

University of Maryland
Department of Physics
Physics 260 – FALL 2015
“General Physics: Vibration, Waves, Heat, Electricity and Magnetism”

Lecture Date and Time: M 7:00 – 8:50 PM, W 7:00 – 7:50 PM
Lecture Room: 1410 Physics Building

Instructor: Dr. Hailu Bantu Gebremariam
Office: 3107 Physics Building

email: hailu@umd.edu
Phone: x5-6204

Office Hours: M, W 5:30 – 6:30 PM or by appointment

Discussion schedule:

Section	Date and Time	Room	TA
0401	W 8:00 – 8:50 AM	PHY0405	Sinha, Sumit: Email: sinhon2030@gmail.com
0402	W 6:00 – 6:50 PM	PHY1219	Zhao, Haiqing: Email: haizhao@umd.edu
0403	M 6:00 – 6:50 PM	PHY1219	Sinha, Sumit: Email: sinhon2030@gmail.com

Lab sections: You must enroll in Physics 261 and complete all the labs in order to pass Physics 260.

Textbook: *Physics for Scientists and Engineers, A Strategic Approach, by Randall D. Knight (Addison Wesley), third edition.*

- If you buy a new textbook, you must get it with an access number to a Materingphysics.com.
- If you buy a used copy, you will need to also purchase an access number which you can do on-line or at the bookstore.

MasteringPhysics.com will be used to assign and collect most of the Homeworks.

Note that we will be using material in four different volumes!

Official Course Description:

Prerequisite: MATH141 and PHYS161.

Corequisite: PHYS261.

Credit will be granted for only one of the following: PHYS142; PHYS260 and PHYS 261 (Formerly: PHYS262) or PHYS272. Formerly PHYS262. Second semester of a three-semester calculus-based general physics course. Vibrations, waves, fluids; heat, kinetic theory, and thermodynamics; electrostatics, circuits, and magnetism. PHYS260 and PHYS261 must be taken in the same semester and the grade for the courses will be combined into a single grade for both. To pass, students must complete passing work in both PHYS260 and PHYS261. CORE Physical Science Lab (PL) Course when take concurrently with PHYS 261. If purchasing used books additional software may be required.

Homework: Homeworks will be assigned electronically on Masteringphysics.com. **You must answer all the problems on the site.** The first time you log on to masteringphysics.com you will need to enter the course id, which is **“MPGEBREFALL2015”**. Typically there will be homework assignment every week. The due date for the problems on [Mastering physics.com](http://Masteringphysics.com) will be indicated on the site. **Late homework will NOT be accepted.** Homework on [Masteringphysics](http://Masteringphysics.com) will be graded by the computer.

You will be given 4 chances to answer each question. You won't be penalized for wrong answers. Note that the software will randomize the numbers each time you make a new attempt on a problem, so be careful and remember that other students working on exactly the same problems will have other numbers! The best way to do physics problems is first to work out carefully a general solution and then plug in the numbers at the end. This is especially true if the numbers are being randomized each time so everyone has different numbers.

It is your responsibility to check MasteringPhysics frequently to make sure you do not miss any due date.

Quizzes: In order to test your progress and to encourage attendance quizzes will be given in the lecture period.

Exams: Three midterm exams and one final exam will be given. In computing your grade, ALL midterm exams will be counted. **You must take the final exam to pass the course.** All exams will be closed book, but a single paper crib sheet prepared by you will be allowed. Calculators are allowed during exams, but you are not allowed to use any device with phone, photo, web, messaging or text display capabilities during an exam. If you cannot attend an exam at the scheduled time, see Professor Gebremariam before the exam! If you miss an exam with a **valid excuse**, a makeup exam will be given and it is your responsibility to arrange this in a timely fashion with the instructor. Students are responsible for all material, including that covered in assigned reading, lectures and homework. Material from any part of the course can appear on a test, quiz or homework, whether or not it was covered in the lectures.

Midterm exams: Sept. 30, Oct 28, Nov 23

Final exam: Tuesday, December 15, 2015 6:30 – 8:30 PM

Grading:

Homework – 15 %

Quizzes – 10 %

Midterm exams (10% each) – 30 %

Final Exam – 20 %

Lab – 25% (if all labs completed, F otherwise)

At the end of the semester all Lab, exam, quiz and homework grades will be added with the above weighting and a final letter grade will be assigned depending on the distribution of total scores.

***Important Notes:**

- 1) **YOU MUST BE ENROLLED AND COMPLETE ALL THE LABS IN PHYSICS 261 IN ORDER TO PASS PHYSICS 260.** There are no exceptions. Students who do not complete all of the experiments in physics 261 will automatically get an F in both Physics 260 and Physics 261. Don't believe anyone who tells you differently. For the final letter grade, PHYS 260 and PHYS 261 scores will be combined with weights of 3:1, and a single letter grade will be submitted for both courses.
- 2) You must take the Final exam in order to pass the course.
- 3) No homework or exam scores will be dropped. Missing a homework assignment or exam will not be allowed without a valid documented excuse (medical problem, religious holiday, or serious family crisis). In all cases, a makeup assignment or makeup exam will need to be completed in a reasonable amount of time to get credit. The new due date and assignment must be arranged by consulting with Dr. Hailu Bantu as soon as possible after it becomes apparent that there will be a problem. If you are going to miss an exam or assignment because of a religious holiday, it is your responsibility to inform the instructor of any intended absences for religious observances in advance, so that suitable arrangements can be made.
- 4) **Discussion Sections:** You must attend your discussion section and you must go to the section you have been assigned. Your TA will cover material (homework and exams) that may not be covered elsewhere. Please come prepared so you can ask questions, *i.e.* read the assigned chapter and work on the homework problems. Remember, the TA is there to explain things and give help when you are stuck, not to dole out answers. Also, don't forget that your TA is also a student, in this case a graduate student, and also has to take classes, do homework and teach other sections. TA's are still learning, are very busy, and are not highly paid for all their effort. Please be respectful and understanding and expect that they treat you with the same respect and understanding.
- 5) **HELP:** If you are experiencing any difficulties with the course material get help as soon as possible. The Physics Department has a free tutoring service, the Slawsky Clinic, run by retired senior physicists on a walk-in, first-come, first-served basis. It is located in Room 1214 in the Toll Physics building. It is open during the semester typically M-F 10 AM - 3 PM. You can also get help in hiring a private tutor. The Physics Department maintains a list of people who offer such services – see <http://umdphysics.umd.edu/academics/academic-support.html>. If you are overwhelmed with course loads and time management, a free academic counseling is available from Learning Assistance Service, 2202 Shoemaker Building.
- 6) **ACADEMIC INTEGRITY:** The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitating academic dishonesty, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.shc.umd.edu>.

Phys 260 Schedule for Fall 2015 (subject to change)

	Dates	Topics	Knight Chapter
Week 1	08/31 09/02	A Macroscopic Description of Matter	16
Week 2	09/07	Labor Day - NO CLASS	
Week 2	09/09	Work, Heat, and the First Law of Thermodynamics	17
Week 3	09/14 09/16	The Micro/Macro Connection	18
Week 4	09/21 09/23	Heat Engines and Refrigerators	19
Week 5	09/28		
Week 5	09/30	Exam 1	
Week 6	10/05 10/07	Traveling Waves	20
Week 7	10/12 10/14	Superposition	21
Week 8	10/19 10/21	Electric Charges and Forces	25
Week 9	10/26	The electric field	25, 26
Week 9	10/28	Exam 2	
Week 10	11/02 11/04	Flux, Gauss's Law	27
Week 11	11/09 11/11	The Electric Potential	28
Week 12	11/16 11/18	Potential and Field	29
Week 13	11/23	Exam 3	
Week 13	11/25	Thanksgiving - NO CLASS	
Week 14	11/30 12/02	Current and Resistance	30
		Fundamentals of Circuits	31
Week 15	12/07 12/09	Review	
Tuesday, December 15, 2015 6:30 - 8:30 PM Final Exam			