PHYS 1308: General Physics II
Syllabus

Professor Allison Deiana
Fall 2020

Contents

1 Course Information

This section of General Physics II will be completely online. As a result, some aspects of the course have been modified from the usual in-person format. Please have a read through this new and updated syllabus that describes the online course.

Where?	Zoom! See course website (Canvas) for access
When?	Tuesdays and Thursdays 9:30 – 10:50 AM
Instructor	Professor Allison Deiana
	Office: 32A Fondren Science
	Phone: (214)-768-1476
	Email: adeiana@smu.edu
	Twitter/Instagram: DeianaDr
Office Hours	Where: Zoom! https://smu.zoom.us/j/8247156313
	When: Wednesday and Fri. 1:30-3:00 PM, or by appointment
Teaching Assistant	TBD
Office Hours	Where: TBD
	When: TBD
Course Prerequisites	PHYS 1303 or PHYS 1307, MATH 1337 or MATH 1340
Course Textbook	WileyPLUS Fundamentals of Physics (Volume 2)
	by Halliday and Resnick (11th edition online)
Course Website	https://smu.instructure.com/courses/79062

2 University Curriculum Student Learning Outcomes

2.1 Pure and Applied Sciences Level 1 [PAS1] Student Learning Outcomes

1. Students will be able to demonstrate basic facility with the methods and approaches of scientific inquiry and problem solving.

2. Students will be able to explain how the concepts and findings of science or technology in general, or of particular sciences or technologies, shape our world.

2.2 Quantitative Reasoning [QR] Student Learning Outcomes

1. Students will be able to develop quantitative models as related to the course subject matter.

2. Students will be able to assess the strengths and limitations of quantitative models and methods.

3. Students will be able to apply symbolic systems of representation.

4. Students will be able to test hypotheses and make recommendations or predictions based on results.

5. Students will be able to communicate and represent quantitative information or results numerically, symbolically, aurally, visually, verbally, or in writing.

3   Course Objectives

As described in the SMU Undergraduate Course Catalog:

> *"For life science majors. Covers electricity, magnetism, electromagnetic radiation, geometrical and physical optics."*

The specific learning goals of this course are as follows. Upon successful completion of this course, students will be able to:

1. Explain the nature of electrical charge, force, potential, and fields and describe the behavior of electrical phenomena; explain the basic components of electrical circuitry, including conductors, batteries, resistors, and capacitors; explain the nature of magnetism and describe the behavior of magnetic phenomena; explain the nature of light and its connection to electricity and magnetism; explain the basic working of optical systems; explain how the study of electricity, magnetism, and light set the stage for a 20th-century revolution in our understanding of the universe;

2. Setup and solve quantitative problems in the areas described above, and thus be able to apply their understanding of electricity, magnetism, light, and optics to areas other than physics, such as medicine, biology, chemistry, electronics, and everyday life;

3. Demonstrate, through performance on homework, quizzes, in-class exercises and discussion, and exams, a clear understanding of the principles and application of electricity, magnetism, light, and optics.

4   Tests, Assignments and Grading

Your course grade will be based on reading reviews (10%), homework (30%), three tests (10% each), and a cumulative final exam (30%). This is a 3-credit hour course, which means we have approximately 3 virtual contact hours during the week (class periods) and

you are expected to work 6-9 hours outside of class. Questions concerning grading of returned assignments will be accepted by the instructor via email **only** within 7 days of the posting of grades.

The grading scale used in this course is standard and that recommended for courses at SMU. For the ranges, a "[" or "]" indicates the adjacent number is included in the range, while a "(" or ")" indicates the adjacent number is excluded from the range.

Grade	Range	Interpretation
A	[94,100]	Excellent Scholarship
A-	[90,94)	Excellent Scholarship
B+	[87,90)	Good Scholarship
B	[84,87)	Good Scholarship
B-	[80,84)	Good Scholarship
C+	[77,80)	Fair Scholarship
C	[74,77)	Fair Scholarship
C-	[70,74)	Fair Scholarship
D+	[67,70)	Poor Scholarship
D	[64,67)	Poor Scholarship
D-	[61,64)	Poor Scholarship
F	[0,61)	Fail

4.1   Assigned Reading/Videos and Reading Reviews

Reading and lecture videos will be assigned for each class period, as a resource to you for class preparation. They will be announced in class and linked on Canvas. This reading and/or watching is to be completed before the relevant class period, and you must complete a short "reading review" quiz for each reading assignment. This quiz is restricted to ten minutes and will be due by the beginning of class. **You are meant to read/view the material for class** *before* **attempting the quiz, which will consist of simple questions about the content.**

4.2   Attendance and Participation

Attending (virtual) class is important not just for quizzes and tests, but also for keeping up with the fast pace of this course. In class, there will be multiple-choice questions throughout the class using the "PollEverywhere" app, and group work on example problems. Due to the unusual nature of this semester, this will not be a part of your grade. However, I encourage you all to participate fully in order to better learn the material!

4.3 Homework

Working homework problems is a valuable way of digging in and making sure that you really understand the material we've covered in class.

- Homework will generally be assigned on Tuesday and will be due the following Tuesday. Homework assignments will not be due on exam weeks, but will instead be slightly longer for this period and due on the following Tuesday (i.e. you will have 2 weeks to complete them).

- Answers must be submitted through WileyPLUS and written solutions must be scanned and uploaded to Canvas before 9:30 AM on the due date. Your answers are worth 2/3 of the homework grade, and a random solution will be graded for the remaining 1/3.

- It is permitted to work in study groups for homework, provided that individual work is turned in.

- I advise getting started on the homework early, so that you can ask questions during office hours if needed.

- NO CREDIT WILL BE GIVEN FOR LATE HOMEWORK, unless the lateness is due to an excused absence. I recommend uploading your written homework at latest on the evening before the day it is due, to avoid last minute technological difficulties.

4.4 Tests

The semester is roughly divided into four units. At the end of each of the first three units will be a test, which will be used to assess your mastery of the material from that unit. Material from the fourth unit will not be included in a separate test, but it will be included in the final exam. There will be three tests (Test 1: Thursday, Sep 17th, Test 2: Thursday, Oct 15th, Test 3: Thursday, Nov 12th). The final exam (Dec. 11 8-11 AM) will be cumulative, covering everything that you have learned during the semester. It will give equal weight to each of the four units of material. This is the final way for you to demonstrate your mastery of the course.

5 Homework Solutions Policy

The following information must **always** be at the **top of the front page**.

- Your full **name**.

- The **name of the assignment** (e.g. Homework 1)

- The **date** you have turned it in.

For full credit, your work must also satisfy the following criteria:

- Each question is **titled** (e.g. Problem 27-32).

- Writing/image quality must be **legible**.

- **Work done** in obtaining the solution must be included. It must be possible to follow the logic of your solution.

- Final answers must be **boxed** and have **correct units**.

6 University Honor Code

The student code of conduct can be found in the 2018 - 2019 Student Handbook which is available on the SMU website (http://smu.edu/catalogs/). All students will be expected to adhere to it. Any student found cheating or plagiarizing another's work will be given a zero for that assignment and a complaint will be filed through the Vice President for Student Affairs Office.

7 Disabilities Accomodation

Students needing academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit http://www.smu.edu/Provost/SASP/DASS to begin the process. Once approved and registered, students will submit a DASS Accommodation Letter to faculty through the electronic portal DASS Link and then communicate directly with each instructor to make appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement.

8 Policies Regarding Planned Absences

8.1 Religious Observance

Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence (https://www.smu.edu/StudentAffairs/Chaplain/ReligiousHolidays).

8.2 Excused Absences for University Extracurricular Activities

Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work. (See 2018-2019 University Undergraduate Catalogue)

9 Course Schedule Overview

- **Weeks 1–4: Coulomb's Law, Electric Fields, Gauss' Law, Electric Potential**

- **Weeks 5–8: Capacitance, Current and Resistance, Circuits**

- **Weeks 9–12: Magnetic Fields, Inductance, Maxwell's Equations**

- **Weeks 13–15: Electromagnetic Waves, Images, Interference/Diffraction, Special Topics**

10 Some Important Dates

Please see this page (link in pdf) for the full academic calendar.