

SYLLABUS – PHYSICS 218: Mechanics – Sections 520-524 – Fall 2014

Course Description: *Mechanics* for students in science and engineering. This is the first semester of a two-semester sequence in introductory physics. Topics covered include Newton's Laws, the concepts of energy and work, conservation of energy and momentum, rotational motion, gravity, simple harmonic motion, and waves.

Course Objectives:

Conceptual knowledge to gain: Understanding of the physics of motion, Newtonian mechanics applied to statics and dynamics, and waves.

Skills to gain: Ability to work through complex problems.

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Office hours: M 3:00-4:30 PM, R 2:15-3:45 PM, in CYCL 333. Otherwise, email me for an appointment.

Web Pages:

- physics218.physics.tamu.edu – website with information common to all PHYS 218 sections using the 'University Physics' textbook
- cyclotron.tamu.edu/mio/phys218 – main course website for sections 520-524
- ecampus.tamu.edu site for this class will have lecture notes and grades
- pearsonmylabandmastering.com - Mastering Physics (register through ecampus.tamu.edu) for homework submission
- www.smartphysics.com for pre-lectures and checkpoints
- www.webassign.net/tamu/login.html for the labs

Co-Requisite: MATH 151 or 171. You must 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).

Class times: Lectures TR 12:45-14:00, MPHY 205, plus one weekly Recitation/Lab section (M or W).

Text and required materials: The text is "University Physics", 13th ed., Young and Freedman, vol. 1, stocked in the bookstore, or see the web-page for other versions that would suffice. Look for bundled MasteringPhysics access, or you must purchase access to this site separately. Also you will need to purchase an access code for WebAssign for the labs and SmartPhysics for the prelectures. Finally, you must have an "iClicker" for the lectures.

You also should have a pocket calculator capable of calculating arithmetic and trigonometric functions for exams.

Pre-Lectures: PHYS 218 lectures are going toward a “flipped course” model, and as part of that we are using a pre-lecture system hosted on the online SmartPhysics site. Please enter your UIN for your ‘unique identifier’ when registering, to ensure that you get credit for your work. You are required to view the prelectures (narrated slides including a few online questions) ahead of the lectures, and the lectures will include quizzes to see if you have gained a basic understanding. The remainder of the lecture can then focus more on problem-solving. The SmartPhysics site also includes “Checkpoints” following most pre-lectures, which are short quizzes to test for understanding. The course code for this course is: **67426a7d**.

Lectures and Clickers: The iClickers will be used for in-class conceptual testing and polling. Together with the Pre-lectures, 8% of the course grade is based on these parts. To encourage class participation, credit for iClickers will be based in part on participation (full participation points requires attending more than 92% of the lectures—you get 3 “free drops”) as well as additional points based on correct answers. To gain participation credit you must pre-register your device, and answer all of the questions in class. *Cheating by bringing a friend’s clicker is a violation of the Aggie Honor Code, and will result in loss of all clicker points, and possible disciplinary action.*

To register the iClicker, go to <http://www.iclicker.com/support/registryourclicker/>, and enter your first and last names (same as on your TAMU ID), then the TAMU UIN, then the "Remote ID" code from the back of your iClicker. (It can also be found on the LCD screen upon powering up the remote.) Technical problems with the clickers will likely need to be addressed to the support people at iclicker.com.

Laboratory: The Lab is a part of this course, not treated as a separate grade. The Lab Schedule is posted on the web-page. The labs, along with pre- and post-lab assignments, will be obtained through the online WebAssign package. Note that you must attend Recitation each week, even if no lab experiment is scheduled (see the Lab Schedule for details). The policy for absences in Lab and Recitation is the same as for the Exams, and you must consult first with your TA in the case that you have an excused absence.

Homework and Recitation: Homework assignments are posted online on MasteringPhysics, and you are responsible for completing and understanding these problems in preparation for Recitation, which will include a quiz on the homework, in most weeks, starting in the second week. By the end of the first week you should set up your MasteringPhysics account and complete the first homework assignment. Go to www.masteringphysics.com and click on the Young/Freedman 13th ed. textbook link. When you first register, you must do so via the homework link on the eCampus site for your PHYS 218 course.

You must work the online problems on your own, and keep up with the deadlines--see the MasteringPhysics site for posted due dates. Late submissions **are** accepted, however full credit will not be given. The penalty is -3% per hour past the deadline. To encourage doing the homework (which is necessary to succeed in the course!), the maximum penalty—no matter how late—is -60%. There are also “Adaptive Followup” assignments due 2 days after most regular assignments, where up to two question sets are selected from the MasteringPhysics item library to address your unique needs based on what you had problems with in the parent assignment. If you get >95% on the parent assignment, you will test out of the follow-up and automatically receive the bonus points; if you struggled, the follow-up should help identify your difficulties and give you more practice where you need it. Details about the grading policy for individual homework problems can be found on the online site—for example, in some cases you get several attempts to key in the correct answer, with a 3% penalty for wrong attempts.

Exams: We will have 3 common evening exams and one final exam, with the schedule for these listed on the separate Class Schedule page. The common exams are the extra evening sessions included in the course schedule when you registered. These exams start at or around 7 PM for our sections, and are expected to last 1.5 hours.

The Final exam time/date is set by the Registrar. There should be no conflicts at this time since the schedules are set up by the Registrar, however if you have 3 exams on one day you can get one rescheduled—for such requests you need to see me well in advance, since last minute arrangements may not be possible. Exams generally consist of problems similar in content and difficulty to the homework, and they are expected to include both multiple-choice and free response questions. **Formula sheets** will be provided for each exam.

Absences: If you miss an exam due to an *authorized excused absence* as outlined in the *University Regulations*, you should attempt to **contact me prior to the exam, but no later than the next class meeting** following the missed exam to arrange for a makeup exam. With an official excuse, the missed exam score can be replaced by the score on a make-up exam. Note: Few conditions qualify as an authorized excused absence, so you must avoid missing exams except for extremely serious circumstances.

Identification: You *must* bring your TAMU student ID with you to all exams for identification purposes.

Course Grade: The overall course grade is weighted as follows:

3 Exams (course-wide evening exams) 39%* (13% each)

Final Exam (individual for this lecture) 25%*

Laboratory 10%

Recitation Quizzes 8%

Online homework 10%

Prelectures and in-class (clickers) 5+3=8%

Total 100%

* ALTERNATIVE: If your final exam grade is higher than your lowest midterm exam score, the final exam score will be averaged with the lowest midterm exam score to replace that midterm exam score. This will only be done if the lowest midterm score is not zero.

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 Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit <http://disability.tamu.edu>.

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://aggiehonor.tamu.edu>.