PHYS 2426 – University Physics II – Spring 2011

Instructor- Robert Benson
Course Title -University Physics II
Course Number- PHYS 2426
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Office Hours- Mon 2 – 3:15 pm, Wed 2-3:15 pm

Course Description. A calculus-based introduction to oscillatory and wave phenomena. Classical theory will be used to study electricity and magnetism. Vector calculus will be introduced in preparation for a discussion of Maxwell’s Equations. Aspects of Special Relativity will be included. Prerequisites: PHYS 2425 and MATH 2414.

Student Learning Outcomes. After successfully completing this course you will have developed a basic understanding of the principles of electricity and magnetism and be able to apply these ideas to solve written problems; you will know several remarkable scientists who have made important contributions to wave theory and electromagnetic theory and will be able to recount biographical information about these individuals, and you will be able to associate physical principles to contemporary technology and other aspects of your daily life and be able to describe how these principles enhance (or degrade) your human experience.

Graded Activities. Internet-based quizzes will be assigned on Monday and Wednesday of every week during the course. The average of your scores on the quizzes will represent 25% of your total numerical grade for the course.
There will be an in-class mid-term examination on March 23, 2011 and a final examination in May (as scheduled by the University). Your score on the mid-term will represent 25% of your total numerical grade for the course and your score on the final will represent 25% of your numerical grade for the course.
The score for the laboratory experience (separate syllabus) will be determined by the instructor assigned to your lab and that score will represent 25% of your total numerical grade for the course. Thus, your final letter grade will be based on your numerical grade weighted as follows: 25% quizzes, 25% mid-term, 25% final, and 25% laboratory.

Important Information. NOTICE TO STUDENTS WITH DISABILITIES: Texas A&M University-Corpus Christi complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. If you suspect that you may have a disability (physical impairment, learning disability, psychiatric disability, etc.), please contact the Services for Students with Disabilities Office, located in Driftwood 101, at 825-5816. If you need disability accommodations in this class, please see me as soon as possible.
ACADEMIC ADVISING: The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College's Academic Advising Center is located in Faculty Center 178, and can be reached at 825-6094.

GRADE APPEAL PROCESS: 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 at 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.

Required Textbook and Internet Support. Text for this course is, Physics for Scientists and Engineers, 6th edition, Raymond A. Serway and John W. Jewett, Jr., Publisher Brooks/Cole. The conventionally printed textbook is not required. However, students are required to sign up for access to Webassign.net where all course quizzes will be completed. The cost of the Webassign .net service is $35. As you sign up for Webassign.net, you may order a complete electronic copy of the text.

Provisional Course Outline (chapter numbers in parenthesis).
Wave motion (16)
Sound Waves (17)
Superposition and Standing Waves (18)
Electric Fields (23)
Gauss's Law (24)
Electric Potential (25)
Capacitance and Dielectrics (26)
Current and Resistance (27)
Direct Current Circuits (28)
Magnetic Fields (29)
Sources of Magnetic Fields (30)
Faraday's Law (31)
Inductance (32)
Alternating Current (33)
Electromagnetic Waves (34)
Optics (parts of several chapters)
Relativity (39)