PHYS 2425 – University Physics I – Spring 2012

Instructor: Darek Bogucki, Ph.D.
Class meeting time and location: CI 106; 3:30-4:45MW
Office Hours: Tue. /Thurs. 12:00-12:50p.m. (or by appointment)
Office Telephone: (361) 825 2836

University Physics I (PHYS 2425-001)

Physics 2425 carries 4 credits. Concurrent registration in Physics 2425-001 (lecture section) and Physics 2425-101 or Physics 2425-102 (lab sections) is required. Letter grade will be awarded to you in Phys 2425-001 only; 25% weight will be given to lab work in determining your final letter grade for the course.

Required Readings: Text for this course is, Physics for Scientists and Engineers, 8th edition, Raymond A. Serway and John W. Jewett, Jr., Publisher Brooks/Cole. The conventionally printed textbook is required.

Course Description:
This is a calculus based introductory course on Newtonian mechanics. It is one of the core science courses. It will satisfy the academic requirement of programs such as engineering technology, geographic information science, mathematics, chemistry (general concentration) or engineering and physics (minor or major, if the credits are transferred). Topics covered include Aristotelian physics and its overthrow, Newton's Laws of motion, Gravitation and the Motion of Celestial objects, Conservation Laws, Momentum and Energy. The idea of the universe as a law governed system will be developed. Laboratory activities provide introduction to experimental methods in physics.

Learning Objectives: After successfully completing this course you will be able to use the technical language required to precisely describe motion, and to recognize the physical principles governing the motion of objects. You will be able to scientifically explain the nature of motion qualitatively, answer quantitative questions on motion, and design elementary experiments to test the physical principles behind motion. Both of these expected outcomes will be measured by scores on quizzes, in-class examinations, and by written assignments in the associated laboratory.

Major Course Requirements/ Prerequisites: Proficiency in college level algebra, trigonometry at the level of pre-calculus and Calculus I (prerequisite) is assumed. In addition you should have concurrently enrolled in Calculus II this semester, or should have successfully completed it during a prior offering, if you are planning to take University Physics II during the next term. Differential and integral calculus will be used in this course. The student is encouraged to actively make connections between physics and calculus.

Required or Recommended Readings: Text for this course is, Physics for Scientists and Engineers, 8th edition, Raymond A. Serway and John W. Jewett, Jr., Publisher Brooks/Cole. The conventionally printed textbook is required.
Graded Activities
There will be pre-class quiz before each class. There will be several weekly online quizzes (via UT website). There will be in-class mathematics review exam January 18; an in-class mid-term examination on March 28 and a final examination on May 9. The assign problems (via UT website) will account for 15% and the pre-class quizzes will account for 15% of the total score. The score for the laboratory experience (separate syllabus) will be determined by the instructor assigned to your lab.

*Thus, your final letter grade will be based on your numerical grade weighted as follows:*
- 20% pre-class quizzes,
- 10% mathematics review exam,
- 20% mid-term,
- 25% final exam
- 25% laboratory work.

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- 20% pre-class quizzes,
- 10% mathematics review exam,
- 20% mid-term,
- 25% final exam
- 25% laboratory work.

During the class the extra problems will be given allowing students to earn additional points.

Quizzes:
There will be several online quizzes with published deadlines. Each student will get web downloadable customized quizzes, the answers to which should be submitted online. The solution to the quiz will be available in a web downloadable format after the quiz deadline has passed, if the quiz server is functioning normally. More details on how the online service grades your quiz will be explained in class. You are required to register for online quizzes, download the quizzes, and submit answers by going online to quest.cns.utexas.edu/student. This is a service provided by the College of Natural Sciences, The University of Texas, Austin, to the academic community. See the Announcements page for the course unique id number required to register for quizzes in PHYS 2425. A quiz may be due on the day of term exams or the day prior to the final exam. The overall quiz grade is obtained by adding up your raw scores on each quiz, dividing that score by the maximum possible score you could have obtained, and multiplying this fraction by 100 to get a percentage. For example, if there were 4 quizzes with maximum possible scores of 120, 80, 110, and 90, and your raw scores on these quizzes were 100, 78, 102, and 80, then your overall quiz grade is 100*(100+78+102+80)/(120+80+110+90) = 90%.

Each question on every quiz is worth the same as any other question on the same or another quiz. Thus, a quiz with more questions counts more than a quiz with less questions. Read the instructions at the quiz website carefully on how your responses will be graded for multiple tries on a question.

If you are unable to submit answers to a quiz online for any reason the only way you can get any credit for your work on that quiz is by emailing the instructor your answers to quiz questions before the deadline, followed by submission of your written work on the questions to the instructor the day following the deadline.

Lab:
You must complete the Laboratory Safety Seminar - SMTE 0091 successfully to be able to work in the physics laboratory. Documentation on having successfully completed this seminar during a previous semester is acceptable. Your documentation on successful completion of the lab safety seminar has to be with your lab instructor one week after the start of classes. It is the student's responsibility to get any help needed by calling TAMUCC Island Online Help Desk at (361)825-2825 or long distance 1-866-353-2491 to successfully log in to this WebCT based course and complete all the modules. Failure to complete this requirement by the deadline will result in the student being deleted from the class. You will be assigned pre-lab exercises, with a multiple choice quiz based on those exercises at the beginning of the lab period, as well as a post-lab quiz which tests your ability to interpret and analyze data related to that experiment. You can use only the lab manual to answer
these pre- and post- lab quizzes. All experiments will be performed in groups and will require a group lab report. Each one of you is individually responsible for recording experimental observations and data. If your lab partner recorded experimental data and you did not, and if your lab partner dropped the course or is unreachable and uncommunicative, you are still responsible for completing work on that lab on time.

You will not be allowed a lab make up opportunity unless you have been granted the instructor's prior approval for an absence for reasons of sickness (backed by your doctor's note) or family emergency.

The lab report on an experiment should be comprehensive, including a clear analysis of the experimental results. The required structure of the lab report will be explained to you in the lab. The lab instructor will evaluate your group's quality of work, the care taken in collecting data and in performing the experiment, and your understanding of physics evident from the analysis of your data and your discussion in the report. Your lab report on an experiment is due at the beginning of the next lab period.

At the end of the semester there will be a required Computer Skills for Physics Lab Test where your computational skills with the spreadsheet, and your ability to gather and analyze data generated by electronic sensors and collected by the computer will be tested. The lab grade will be evaluated according to this scheme: Lab Reports 80%, Pre- and Post-Lab quizzes 15% and the Computer Skills for Physics Lab Test 5%.

Policy on Make Ups for Labs and Exams:
There are NO provisions for making up exams or laboratories except in cases where prior arrangements have been made with the instructor. The only valid reasons for missing a lab, a quiz or an exam are (1) health related, backed by a doctor's note, (2) family emergency which can be documented, (3) job interview with the letter of invitation for the interview, and (4) participation in a previously scheduled athletic, or university event or travel to a conference. In case of emergency resulting in not informing the instructor of your absence from class, contact the instructor at your earliest convenience. If you have to miss a laboratory, contact the laboratory instructor by phone or e-mail immediately. The instructor emphasizes that reasons for an absence for a class, a lab or an exam must be reported prior to the respective meeting time and not after the class, lab or exam.

Course Policies

Cell Phone: Cell phones need to be turned off before class.

Academic Integrity/Plagiarism.
University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in failing grade.

Dropping a Class
I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being
dropped from the class. (April 1, 2011) is the last day to drop a class with an automatic grade of “W” this term.

**Classroom/professional behavior**

Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

**Grade Appeals**

As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html). For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

**Disabilities Accommodations**

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 call or visit Disability Services at (361) 825-5816 in Driftwood 101. If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

**Syllabus**

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<th>January 9 - January 16:</th>
<th>January 16 - February 2:</th>
<th>February 7 - February 28:</th>
<th>March 2 - March 30:</th>
<th>April 4 - April 13:</th>
<th>April 18 - May 2:</th>
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