

PHYSICS 218: Mechanics (Fall 2009)

Corequisites: MATH 151. You are expected to have a working knowledge of plane geometry, trigonometry, and algebra. As the semester progresses you will also be expected to have a working knowledge of derivatives and integrals, and be proficient in the use of vectors (addition, subtraction, dot and cross products).

Instructor: **Alexei V. Sokolov**

Office: Engineering-Physics building, Room 414
Phone: 845-7733 (office), or 845-8519 (lab 1), or 862-1290 (lab 2)
E-mail: sokol@physics.tamu.edu
Office hours: Tue, Thu. 9:00 to 11:00 a.m., and by appointment

Web Page: <http://physics218.physics.tamu.edu> for general information
<http://faculty.physics.tamu.edu/sokol/sokolov.htm> for my own homepage
<http://visual.physics.tamu.edu/vp218/> for visual physics 218 lab homepage

Textbooks: "University Physics", 12th ed. by Young and Freedman
Visual Physics 218 Lab Manuals are available at <http://visual.physics.tamu.edu/vp218/>
Please download them before each lab.

Recitation /Lab: Recitation meets in 218 Heldenfels Hall, and is followed by a Laboratory session the remaining two hours.
No Lab sessions or Reports will be dropped. **Students retaking the course should contact me immediately in order to get credit for Lab if passed in a previous semester with a grade of 80 or better.** Students retaking the course do not have to repeat the Lab but they are required to attend Recitation and take weekly quizzes. **Note: There will be no recitation or lab meetings during the first week of the semester.**

Quizzes / Homework: Homework assignments will be based on MasteringPhysics (<http://www.masteringphysics.com>).
If you have purchased a new book, the MasteringPhysics packet will be included. If you have purchased a used book, you can buy the MasteringPhysics packet at the bookstore – OR – sign up online. You will have to log in and enroll to use this program. The class ID is SOKOLOV218FALL09. Homework assignments are for you to practice problem-solving techniques and are critical for your success. Also, roughly 10 quizzes will be given during Recitation; these will test your ability to work out the assigned homework problems. There will also be unannounced pop quizzes during Lecture.

Exams: There will be three midterm exams and one final exam. (a) Each exam will generally consist of problems similar in content and difficulty to the homework. The entire solution will be graded and partial credit given if merited. Your work must show steps toward the solution; the answer alone is not sufficient. The grader will judge your use of physics in arriving at the solution. Exams may also include examples worked in the lecture but not appearing in the text nor assigned as problems. (b) Formula sheets will be provided for each exam and the final. (c) If you miss an exam due to an **authorized excused absence** as outlined in the *University Regulations*, then you must **contact me no later than the next class meeting** following the missed exam to arrange for a makeup exam. There will be a **single course-wide makeup exam** for those missing an exam. This makeup exam will be written by a committee of Physics 218 lecturers and administered outside normal class time within 7-10 class days following the missed exam. Note: Very few conditions qualify as an authorized excused absence, so avoid missing an exam at all costs. (e) You must bring your student ID with you to all exams for identification purposes.

Course Grade: The total course grade consists of 750 points distributed as follows:

3 Exams	275 (75, 100, 100)
Final Exam	200
Laboratory	100
Recitation: Preparation, Attendance, Quizzes	100
Homework and Lecture Quizzes	75
Total	750

Grade curving: Final grades may be curved at the end of the semester depending on the conditions of the exams. In no case will a curve result in a lower letter grade than the standard 90-100% A, 80-89% B, 70-79% C, 60-69% D, and <60% F.

NOTE: If your final exam grade is higher than your 3-exam average, then the final will count 275/750 points toward your final grade and your midterm exam average will count just 200/750. You must pass both the lecture (3 midterm exams, final exam, homework, recitation lecture quizzes) and laboratory (with a grade $\geq 70\%$) parts of the course **separately** in order to pass the course.

ADA Policy: 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 Department of Student Life, Services for Students with Disabilities, in Room 126 of the Koldus Building or call 845-1637.

Honor Code: The Aggie Honor Code states, "An Aggie does not lie, cheat, or steal or tolerate those who do." Further information regarding the Honor Council Rules and Procedures may be found on the web At <http://www.tamu.edu/aggiehonor>.

Tentative Class Schedule: Homework problems listed here are at the end of the chapter (EOC) in our text. They are to be completed and submitted online using MasteringPhysics. Additional tutorial problems will be included in the online homework..

Week Starting	Chapters	Topics/Homework Assignment	Due
Aug 31	1 (1-10)	Introduction; vectors End of Chap (EOC) problems: CH1-32, 35, 50, 55, 59, 76, 78,93	Sep 14 10 am
Sep. 4 last day to drop with no record			
Sep 7	2 (1-6)	Motion along a straight line EOC problems: CH2-4,9,12,18,21,36,40,76,80,83,92	Sep 21 10 am
Sep 14	3 (1-5)	Motion in two or three dimensions EOC problems: CH3-9,10,32,33,38,40,52,54,64,81	Sep 28 10 am
Sep 21	4 (1-6)	Newton's laws of motion EOC problems: CH4-12,16,24,27,35,39,41,40	Oct 5 10 am
Sep 28	5 (1-4)	Further application of Newton's laws EOC problems: CH5-4,9,14,19,37,55,62,67,86,91,111,113,114,115	Oct 12 10 am
Exam 1 (Chap. 1-3)	Sep 28 (Monday)		
Oct 5	6 (1-4), 7 (1,2)	Work, kinetic energy, and potential energy EOC problems: CH6-61,62,69,70,76,81, CH7-14,18,24	Oct 19 10 am
Oct 12	7 (3-5), 8 (1,2)	Force and energy; Momentum EOC problems: CH7-29,38,42,46,54,62,66,67,69,74, CH8-17,18	Oct 26 10 am
Oct 19	8 (3-5)	Momentum and collisions EOC problems: CH8-37,39,43,46,50,52,66,75,100	Nov 2 10 am
Oct 26	9 (1-5), 10 (1,2)	Rotation of rigid bodies; Torque EOC problems: CH9-1,6,9,19,25,30,34,47,55,85,86, CH10 – 1,2,5,7,13	Nov 9 10 am
Exam 2 (Chap. 4-7)	Oct 26 (Monday)		
Nov 2	10 (3-7)	Dynamics of rotational motion EOC problems: CH10-20,22,27,29,34,35,39,42,64,91	Nov 16 10 am
** Nov 6 (Fri):		Last day to drop course with no penalty (Q-drop).	
Nov 9	11 (1-3), 12 (1-5)	Static equilibrium; Gravitation EOC pbs CH1-7,10,11,13,14,18,42,52,66,73, CH12-4,5,16,23,27,75,77	Nov 23 10 am
Nov 16	13 (1-8)	Periodic motion EOC pbs CH13-1,2,7,11,12,19,26,32,36,44,45,52,54,57,60,68,72,75,91,93	Nov 30 10 am
Nov 23	15 (1-8)	Mechanical Waves EOC problems: CH15-3,5,6,7,10,15,20,28,33,39,41,45,49,50,51	Dec 7 10 am
Exam 3 (Chap. 8-11)	Nov 23 (Monday)		
Nov 26-27 Thanksgiving Holiday			
Nov 30	15 (1-8) continued	Mechanical waves (continued)	
** Dec 7 (Mon):		Attend Friday classes.	
** Dec 8 (Tue):		Attend Thursday classes, including Recitation; last day of classes.	

Final Exam (Chap.1-13, 15): Dec. 14 (Mon) 10:30 a.m.-12:30 p.m.