COURSE SYLLABUS -- Physics 1404, General Physics II, Summer Session II, 2017

Instructor: Dr. Charles W. Myles, Professor of Physics. Office: Science Room 18. Phone: 834-4563.
Office Hours: Right after class plus 2:30-3:30 pm, M-F, and by appointment.

Email: Charley.Myles@ttu.edu. A class email distribution list will be developed & we can have email discussions. I make important class announcements by email! It is vital that you have your correct email address, that you check your email DAILY & that you tell me if you change your email address! Do you want to know more about me? If so, look at my Physics Dept. Webpages, linked below. (The first link has the most detail)
http://www.phys.ttu.edu/~cmyles/ http://www.depts.ttu.edu/phas/People/Faculty/bio_myles/bio_myles.php

Class Meets: 10:00-11:50 am, Monday, Tuesday, Wednesday, Thursday, Friday. Media & Comm. 00359.

EDITORIAL: The lecture part of the course counts 3 of the 4 credit hours. It meets 5 days/week for 110 minutes! That's 550 minutes (9.2 hours!!) per week! This is an intense, educationally unsound method of teaching & learning! I don't like it & you may not either! But, we're stuck with it & you choose to take Physics this way. We move through the material so rapidly that if you miss 2 class days (220 minutes = 3.7 hours!), that's equivalent to missing more than a week of class in the regular semester! So attendance is important! Please try to come consistently to class!

The weekend doesn’t start Thursday night! Friday is a class day, not a weekend day!

Class Website: http://www.phys.ttu.edu/~cmyles/Phys1404/1404.html

Parts of this are under construction! There, you'll find: a. This Syllabus. b. A Lab/Discussion Syllabus c. Help Resources. d. Some Phys. 2401 (Physics II with calculus) Exams/Quizzes & solutions from several years.

Lab/Discussion Co-Requisite: You must also be enrolled in a Physics 1404 (no-credit) Lab/Discussion Section! The Lab/Discussion Syllabus has more details. There are also written Lab Rules, which you are required to follow! Note! The Lab Manual for Physics 1404 is also required & you MUST have it the first lab day!


Course Topics: Topics (selected) from Chapters 17-26 of the text. Detailed coverage is announced as we go.

Course Objectives: This is a survey of 2nd Semester Physics (Electricity, Magnetism, Electromagnetic Waves, Light, Optics). It is intended to acquaint students with the basic laws of physics & to develop an understanding of physical science in general. It will emphasize a mix of lab, conceptual understanding and standard end-of-chapter homework solving skills.

In this course, you will learn:

1. The basic physical laws governing electricity, magnetism, electromagnetism and optics.
2. How to apply these laws to the calculation of electric and magnetic fields in a variety of situations.
3. How to apply these laws to understand the physics of electromagnetic waves and optics.
4. How to analyze simple electric circuits.

Core Curriculum Statements Required by TTU

Core Competency Statement: Students graduating from TTU should be able to demonstrate problem solving & critical thinking skills, such as the development & use of models that are consistent with experiment. This is consistent with the objectives for the Natural Science Core Curriculum Objectives listed below & will be demonstrated by the Expected Learning Outcomes listed below.

Core Curriculum Objectives: The objective of studying natural sciences in a core curriculum is to enable students to understand, construct, & evaluate relationships in the natural sciences, & to enable them to understand the foundation for building & testing theories. The natural sciences investigate phenomena of the physical world.

Expected Learning Outcomes: Upon successful completion of this course, students will be able to:

1. Understand and apply electromagnetic theory for electric and magnetic fields.
2. Use the laws of geometrical and physical optics.
3. Understand and manipulate the fundamental elements of basic circuits.

Methods for Assessing Expected Learning Outcomes: Learning outcomes will be assessed through quizzes, homework & exams that require students to show their calculations & in addition, to explain their reasoning in English. In the lab portion of the course, students will also be required to demonstrate proficiency in taking data and analyzing it using the physical laws learned in lecture.
STUDENT RESPONSIBILITIES

Attend as many classes as possible, come to class prepared, do the homework, read the material
BEFORE I lecture over it, & keep up as we go along!

Course Level/Math Level: This is standard algebra/trig based 2nd semester physics. Math pre-requisites: Math 1320 (Algebra) & Math 1321 (Trig) or Math 1550 (Pre-Calculus) or equivalent. This isn’t a math course. I won’t have time to teach you math! I must assume that you know it! The course level is the standard, nation wide introductory physics level. The major problems students have with it are its fast pace & the math.

Physics Pre-Requisite: General Physics I (Physics 1403), or equivalent algebra/trig based Physics I course elsewhere. This ISN’T a Physics I course! It isn’t my job to teach you Physics I!! There is no time!! I must assume that you know it! Some problems that students have with this course are that they really don’t know Physics I material very well.

Grades: The following scores will be accumulated during the session & will be given the amount of credit towards your final grade that is shown here: 1. Lab/Recitation = 15%. 2. Homework = 10% (includes quizzes, see below!). Homework is on-line, see below! 3. Friday Quizzes: Part of Homework grade. Equal weight to 1 problem set. See below! 4. EXAMS: Exam I, Exam II, Exam III, Final Exam, Final Exam: Each = 18.75% of total credit. The lowest Exam will be dropped. (Exam I, or II or III, or one of the Final Exam Scores count). NO this does NOT mean that there will be 2 Final Exams! It means that the Final Exam counts twice the weight as the other exams unless the Final is the lowest score. Because an Exam is dropped, NO MAKEUP EXAMS WILL BE GIVEN! Exceptions: Medical problems with Drs. excuse, absences on TTU business, true personal or family emergencies (decided case-by-case).

Tentative (!!) Exam Schedule.

<table>
<thead>
<tr>
<th>Exam</th>
<th>Chapters</th>
<th>Date</th>
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<tbody>
<tr>
<td>Exam I</td>
<td>17-19</td>
<td>Wednesday, July 19</td>
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<tr>
<td>Exam II</td>
<td>20-22</td>
<td>Wednesday, July 26</td>
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<tr>
<td>Exam III</td>
<td>23-24</td>
<td>Wednesday, August 2</td>
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Final Exam Comprehensive (including Chs. 25-26?) Friday, August 11, 11:00 am - 1:30 pm!

Online Homework

Problems from the WebAssign commercial website will be assigned & graded for each chapter. More discussion & details about this are below & also on a separate sheet.

THE WebAssign CLASS KEY IS ttu 0511 7871

Working problems is the most effective way to learn physics, which is impossible otherwise! Once you are registered at WebAssign, you will be able to see the assignments. I’ll ATTEMPT to post new assignments each time we begin a new chapter. They’ll be due by 11:30 pm 4 or 5 days later. You will be able to retrieve the answers after the due date.

Pay close attention to the instructions on WebAssign about how the homework is scored.

You may be able to find solutions on the internet. If so, try to solve a problem first, without looking at solutions. Copying solutions will not help you learn physics! Learning physics isn’t the same as becoming proficient at Google searches! Thousands of people were able to learn physics hundreds of years before the internet existed!

Instructions on how to access WebAssign are on a separate sheet.

Note that this site isn’t at TTU, so you should give yourself plenty of time for submitting answers before the deadlines; sometimes the network can be slow or down. The Homework grade will NOT be dropped!

Quizzes: To encourage attendance & try to prevent the large attendance decreases often seen as the session progresses, a short (~10 min.) Quiz will be given EACH FRIDAY, with conceptual questions & simple problems similar to those assigned. The quiz percent will be averaged with the homework grade & will be equal in weight to one homework set. NOTE!! There will be NO make-up quizzes for any reason!!! It makes no logical sense to give make-ups on something that is designed to make you come on Fridays!

Attendance: I don’t take roll & have no specific attendance policy. But, isn’t it obvious that (unless you’re a genius) class attendance is required to get a good grade? The Quizzes are to encourage attendance. Skipping also costs you money! TTU tuition & fees for full-time (Texas) students total for the lecture portion of this course costs about $51! Each time you skip, you’re “throwing away” $51! After a while, this adds up!

THE LABORATORY/DISCUSSION GRADE

This is calculated by your TA & is given to me at the session’s end.

APPROXIMATE (!!) Course Grade Scale: 100 ≥ A ≥ 90 ≥ B ≥ 78 ≥ C ≥ 67 ≥ D ≥ 56 ≥ F ≥ 0
SYLLABUS SUPPLEMENT -- Physics 1404, Summer Session II, 2017

Hints: Many find this course difficult & fast paced. This is made worse by the shortness of the summer session. Much dedication is needed to get a good grade (or to learn something!). If you have average intelligence & an adequate math background, you should spend at least 2 hours studying outside class for every class hour!! WHERE TO GO FOR HELP??????????????!

1. See Me!!! Room 018. During office hours or not (I’m usually not rigid about these). Or call me on the phone. Or email me! I respond to email!!!
2. See your Physics Lab TA!!! There will be office hours for this person.
3. NOTE AGAIN: Part of each lab period will be recitation/discussion devoted to solving homework problems. So come to each lab with homework questions for your TA!
4. Get a tutor!!! The Physics Department Office (Room 101) has an approved list.
5. Your Fellow Students!!! It is often a very effective strategy to work on homework assignments & to study for exams together in a group. I strongly recommend this! This is how people work in most professions! YOU’RE STRONGLY ENCOURAGED TO DO THIS! This is how most professionals work in “real life”!
6. The Internet!!! There are HUGE numbers of Physics Help Web sites! Using Google & typing in “Physics Help” gives about 140,000,000 hits!!! I encourage you to try out some of these.

BOTTOM LINE: Numerous help resources are available. Please take advantage of them!

If you need help and don’t get it, you have no one to blame but yourself!

IMPORTANT DATES (FIX!)

Monday, July 11: Last drop date with no penalty.
Mon., August 8: Last day to withdraw from TTU.
Friday, August 12: FINAL EXAM!! 11:00am–1:30pm.
Monday, August 15: Grades are due!

ACADEMIC INTEGRITY: Academic dishonesty (cheating, etc.) will not be tolerated! Students caught in this type of behavior will be punished to the extent allowed by TTU. See Student Handbook or Catalogue.

EXAMS/QUIZZES: The exams & quizzes in this course are composed uniquely for this semester. In fact, previous exams & quizzes (& solutions!) are downloadable from the course web page!

COPYRIGHT STATEMENT: Exams, quizzes, & lecture notes related to this course are copyrighted & owned by me! Homework problems & solutions are copyrighted & owned by the text’s author! Students in this course can freely download all of these from the course web page. No other reproduction or distribution is allowed!

CLASSROOM CIVILITY: You are expected to assist in maintaining an environment which is conducive to learning. To assure that all have an opportunity to gain from class time, you are prohibited from using cell phones, eating/drinking in class, making offensive remarks, reading newspapers, sleeping or engaging in any form of distraction. This includes talking to others while I’m lecturing! Inappropriate behavior in shall result in, minimally, a request to leave class.

ON TIME ATTENDANCE: Out of courtesy to me & to your classmates, please come to class ON TIME! It is very RUDE to noisily barge into a room where a class is already underway! Similarly, it is very RUDE to leave in the middle of a class! Please do not come if you are unable to attend for the full duration or if you are not able to arrive on time! Physical illness is an obvious exception. If you have an expected reason to be late or to leave early, if possible, please try to let me know beforehand.

Bottom line: As Adults, you are expected to be courteous to me & to your classmates at all times!

Any student who, because of disabling conditions, may require some special arrangements in order to meet the course requirements should contact the instructor as soon as possible so that necessary accommodations can be made.

Proper documentation must be presented from the Dean of Students Office!