

**Syllabus For Physics 260, Fall 2017**  
**Prof. Rabindra Mohapatra**

**Lecture hours: TTh-2:00-3:15; Phys. Bldg Room 1412**

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

**Office hours: tentative: Monday: 1:00-2:00; Thursday 3:30-4:30; I am aware that these times may conflict with the class schedule for some of you; if that happens, come down to my office any other time by appointment. The TAs will not have office hours.**

Contact and office : Rm 3156, Physical Science Complex; X56022; e-mail: rmohapat@umd.edu

Physics 260 is the second of a three semester introductory physics course for engineers and other sciences It consists of two regular weekly classes to be conducted by me and one hour-long discussion class for each section to be 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 the whole course again. So please pay special attention to the lab. Below is a detailed description of the organization of the Phys. 260 course.

**Discussion session:** In addition to regular classes T-Th 2-3:15, there will be a one hour discussion session every week for different sections at different times. Please check the schedule of discussion classes for your section. Purpose of the discussion session is to go over the material that you went over in the class, but mainly to solve problems (other than the ones assigned as homework) and clear up difficulties with concepts and math steps etc. Please attend these classes regularly and make good use of them.

**Teaching Assistants:** Your teaching assistant will take the discussion classes, grade midterms, final and quizzes. The TAs will not have any office hours. The office hours will be maintained by me. If you have any questions on the grades, home works, quizzes etc, you need to talk to me and not the TAs

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.

**Important dates for Phys. 260 students;**  
*midterm dates are tentative and may change. If they change, they will be announced  
in the class two weeks before.*

First day of classes	Aug.28
Midterm I	Tuesday Sept. 26
Midterm II	Thursday, Oct. 26
Midterm III	Tuesday, Dec. 6
Final Exam.	Dec. 14 Thursday (6:30-8:30 PM)

### Homeworks, Quizzes, Midterms and Grading

There will be one weekly 20 minute quiz in the class, on one of the two class days. The day of the quiz will be random depending on a suitable breakpoint between chapters and it will cover material covered up to the preceding week. The quiz will be graded and will count towards your final grade. No quiz will be dropped. So make sure to take all the quizzes.

#### **Online home works**

There will be weekly online homework assignments; they will be graded automatically and will count towards your final grade. The online homework assignments will be from the web site of the book

masteringphysics.com.

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

**MPMOHAPATRA60221.**

Registering in mastering physics should be done before the first day of class or at the latest before the end of the first week of classes. Talk to me if you need help with this during the first week of classes . 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 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 three 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	45
Quizzes	60
Midterms; $3 \times 55$	165
Final	130
<hr/> Total	<hr/> 400

**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 extra 20 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 three weeks during the semester to discuss your progress.

**Missing an Exam:** You must have a valid, medical excuse acceptable by the rules of the university to make up if you miss any of the 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.

**Responsibility:** You are responsible for everything in every covered chapter, regardless of whether the material was specifically mentioned in the class or 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.*

**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!!**

*Please take advantage of my office hours which are given above. If the announced hours are not convenient for some reason, I will also be available at times other than the announced office hours; send me a e-mail the day before you can come (rmohapat@umd.edu) to set up an appointment. If I am free, I will be happy to have you come in.*

**Always remember: key to really 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 four or five physics problems every evening or early morning 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. You will learn in the class how to do this in various cases. You can come to my office for help with this also.

### Chapters from Young-Freedman book Covered

A tentative schedule is as follows:

<b>Date</b>	<b>Topics covered</b>	<b>chapter</b>
Wk 1	8/28-8/31	Chapter 17
Wk 2	09/04-09/08	Chapter 17+18
Wk 3	09/11-09/15	Chapter 19
Wk 4	09/18-09/22	Chapter 20
Wk 5	09/26	<b>Midterm I</b> Chapters 17-20
Wk 5	09/28	Ch. 15
Wk6	10/02-10/06	Chapter 16+21
Wk7	10/09-10/13	Ch. 21
Wk8	10/16-10/20	Ch. 22
Wk9	10/24	review
Wk 9	10/26	<b>Midterm II</b> Ch 15, 16, 21, 22
Wk 10	10/30-11/03	Ch.23+24
Wk11	11/06-11/10	Ch. 24+25
Wk 12	11/13-11/17	Ch. 25+26
Wk 13	11/29-12/01	Ch. 26+ review.
Wk14	12/06	Midterm III (Ch. 23-26)
Wk 14	12/08	Review for final
Wk15	12/14: 6:30-8:30 PM	<b>final exam:</b> entire semester's work