Physics 211: Physics for Scientists and Engineers I (Spring 2016)

Instructor: Dr. Ahmed M. Hamed
Office: 5 Kennon Observatory
Phone: 662- 915 -7849
Email: hamed@phy.olemiss.edu
Online: http://www.phy.olemiss.edu/~hamed
Lectures: 11:00am - 12:15pm, T TH, HELD Lewis Hall, Room 101 (Auditorium)
Office Hours: 1:25pm - 2:40pm, T TH and by appointment
Textbooks: "Physics for Scientists and Engineers" 9th Ed. By Serway and Jewett;
Teaching Assistant: TBA
Notes:
1. The grades in this course will be determined by your performance in two term exams (20% each), final exam (40%), homework (10%), attendance* (4%), pre-lecture quizzes (2%), in-class quizzes (2%), and bonus problems (2%). The grade ranges are: 90-100 = A; 80-90 = B; 65-80 = C; 50-65 = D.
2. The Final Exam will replace the worst of the two term exams if it is higher than any of them. The final exam grade cannot be used to replace a term exam that was missed.
3. February 5th is the last day of refund period, March 4th is the last day for course withdrawals, and March 7th is the midterm grades due date.
4. Final exam (comprehensive): Tuesday May 10th, 12:00pm-3:00pm. Please note there is no make-up for the final exam.
5. Access and do the homework problem online at https://www.webassign.net (see instructions**)

Week/Date	Chapter/Topic	Chapter/Homework
1 Jan 26; 28	**Chapters 1 & 2:** Dim. analysis, motion in 1d	HW1: Chapters 1 & 2: due Feb 10
2 Feb 2; 4	**Chapters 3 & 4:** Vectors, motion in 2d	HW2: Chapters 3 & 4: due Feb 17
3 Feb 9; 11	**Chapters 5 & 6:** Motion laws, circular motion	HW3: Chapters 5 & 6: due Feb 24
4 Feb 16; 18	**Chapters 7 & 8:** Work, conservation of Energy	HW4: Chapters 7 & 8: due Feb 26
5 Feb 23; 25	**Chapters 9:** Many particles, linear momentum **Feb 25 TH** **EXAM I**	HW5: Chapters 9 & 10: due Mar 3
6 Mar 1; 3	**Chapter 11 & 10:** torque, Ang. momentum	HW6: Chapters 11 & 12: due Mar 9
7 Mar 8; 10	**Chapters 12 & 13:** Static equil., gravitation	HW7: Chapters 13 & 14: due Mar 17
8 Mar 15; 17	**Spring Break**	
9 Mar 22; 24	**Chapters 14 & 15:** Fluid dynamics, SHM	HW8: Chapters 15 & 16: due Mar 26
10 Mar 29; 31	**Chapters 16 & 17:** Waves and sound, resonance	HW9: Chapters 17 & 18: due Apr 7
11 Apr 5; 7	**Chapters 18:** Resonance, Temp. **Apr 7 TH** **EXAM II**	HW10: Chapters 19 & 20: due Apr 21
12 Apr 12; 14	**Chapter 19 & 20:** Temp, 1st law of Thermo,	HW11: Chapters 21 & 22: due Apr 28
13 Apr 19; 21	**Chapter 21:** Kinetic th. of gases	
14 Apr 26; 28	**Chapter 22:** Entropy, 2nd law of therm.	
15 May 3; 5	**Reviews**	
16 May 10th	**FINAL EXAM: 12:00 pm- 3:00 pm**	

*Attendance

"The university requires that all students have a verified attendance at least once during the first two weeks of the semester for each course. If your attendance is not verified, then you will be dropped from the course and any financial aid will be adjusted accordingly. Please see http://olemiss.edu/gotoclass for more information." Attendance will be taken each day by using the scanners. A bonus of 10 points will be given for perfect attendance. Every absence will be subtracted from this bonus, up to ten days. For more than ten absent days, no bonus will be given. There are NO excused absences; if you forget your student ID, you lose a bonus point. Consistent with the Honors College standards, any student who misses more than three classes may suffer a grade penalty. To comply with attendance verification requirements, data captured by the attendance scanners will verify your attendance during the first two weeks of class.

**Online Homework (WebAssign Instruction)

You must self-enroll, the class key for Phys 211 will be provided, please supply your entire student Id accurately in order for the system to transfer credit from Web Assign to Blackboard. Student quick start guide is available at: http://www.webassign.net/manual/WA_Student_Quick_Start.pdf

Do Yourself (and Me) a Favor

Read about the topics before I discuss them in lectures. It is not necessary that you study them carefully, but at least get the "smell of it". This should make it much easier for you to follow the lectures and that should make them more interesting.

Recitation Sessions "OPTIONAL"

We will set up time (after 5:00 pm) for recitation sessions according to the students' schedule and the room availability. The recitation session is **not mandatory**, however it is very important in order to practice solving the homework problems, and enforce the physics concepts.

Disclaimer

This is a tentative syllabus and a slight adjustment might be made in due course.

ADA statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Office of Student Disability Services (SDS) at 234 Martindale Center (sds@olemiss.edu) phone: 662-915-7128

Academic Integrity statement

As an Olemiss student I have abided by the UM academic integrity policy. My words and actions will reflect Academic Integrity. I will not cheat or lie or steal in academic matters.
I will promote integrity in the University of Mississippi community. For more information, refer to:
http://www.olemiss.edu/depts/general_library/instruction/resources/plagiarism_resources/reinforcing.html

Objective

This course is primarily about motions of objects and forces, which underlie these motions. The theory that describes the motion of "large mass" objects, which move with low speed compared to the speed of light, was developed by Isaac Newton in the 17th century and is called "classical mechanics". Historically, this theory gave a foundation for development of all modern physics. Therefore, this course is an introduction to physics in general. Physics in turn provides a foundation for most other natural sciences and engineering. This course has several rather broad goals. They include that you develop a good understanding of a few important concepts in physics, learn to apply these concepts to familiar and unfamiliar situations, and gain the ability to reason qualitatively and quantitatively about physics.