honors section will have to work on a physics project and write a 10 page report at the end of the semester for upto extra 20 bonus points. You can either pick a project topic on your own (with my approval of the topic) or ask me for one. You will be required to check in with me once every four weeks during the semester to discuss your progress. Please pick the topic during the first week of classes, if you have not already. This is a requirement for students enrolled in the honors section only.

Responsibility: You are responsible for everything in every covered chapter, unless a specific section was explicitly excluded. Your goal should be to be proficient in the subject matter of the course and to acquire the ability to solve problems using the course material. *Please attend every class and read up the class material before coming to the class. This always makes it easier to understand the material being discussed in the class.*

HELP AVAILABLE: If you have any difficulty at all understanding the material, please clear it up as soon as possible. If a difficulty is not cleared up right away, it generally leads to more trouble later on till it grinds your physics progress to a complete halt. It may then be too late. So (*let me repeat again*), clear up your difficulties as soon as they arise without any delay. **THIS IS VERY IMPORTANT!!**

Take advantage of my office hours which are given above.Alternatively, you can contact the people at the Physics (Slawsky) clinic in the first floor of the Physics building (Toll bldg) which offers free help as well as the TAs, if they have some free time.

Always remember that key to learning physics is to solve as many problems as possible and not necessarily the ones assigned in the class. Physics involves new ideas and new equations which are not part of your daily thinking. The more problems you solve, the more familiar you feel with the the ideas and equations and easier it becomes to use them for problem solving. Some suggestions to improve your understanding of the material:

- *Read the chapter being covered before coming to the class- so that you have some familiarity with the material- it is then a lot easier to stay focussed in the class.*
- Try to solve at least three or more physics problems every day in addition to assigned homework problems.
- A useful technique is to first form a visual image of the problem before you attempt to solve it. Draw diagrams for every problem.

Chapters from Young-Freedman book Covered

A **tentative** schedule is as follows:

Date	**Topics covered**	**chapter**
Wk 1	09/01-09/03	Chapter 17
Wk 2	09/08-09/10	Chapter 18
Wk 3	09/15-09/17	Chapter 19
Wk 4	09/22-02/24	Chapter 20
Wk 5	09/29-10/01	Ch. 15
Wk6	10/06-10/08	Chapter 16
Wk7	10/13	Review
Wk7	10/15	**Midterm 1**
Wk8	10/20-10/22	Ch. 21
Wk9	10/27 -10/29	Ch. 22
Wk 10	11/03-11/05	Ch. 23
Wk 11	11/10-11/13	Ch. 24
Wk 12	11/17-11/19	Ch. 25
Wk13	11/24	Ch. 26
Wk 14	12/01	Review
Wk 14	12/03	**Midterm 2**
Wk15	12/08-12/10	Ch. 26+Review
Wk 16	12/17: 6:30-8:30 PM	**final exam:** entire semester's work