

SYLLABUS

PHYS 260 (Sections 0101 to 0105) – Fall 2015

General Physics: Vibration, Waves, Heat, Electricity and Magnetism

INSTRUCTOR: [Professor Eun-Suk Seo](#)
Office: Rm 3203, CSS building
Phone: 301-405-4855
Email: seo@umd.edu
Home page: <http://cosmicray.umd.edu>
Office Hours: MW 2:00 – 3:00 PM, or by appointment.

LECTURE: MW 4:30 – 5:45 PM, Rm 1412, Physics Building

REQUIRED TEXTBOOK: Physics for Scientist and Engineers - A Strategic Approach with *Mastering Physics*, third edition, by Randall D. Knight (Published by Pearson)

COURSE DESCRIPTION: PHYS 260 is a 3-credit course covering various topics including waves, fluids, heat, thermodynamics, electrostatics and electrical circuits. It is the second course of a three-semester calculus-based general physics course designed for engineering students. PHYS 260 and PHYS 261 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 PHYS 260 and PHYS 261.

PREREQUISITE(S): PHYS 161 and MATH 141. Co-requisite: PHYS 261. Credit granted only for: PHYS 142, (PHYS 260 and PHYS 261), or PHYS 272.

DISCUSSIONS: Discussion sessions will give you an opportunity to obtain clarification of the material presented in class, on in the textbook. Homework problems and Exam questions will be discussed. This is an opportunity to get help from the Teaching Assistant (TA) and from fellow students.

| Section | 0101 | 0102 | 0103 | 0104 | 0105 |
|----------|--------------------|--------------------|------------------|------------------|------------------|
| Time | Tu 11:00 -11:50 am | W 10:00 – 10:50 am | W 8:00 - 8:50 am | W 9:00 – 9:50 am | F 3:00 – 3:50 pm |
| Location | EGR 0108 | PHY 0405 | PHY 1219 | PHY 0405 | PHY 1204 |
| TA | Keyi Liu (Ray) | Abhish Dev | Keyi Liu (Ray) | Teddy Mefford | Teddy Mefford |

TEACHING ASSISTANTS:

SECTIONS 0101 & 0103

Keyi Liu (Ray)
kliu123@umd.edu
757-746-3838
Office: Physics 3101
Office hours:
M 11:00am-11:50am,
W 9:00am-9:50am

SECTION 0102

Abhish Dev
adev@umd.edu
301-405-8577
Office: Physics 0104
Office hours:
W & F 12:00-1:00 pm

SECTIONS 0104 & 0105

Teddy Mefford
tmefford@umd.edu
510-381-1534; 301-405-6191
Office: Physics 3101
Office hours:
T-Th 11:00 am-12:00 pm

HOMEWORK: Homework assignments will be made using *Mastering Physics* every week. The due dates are specified on *Mastering Physics* <http://www.masteringphysics.com>. Late homework will not be accepted. No makeup will be possible. You should start working on the homework problems as soon as they are available. You will get immediate feedback from *Mastering Physics* on whether your answer is correct or not. You are allowed to make a number of attempts to get the right answer. You are graded only on your final answers and get your score when you are done. Answer keys will be available on *Mastering Physics* after the grading is completed.

Full solutions for the homework assignments will be discussed at the Discussion sessions with the Teaching Assistant (TA). There will also be “Practice” assignments which are given to help you get familiar with **Mastering Physics** and to make more example problems available to you. Assignments with “Practice” tagging are not for grade but for your practice. Your lowest homework grade can be dropped. If you miss a homework assignment due to illness or an emergency, that will be the homework that is dropped.

For the electronic homework submission: Go to <http://www.masteringphysics.com> and register using your access key number for the **course ID: MPSEO31761** for you to be able to submit your Homework. It is encouraged to register as soon as possible before the first day of class.

EXAMS: There will be three in-class exams and one two-hour final exam. The exam will include problems and conceptual questions. There will be no make-up exams. The lowest score of three in-class exams can be dropped. Students must take the final exam to pass the course.

Tentative Exam Schedule:

| | |
|----------------------------|--------------------------------------|
| Exam 1 | Wednesday September 30, 4:30-5:45 PM |
| Exam 2 | Wednesday October 28, 4:30-5:45 PM |
| Exam 3 | Wednesday December 2, 4:30-5:45 PM |
| Final Exam | Tuesday December 15, 6:30 – 8:30 PM |

GRADE: PHYS 260 grade will be computed as following:

| | |
|---------------|-----|
| Homework | 20% |
| In class work | 10% |
| Midterm Exams | 40% |
| Final Exam | 30% |

COURSE POLICIES: 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. It is required to complete all the experiments to pass PHYS 261. Students who fail PHYS 261 will automatically get an F for both PHYS 260 and PHYS 261. Likewise, failing PHYS 260 will result in failing PHYS 261 as well.

COURSE PREPARATION: Students are responsible for all of the material in every covered chapter, regardless of whether or not the material was specifically mentioned in class. During the lecture we will focus on the material causing difficulties. Students are expected to keep a notebook and electronic excel spreadsheets to document their work.

TUTORING: 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.

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>.

TENTATIVE CLASS SCHEDULE:

| PHYS 260 Fall 2015, Phys Bldg. Rm 1412 | | |
|--|---|--|
| DATE | Chapters | TOPIC |
| Aug 31 | 16 | A Macroscopic Description of Matter |
| Sep 2 | 16 | A Macroscopic Description of Matter |
| Sep 7 | NO CLASS -- Labor Day | |
| Sep 9 | 17 | Work, Heat and the First Law of Thermodynamics |
| Sep 14 | 17 | Work, Heat and the First Law of Thermodynamics |
| Sep 16 | 18 | The Micro/Macro Connection |
| Sep 21 | 18 | The Micro/Macro Connection |
| Sep 23 | 19 | Heat Engines & Refrigerators |
| Sep 28 | 19 | Heat Engines & Refrigerators |
| Sep 30 | EXAM #1 | |
| Oct 5 | 20 | Traveling Waves |
| Oct 7 | 20 | Traveling Waves |
| Oct 12 | 21 | Superposition |
| Oct 14 | 21 | Superposition |
| Oct 19 | 25 | Electric Charges and Forces |
| Oct 21 | 26 | The Electric Field |
| Oct 26 | 26 | The Electric Field |
| Oct 28 | EXAM #2 | |
| Nov 2 | 27 | Flux, Gauss's Law |
| Nov 4 | 27 | Flux, Gauss's Law |
| Nov 9 | 28 | The Electric Potential |
| Nov 11 | 28 | The Electric Potential |
| Nov 16 | 29 | Potential and Field |
| Nov 18 | 29 | Potential and Field |
| Nov 23 | 30 | Electric Current and Resistance |
| Nov 25 | 31 | Fundamentals of Circuits |
| Nov 30 | 31 | Fundamentals of Circuits |
| Dec 2 | EXAM #3 | |
| Dec 7 & 9 | Review | |
| Tuesday Dec 15 | FINAL EXAM 6:30-8:30 pm (TBD location) | |

DISABILITIES: Students with documented disability should contact Professor Seo at the beginning of the semester (within the first week) to discuss accommodations.

UNIVERSITY CLOSURE: If the University is closed due to weather or some emergency situation the scheduled class activities will be rescheduled. Closing/opening is announced over local radio/TV and the University's homepage: <http://www.umd.edu/>. The course specific instructions will be given on <http://elms.umd.edu/> as needed.

RELIGIOUS OBSERVANCES: If students need to miss class, discussion, a homework deadline, or an exam due to a religious observance, students must discuss possible schedule conflict with the instructor in advance, at the beginning of the semester so appropriate arrangements could be made.

COPYRIGHT: Class materials provided for this course are copyrighted. They should not be reproduced for anything other than personal use without written permission from the instructor.

DISCLAIMER: The instructor reserves the right to make minor changes to this syllabus to meet the specific needs of the class during the semester.