SYLLABUS – PHYSICS 218: Mechanics – Sections 530-533, 565, 566 – Fall 2013

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.

Instructor: Dr. Saskia Mioduszewski
Office: MPHY 313 (CYCL 333 - outside of office hours)
Phone: 458-5567 (during office hours), 845-1411 (otherwise)
E-mail: mio@comp.tamu.edu (please start subject line with PHYS 218)

Office hours: MW 11:15-12:15, M 2-3 PM, in MPHY 313. Otherwise, just email me for an appointment.

Web Pages:
- cyclootron.tamu.edu/mio/phys218 – main course website
- ecampus.tamu.edu site for this class will have lecture notes and grades
- www.masteringphysics.com for homework submission
- www.smartphysics.com for pre-lectures and checkpoints
- webassign.net for the labs
- people.physics.tamu.edu/webb/PHYS_218.html – course-wide web page maintained by Prof. Webb, has links to other professors’ sites with sample exams and other potentially useful information

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 MWF 10:20-11:10, MPHY 203, plus one weekly Recitation/Lab section (T 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:** This year most of the 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: 40568A40. (Also see attachment for Smart Physics registration instructions.)

**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/registeryourclicker/, 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 on a separate page, and posted on the web-page. The lab write-ups, along with pre-labs, will be obtained this year though the online WebAssign package—the instructions for this are not quite ready but will be posted soon. Note that although we have Recitation each week, we do not have Labs each week; see the Lab Schedule for details. However since the lab has completely changed this year we are not allowing students who might be repeating the course to miss the labs, as was done in previous years. 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. (See attachment for WebAssign instructions.)

**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, enter the class id MPMIODUSZEWSKU71363 for this lecture. You also need to input your TAMU UIN when asked for student ID so that your scores are properly credited to you.

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” extra credit 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. Each follow-up will give you a chance to gain 2 extra credit points to go towards your overall homework score. 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. (See attachment for Mastering Physics registration instructions.)
**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 7 PM for our sections, and are expected to last 1.5 hours.

The Final exam is on Tuesday, December 10 at 8 AM. 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 will likely be replaced by an average of the other two exams. 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) 36%* (12% each)
- Final Exam (individual for this lecture) 24%*
- Laboratory 12%
- Recitation Quizzes 8%
- Online homework 12%
- Prelectures and in-class (clickers) 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.

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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Labs</th>
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<tbody>
<tr>
<td>August 26</td>
<td>Math Review, Chapter : Physical Quantities</td>
<td>Lab: will meet, Recitation: will meet</td>
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<tr>
<td>September 2</td>
<td>Chapter 2: 1-D Kinematics</td>
<td>Experiment 2 (Vector Addition)</td>
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<tr>
<td>September 9</td>
<td>Chapter 3: Kinematics in 2 and 3-D</td>
<td>Experiment 3 (Accel. Due to Gravity)</td>
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<tr>
<td>September 16</td>
<td>Chapter 4: Newton’s Laws</td>
<td>No Lab</td>
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<tr>
<td>September 23</td>
<td>Review for Exam I, Chapter 5: Applications of Newton’s Laws</td>
<td>No Lab</td>
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<td>September 25</td>
<td>Exam I</td>
<td>Evening Exam</td>
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<tr>
<td>September 30</td>
<td>Chapter 6: Work, Kinetic Energy and the Work and Work Energy Theorem</td>
<td>No Lab</td>
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<tr>
<td>October 7</td>
<td>Chapter 7: Conservative Forces and Potential Energy, Conservation of Energy</td>
<td>Experiment 9 (Conservation of Energy)</td>
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<td>October 14</td>
<td>Chapter 8: Center of mass, Momentum and Conservation of Momentum</td>
<td>No Lab</td>
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<tr>
<td>October 21</td>
<td>Review for Exam, Chapter 9: Rotational Kinematics and Moments of Inertia</td>
<td>No Lab</td>
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<td>October 23</td>
<td>Exam II</td>
<td>Evening Exam</td>
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<tr>
<td>October 28</td>
<td>Chapter 10: Torque, Dynamics of Rotation and Conservation of Angular Momentum</td>
<td>Experiment 6 (Rotational Kinematics)</td>
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<tr>
<td>November 4</td>
<td>Chapter 11: Statics and Elasticity</td>
<td>Experiment 5 (Torques and Static Equilibrium)</td>
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<td>November 11</td>
<td>Chapter 13: Gravitation and Kepler’s Laws,</td>
<td>Make up lab, TBA</td>
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<td>November 18</td>
<td>Review for Exam III, Chapter 14: Simple Harmonic Motion</td>
<td>Lab: will meet, Recitation: will meet</td>
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<tr>
<td>November 20</td>
<td>Exam III</td>
<td>Evening Exam</td>
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<td>November 25</td>
<td>Chapter 14: The Simple Pendulum</td>
<td>No Lab</td>
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<tr>
<td>December 2</td>
<td>Review for Final Exam</td>
<td>No Lab</td>
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<tr>
<td>December 6-11</td>
<td>Final Exams, Dates see Howdy web portal</td>
<td>No Lab</td>
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smartPhysics includes:
1. Online PreLectures (animated lessons, completed before lecture)
2. Online CheckPoints ( quizzes to check knowledge, completed before lecture)

To access smartPhysics: Go to www.smartphysics.com

Create a smartPhysics account

1. Go to smartphysics.com
2. Locate and select “Get access to smartPhysics > Register”
   Use your UIN as your ‘unique identifier’.
3. Begin the process of registering for the site. Enter your email address (your institutional email address) and Read and agree to the site terms and conditions.
4. Click “Register”
5. Set up your profile, and then choose the “Enrollments” tab.
6. Enroll in this course by entering in the Course Access Key.

The Course Access Key for this course is: __40568a40__________.

You will be given 30 days in which to access smartPhysics before having to purchase access or redeem an access code. This will provide you with a nice grace period should you drop the course.

Register by purchasing access or redeeming an access code.

- If you purchased a printed access card in the bookstore, scratch off the code in the inside of the access card and enter it into the field on the screen.
- If you wish to purchase access online, choose that option on the screen. Complete the billing and credit card information. Save your confirmation screen.
Get Started
With Pearson’s MasteringPhysics

Get Access

Bookstore
An Access Code is included in a package available for purchase at the bookstore. You will redeem the code during the registration process.

OR

Online Purchase
Use a Credit Card or PayPal account to purchase instant access online during the registration process.

What You Need:
1. Valid Email Address: One you access regularly
2. Course ID: MPMIODUSZEWSKI71363

Get Registered
1. Go to www.masteringphysics.com, under Register, click the Students link.
2. Next, check off whether or not you have an Access Code. If you don’t, select your textbook. Either way, you’ll be asked to Accept the License Agreement before moving on.
3. After this, either Create a new Pearson username/password, or, if you’ve already registered for another Pearson product (i.e. MyMathLab), enter that username/password. If you have an Access Code, enter it on the bottom of the page.
4. On the next page, fill out the appropriate information fields then click Next. If you entered an Access Code, you will be brought to a page from which you can access your product. If not, enter your payment information so that you can Purchase Access, after which you’ll be granted access.
5. You have now registered! Now, it’s time to enroll in your course. To do this, go to www.masteringphysics.com and click the Sign In. Enter the username/password you either created or entered in Step 3. Once signed in you can: click the Join a Course button on the bottom of the page, and enter your Course ID (listed above); Launch your eText; or Explore the Study Area. Finally, enter your Student ID if prompted to do so. That’s it!

Get Your Computer Ready
View the system requirements for your product: http://bit.ly/1cIA3Rw

Get Help
Contact Pearson 24/7 Support: http://247pearsoned.custhelp.com/

Tips for a Great Learning Experience
1. Watch this Video for help getting started with MasteringPhysics: http://bit.ly/16Gv0Xx
3. Stay in touch with us! Bookmark the Pearson Students Website: http://pearsonstudents.com/
Logging Into WebAssign
Logging Into WebAssign

- Go to the URL below and click on the LOG IN button. Notice the tamu/login.html in the URL. This is a special site just for TAMU students.

http://www.webassign.net/tamu/login.html
Logging into WebAssign

- At the Texas A&M Central Authentication System’s site, type in your University NetID and password and then click on LOGIN. If you have successfully logged in, you will be directed to your course homepage.