

Syllabus

Course. University Physics II, PHYS 2326, Section 101 (CRN 11033), Fall 2010, MW 3:00–4:15 PM, Bullock Hall 201.

Instructor. Dr. David Milovich, Assistant Professor, Dept. of Engineering, Mathematics, and Physics, david.milovich@tamiu.edu.

Office. Canseco Hall, 313C. Phone: (956) 326-2570. Hours: M 4:20–5:20, T 2:25–4:25, W 4:20–5:20, R 2:25–4:25, or by appointment.

Course description. Continuation of PHYS 2325. A calculus-based treatment of the fundamentals of electricity and magnetism, sound, light and modern physics. Topics include electrostatics, magnetostatics and magnetic materials, electromagnetic waves, geometric optics, physical optics, quantum mechanics, nuclear physics and relativity theory. Must be taken concurrently with PHYS 2126. Prerequisites: MATH 2414 or equivalent (or concurrent enrollment therein) and PHYS 2325/PHYS 2125.

Student learning outcomes. Upon successful completion of this course, the student will be able to:

- describe qualitatively and quantitatively the concept of the electric field;
- state Gauss’s law and apply it to solve physics problems;
- describe qualitatively and quantitatively the concept of the electric potential;
- state Kirchoff’s rules for DC circuits and apply them to solve physics problems;
- state Faraday’s law of electromagnetic induction and apply it to solve physics problems; and
- describe qualitatively and quantitatively the concept of electromagnetic waves.

Textbook. Required: *Physics for Scientists & Engineers with Modern Physics*. 4th Edition (2008). Douglas C. Giancoli. Prentice Hall. ISBN-10: 0-13-149508-9, ISBN-13: 978-0-13-149508-1.

The topics of this course are too broad for me to lecture on every detail. I expect you to read the chapters listed in the Approximate Schedule of Topics (see below) *before* we discuss those topics in the classroom. That said, in the table of contents of *Giancoli*, you will notice that most chapters have a few sections marked with a *. Unless I specifically ask the class to read such a section, consider it optional (but interesting!) reading.

Homework. There will be homework approximately each week. Homeworks will be web-based. Grading will be automated and immediate. You will

be able to repeat a homework assignment as many times as you like until the deadline. I recommend repeating until you get a perfect score.

Calculators. Calculators are strongly recommended for both homework assignments and for exams.

Exams. There will be one midterm exam and a final exam. The final exam will be comprehensive.

- Midterm, in class, October 4.
- Final Exam, BH 201, 2PM, December 6.

Grading. Components: Homework 25%; Midterm 35%; Final Exam 40%. Final letter grade, given a total score of $x\%$: A: $x \geq 90$; B: $80 \leq x < 90$; C: $70 \leq x < 80$; D: $60 \leq x < 70$; F: $x < 60$.

Make-ups. There are no make-ups for missed work, except by situations covered by university rules. (See the Student Handbook.)

Extra credit You may volunteer to take notes for the class during one of the lectures. This will add 1% to your total score. There are not enough lectures for everyone to do this twice, so I will accept second-time volunteers on a first-come, first-served basis.

Approximate Schedule of Topics

| Date | Chapter |
|--------|------------|
| 23-Aug | 21 |
| 30-Aug | 22 |
| 1-Sep | 23 |
| 8-Sep | 24 |
| 13-Sep | 25 |
| 20-Sep | 26 |
| 22-Sep | 27 |
| 27-Sep | 28 |
| 29-Sep | review |
| 4-Oct | Midterm |
| 6-Oct | 29 |
| 11-Oct | 30 |
| 18-Oct | 31 |
| 25-Oct | 32 |
| 1-Nov | 34 |
| 3-Nov | 36 |
| 15-Nov | 38 |
| 17-Nov | 39 |
| 22-Nov | 41 |
| 1-Dec | review |
| 6-Dec | final exam |

Policies of the College of Arts and Sciences

(Required on all COAS Syllabi)

Classroom Behavior

The College of Arts and Sciences encourages classroom discussion and academic debate as an essential intellectual activity. It is essential that students learn to express and defend their beliefs, but it is also essential that they learn to listen and respond respectfully to others whose beliefs they may not share. The College will always tolerate diverse, unorthodox, and unpopular points of view, but it will not tolerate condescending or insulting remarks. When students verbally abuse or ridicule and intimidate others whose views they do not agree with, they subvert the free exchange of ideas that should characterize a university classroom. If their actions are deemed by the professor to be disruptive, they will be subject to appropriate disciplinary action, which may include being involuntarily withdrawn from the class.

Plagiarism and Cheating

Plagiarism is the presentation of someone else's work as your own. **1)** When you borrow someone else's facts, ideas, or opinions and put them entirely in your own words, you must acknowledge that these thoughts are not your own by immediately citing the source in your paper. Failure to do this is plagiarism. **2)** When you also borrow someone else's words (short phrases, clauses, or sentences), you must enclose the copied words in quotation marks as well as citing the source. Failure to do this is plagiarism. **3)** When you present someone else's paper or exam (stolen, borrowed, or bought) as your own, you have committed a clearly intentional form of intellectual theft and have put your academic future in jeopardy. This is the worst form of plagiarism.

Here is another explanation from the 2010, sixth edition of the *Manual of The American Psychological Association* (APA):

Plagiarism: Researchers do not claim the words and ideas of another as their own; they give credit where credit is due. Quotations marks should be used to indicate the exact words of another. *Each* time you paraphrase another author (i.e., summarize a passage or rearrange the order of a sentence and change some of the words), you need to credit the source in the text.

The key element of this principle is that authors do not present the work of another as if it were their own words. This can extend to ideas as well as written words. If authors model a study after one done by someone else, the originating author should be given credit. If the rationale for a study was suggested in the Discussion section of someone else's article, the person should be given credit. Given the free exchange of ideas, which is very important for the health of intellectual discourse, authors may not know where an idea for a study originated. If authors do know, however, they should acknowledge the source; this includes personal communications. (pp. 15-16)

Consult the Writing Center or a recommended guide to documentation and research such as the *Manual of the APA* or the *MLA Handbook for Writers of Research Papers* for guidance on proper documentation. If you still have doubts concerning proper documentation, seek advice from your instructor prior to submitting a final draft.

Penalties for Plagiarism: Should a faculty member discover that a student has committed plagiarism, the student will receive a grade of 'F' in that course and the matter will be referred to the Honor Council for possible disciplinary action. The faculty member, however, has the right to give freshmen and sophomore students a "zero" for the assignment and to allow them to revise the assignment up to a grade of

“F” (50%) if they believe that the student plagiarized out of ignorance or carelessness and not out of an attempt to deceive in order to earn an unmerited grade. This option is not available to juniors, seniors, or graduate students, who cannot reasonably claim ignorance of documentation rules as an excuse.

Penalties for Cheating: Should a faculty member discover a student cheating on an exam or quiz or other class project, the student will receive a “zero” for the assignment and not be allowed to make the assignment up. The incident must be reported to the chair of the department and to the Honor Council. If the cheating is extensive, however, or if the assignment constitutes a major grade for the course (e.g., a final exam), or if the student has cheated in the past, the student should receive an “F” in the course, and the matter should be referred to the Honor Council. Under no circumstances should a student who deserves an “F” in the course be allowed to withdraw from the course with a “W.”

A new grade to denote academic dishonesty is now available, a “M” for “Academic Misconduct.” It has the same effect as an “F” but will indicate on the transcript that the failure was due to academic misconduct.

Student Right of Appeal: Faculty will notify students immediately via the student’s TAMIU e-mail account that they have submitted plagiarized work. Students have the right to appeal a faculty member’s charge of academic dishonesty by notifying the TAMIU Honor Council of their intent to appeal as long as the notification of appeal comes within 3 business days of the faculty member’s e-mail message to the student. The *Student Handbook* provides details.

UConnect, TAMIU E-Mail, and Dusty Alert

Personal Announcements sent to students through TAMIU’s UConnect Portal and TAMIU E-mail are the official means of communicating course and university business with students and faculty – not the U.S. Mail and not other e-mail addresses. Students and faculty must check UConnect and their TAMIU e-mail accounts regularly, if not daily. Not having seen an important TAMIU e-mail or UConnect message from a faculty member, chair, or dean is not accepted as an excuse for failure to take important action. Students, faculty, and staff are encouraged to sign-up for *Dusty Alert* (see). *Dusty Alert* is an instant cell phone text-messaging system allowing the university to communicate immediately with you if there is an on-campus emergency, something of immediate danger to you, or a campus closing.

Copyright Restrictions

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to \$100,000; criminal penalties include a fine up to \$250,000 and imprisonment.

Students with Disabilities

Texas A&M International University seeks to provide reasonable accommodations for all qualified persons with disabilities. This University will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal education opportunity. It is

the student's responsibility to register with the Director of Student Counseling and to contact the faculty member in a timely fashion to arrange for suitable accommodations.

Incompletes

The College policy for "Incompletes" discourages them. They are appropriate, however, when the following requirements are met:

The student cannot complete the class because of a severe illness to self or immediate family member at the very end of the semester (after the date for withdrawal from class) or because of a traumatic event in the student's life (e.g., death of or serious injury or illness to an immediate family member) at the end of the semester, AND

The student is passing the class at the time he or she cannot complete the semester, AND

The student has completed either 85-90% of the course requirements or is missing only major assignments due after the final date for withdrawal from class and after the onset of the illness or traumatic event (e.g., assignments such as the final exam for the course or a research paper), AND, finally,

The faculty member must have the approval of the department chair before giving an Incomplete.

Student Responsibility for Dropping a Course

It is the responsibility of the STUDENT to drop the course before the final date for withdrawal from a course. Faculty members, in fact, may not drop a student from a course.

Independent Study Course

Independent Study (IS) courses are offered only under exceptional circumstances. Required courses intended to build academic skills may not be taken as IS (e.g., clinical supervision and internships). No student will take more than one IS course per semester. Moreover, IS courses are limited to seniors and graduate students. Summer IS course must continue through both summer sessions.

Grade Changes & Appeals

Faculty are authorized to change final grades only when they have committed a computational error, and they must receive the approval of their department chairs and the dean to change the grade. As part of that approval, they must attach a detailed explanation of the reason for the mistake. Only in rare cases would another reason be entertained as legitimate for a grade change. A student who is unhappy with his or her grade on an assignment must discuss the situation with the faculty member teaching the course. If students believe that they have been graded unfairly, they have the right to appeal the grade using a grade appeal process in the *Student Handbook* and the *Faculty Handbook*.

Final Examination

Final Examination must be comprehensive and must contain a written component. The written component should comprise 20% of the final exam grade. Exceptions to this policy must receive the approval of the department chair and the dean at the beginning of the semester.