PHYS 2425.002
University Physics I
COURSE SYLLABUS: Fall 2015

Instructor: Dr. Robynne Lock
Office Location: STC 230
Office Hours: W 11-12, Th 3-4, or by appointment
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Graduate assistant teaching: Phillip Robinson
Learning assistants: Mary Fowler, Melanie Schroers

COURSE INFORMATION


PHYS 2425 Lab manual, available at the campus bookstore

Course Description
This is a calculus-based introductory physics course in mechanics. Topics include kinematics, dynamics, momentum, energy, and applications of Newton’s Laws.

University Catalogue Description
Calculus based physics course in mechanics for science, mathematics and engineering students. Prerequisites: You must be currently enrolled in Calculus I or have previously taken Calculus I.
**Student Learning Outcomes**

1. Students will be able precisely explain and calculate motion using the concepts of position, velocity, and acceleration.
2. Students will be able to represent the forces on an object in a physical situation and calculate the resulting motion using Newton's Laws.
3. Students will be able use momentum and energy to describe a physical situation and calculate the motion of an object using these quantities.

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**COURSE REQUIREMENTS**

**Instructional / Methods / Activities Assessments**

This class is being taught in studio mode. Studio mode is a student-centered active learning environment that blends lecture time with lab time. Lecture and/or readings will be used to introduce topics. Students are encouraged to ask questions during lecture. However, the majority of class time will be focused on group activities. Activities will include conceptual work, labs, and problem solving. Activities will be completed in groups of 3-4. The instructor will assign groups. Groups will be changed 2-3 times during the semester.

Physics education research has shown that students learn best when actively engaged in class. Studio mode has been implemented at many universities and has been found to have positive impacts on conceptual understanding and problem-solving ability.

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**GRADING**

Grades will be based on four components:

- Midterms: 30 points
- Final: 20 points
- MasteringPhysics Homework: 15 points
- Tutorial homework: 20 points
- In-class assignments: 20 points

Grading scale:

- 90 points < A
- 80 points < B < 89 points
- 70 points < C < 79 points
- 60 points < D < 69 points
- F < 60 points

Exams: There will be three midterms and a final. Your midterm average will be computed from your two highest midterm grades. In other words, your lowest midterm grade will be dropped. The exams will be weighted equally (15 points each). Your final exam is worth 20 points. See the course outline for exam dates. Make-up exams will only be allowed for excused absences. See course policies below for details on excused absences.
MasteringPhysics Homework: 12-15 homework assignments will be assigned throughout the semester. Homework will be submitted through MasteringPhysics. The due date will be displayed in MasteringPhysics and announced in class. Your lowest MasteringPhysics Homework grade will be dropped.

Tutorials Homework: 10-13 homework assignments will be assigned throughout the semester. Homework is due at the beginning of class. Late homework will not be accepted. Your lowest Tutorial Homework grade will be dropped.

In-class assignments: In-class work will sometimes be graded. Assignments will be completed as a group, but your effort will determine your individual score. More information about how in-class work is graded will be provided in a separate document. Your lowest 3 in-class assignment grades will be dropped.

TECHNOLOGY REQUIREMENTS

In order to use MasteringPhysics, your computer must meet the following requirements:

- Use one of the following browsers: Chrome 43, Firefox 38, Internet Explorer 11, or Safari 6, 7, or 8. Newer versions of the browsers may work, but are not guaranteed.
- Use one of the following operating systems: Windows 7, Windows 8, Windows 8.1, OS X 10.7 Mountain Lion, OS X 10.9 Mavericks, OS X 10.10 Yosemite. Other operating systems may work but are not guaranteed.
- Your browser must be set to allow pop-up windows, enable session cookies, and enable Javascript.
- The players and plug-ins needed are: Flash Player (version 11.1.102.55 or higher), Shockwave Player, Adobe Reader, Java, and Quicktime Player.

To access MasteringPhysics on your mobile device:

- If you have Android, you will need Google Chrome 43 or higher.
- If you have iOS, you will need Safari 8 (iOS 7 and higher) or Google Chrome 43 or higher.

You may also access the etext using the Pearson eText app (tablets) or eText 2.0 app (smartphones and tablets).

You will need regular access to a computer with a high-speed internet connection. Broadband cable, high-speed DSL, fiber-optic, or other equivalent is recommended. The minimum rate is 56 kb/s, but this may be inadequate for video content.

Minimum screen resolution is 1024 pixels by 768 pixels.

For more information about any of the above technology requirements, go to http://www.pearsonmylabandmastering.com/northamerica/masteringphysics/system-requirements/index.html.
Course Specific Procedures

1. Cell phone use is only allowed if used for class activities.

2. **Eating is not allowed.** However, covered drinks are allowed.

3. Attendance will be taken by sign-in sheet and verified by seating chart at the beginning of class.

4. The instructor must be notified by email (robynne.lock@tamuc.edu) about any excused absences **no later than 24 hours after the missed class.** Even if you choose to notify the instructor in person, you must still follow up with email within 24 hours of the missed class. If you do not follow this policy, you will not be able to make up missed exams or turn in late work except in extreme circumstances.

5. You are responsible for obtaining notes and class announcements from missed classes.

6. Excessive absences may result in being dropped from the course.

7. When emailing the instructor, include the **course and section number in the subject line.**

9. You are expected to check your email at least once a day for class announcements. Emails will be sent to the email addresses you provided to MyLeo. Notify the instructor if you would prefer to receive emails at a different address.

11. Students should fully participate in class activities.

12. Students are expected to be professional and respectful and take responsibility for their learning. If you find yourself struggling, the instructors are available to provide extra help outside of class.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

ADA Statement

**Students with Disabilities**
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 have a disability requiring an accommodation, please contact:

**Office of Student Disability Resources and Services**
Texas A&M University-Commerce
Gee Library- Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

**Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook*).

**Nondiscrimination Notice**

A&M-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

**Harassment Policy**

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here:

University Title IX Contact: Michele Vieira, 903-886-5025, mailto:TitleIX@tamuc.edu

University resource webpages:
[http://www.tamuc.edu/facultyStaffServices/humanResources/title-ix/resources.aspx](http://www.tamuc.edu/facultyStaffServices/humanResources/title-ix/resources.aspx)

[http://www.tamuc.edu/campuslife/campusServices/universityPoliceDepartment/crimePrevention/sexualAssault.aspx](http://www.tamuc.edu/campuslife/campusServices/universityPoliceDepartment/crimePrevention/sexualAssault.aspx)

University Counseling Center: 903-886-5145,
[http://www.tamuc.edu/campusLife/campusServices/counselingCenter/default.aspx](http://www.tamuc.edu/campusLife/campusServices/counselingCenter/default.aspx)

Campus police: mailto:upd@tamuc.edu, call 911 in emergency situations

External resources:
Crisis center of NorthEast Texas: [http://www.ccnetx.org](http://www.ccnetx.org)
Know your IX: [http://knowyourix.org](http://knowyourix.org)
End rape on campus: [http://endrapeoncampus.org](http://endrapeoncampus.org)
Clery Center for Security on Campus: [http://clerycenter.org](http://clerycenter.org)
Not Alone: [https://www.notalone.gov](https://www.notalone.gov)
Plagiarism

Plagiarism is a criminal activity. You must cite all sources of information. Unreferenced copying of material, whether parts of sentences, whole sentences, paragraphs, or entire articles can result in a score of zero for your assignment and may result in further disciplinary action.

COURSE OUTLINE / CALENDAR

Content schedule
Weeks 1-5  Kinematics
Weeks 6-9  Dynamics
Weeks 10-13 Momentum, Energy, and Work
Weeks 14-15 Rotation and Gravity

Exam dates
Exam 1     Wed., 9/30
Exam 2     Wed., 10/28
Exam 3     Wed., 11/18
Final Exam Mon., 12/14 1:15-3:15