



Course Syllabus

Revised Aug/17/2020

Course Information

Course Number/Section	PHYS 1302.002
Course Title	College Physics II
Term	Fall 2020
Time & Location	Online (asynchronous access)

Instructor Contact Information

Name	Kuei Sun
Office & Phone	SCI B.146; Ext. 2842
Email Address	kuei.sun@utdallas.edu (I respond to UTD emails only)
Office Hours & Location	Instructor routinely answers questions via email and on the eLearning forum and hosts online sessions via BlackBoard Collaborate .

Teaching Assistants (see info on [eLearning](#))

Course Modality and Expectations

Instructional Mode	Online (no physical presence is required; please refer to UTD asynchronous learning policies)
Course Platform	Students access course materials asynchronously via eLearning

Expectations:

Students do not need to buy any textbook but will need proper **equipment** and **internet access** to

1. Watch **instruction videos** posted weekly on [eLearning](#).
2. Join online sessions via **BlackBoard Collaborate** on [eLearning](#) for discussions and questions.
3. Do homework and take exams remotely.
4. Regularly check additional materials and important announcements on [eLearning](#).

Course Description

Continuation of PHYS 1301. Topics include electric charges, Coulomb force and electrostatics, electric fields and potentials, current and magnetic fields, magnetic force, magnetic induction, DC electric circuits, electromagnetic waves, optics, and some applications in modern physics, chemistry, and biology. This is an algebra- and trigonometry-based course; no calculus is used.

(Prerequisite: PHYS 1301; Corequisite: PHYS 2126)

Student Learning Objectives / Outcomes

The objective of this course is to give students a rigorous introduction to the foundations of electricity and magnetism, nuclear decay, and topics in modern physics, including

1. Analyze force problems involving electric and magnetic forces
2. Determine electric & magnetic fields produced by distributions of charge and current
3. Analyze DC electric circuits including resistors and capacitors
4. Understand electromagnetic waves, including spectra, interference, diffraction, reflection, & refraction
5. Analyze reflective and refractive geometrical optics
6. Apply electricity & magnetism principles to topics in physics, chemistry, & biology
7. Understand some modern physics, including atomic physics as it applies to chemistry and nuclear decay as it applies to medicine

Outcomes/Measures: Summaries and Problem solving in Homework/Exams.

Textbook / Required Materials

The official textbook is *College Physics (10th edition)*, by Hugh D. Young, Philip W. Adams, and Raymond J Chastain, © 2015, Pearson.

- ANY college level algebra-based physics book which covers the topics listed in [Schedule](#) below is acceptable. However, all reading assignments and practice problems will be based on the official textbook. Students who choose not to use the official textbook are responsible for finding a way to follow the reading and practice problems assignments.
- All homework assignments are given online through the MasteringPhysics website. **Therefore MasteringPhysics access is REQUIRED**, which can be purchased through [pearson.com/mastering](https://www.pearson.com/mastering) or when you buy a MasteringPhysics-bound textbook.
- The MasteringPhysics course ID is **sun37495**, and the course name is **PHYS1302F20SUN**.

Course Highlights

- **Preview:** Students need to preview the chapters given in [Schedule](#) below (or same materials in the book you use) *before watching the lecture videos*.
- **Class participation** (10% of final score): Students should **watch lecture videos** during the study week in [Schedule](#) below. A student's click on the video link in that week will be tracked as evidence of class participation, which is 10% of the final score.
- **Online session:** The instructor will host online sessions for exercises, discussions, and questions via BlackBoard Collaborate in 2:30 pm – 3:45 pm on the dates listed in [Schedule](#) below.
- **Forum:** Students are encouraged to use forums on eLearning to make discussions or ask questions. The instructor or the TA will respond in the forum or during the online session.
- **Homeworks** (20% of final score): There will be one homework assignment made available each Thursday (except for weeks preceding an Hour Exam) and due 11:59 pm on the following Thursday (as specified on [Schedule](#) below). All homework assignments will be done through the MasteringPhysics website for this class. Assignments will be announced in class and posted on the [eLearning](#). Students may discuss the relevant physics with others or TAs, but need to answer the questions on MasteringPhysics individually and independently. The answers should be an honest reflection of your own understanding. Each homework assignment will have a total of 110 points, but will be graded on the basis of 100 points. Therefore, you have the chance to score 10% "Extra Credit" on each homework assignment.
- **Exams** (70% of final score): There will be three online Hour Exams on the dates specified in [Schedule](#) below. There will be a cumulative online Final Exam during the final exam week.

Grading Policy

- Final score $x = (\text{Participation}) \times 10\% + (\text{Homeworks}) \times 20\% + (\text{higher of Hour Exam 1 or Final Exam}) \times 15\% + (\text{higher of Hour Exam 2 or Final Exam}) \times 15\% + (\text{higher of Hour Exam 3 or Final Exam}) \times 15\% + (\text{Final Exam}) \times 25\%$
- The above formula tells that the Final Exam score will be used to replace any lower Hour Exam score to gain you a higher x .
- The final score x will also determine your score ranking among all students in both PHYS 1302 sections. Two methods below will be used to calculate the final grade:

by score x	Grade	by score ranking	Grade
$x \geq 90$	Some forms of A	Above 65%	Some forms of A
$90 > x \geq 80$	Some forms of B	40% to 64%	Some forms of B
$80 > x \geq 70$	Some forms of C	20% to 39%	Some forms of C
$70 > x \geq 60$	Some forms of D	10% to 19%	Some forms of D
$60 > x$	F	Below 10%	F
Your final letter grade will be assigned as whichever is higher (Within letter grades, score thresholds for + and – will be determined at the end when all score statistics are available)			

Schedule

Week	Lecture topic (textbook reading)	Important dates
8/17	1. Introduction, Course Description, Electric Charge (17.1)	8/20:
	2. Coulomb's Force Law (17.2—17.4)	online session @ 2:30
8/24	3. Electric fields, Gauss's law (17.5—17.9)	8/27: HW#1 due;
	4. Electric Potential and Voltage (18.1—18.3)	online session @ 2:30
8/31	5. Dielectrics, Insulators & Capacitors (18.4—18.7)	9/3: HW#2 due;
	6. Current, Resistance, & Electromotive Force (19.1—19.3)	online session @ 2:30
9/7	7. Circuit Power, DC circuits (19.4—19.6)	9/10: HW#3 due;
	8. Resistor & capacitor circuits (19.7—19.9)	online session @ 2:30
9/14	9. Review for Hour Exam 1	
Hour Exam 1 on Thursday, 9/17 (online)		
9/21	10. Introduction to Magnetism (20.1—20.4)	9/24: HW#4 due;
	11. Electric Currents & Magnetic Fields (20.5—20.9)	online session @ 2:30
9/28	12. Motional emf, Inductors, & Magnetic Field Energy (21.1, 4—6, 10)	10/1: HW#5 due;
	13. Electromagnetic Waves (21.12, 23.1—4)	online session @ 2:30
10/5	14. Electromagnetic Energy & Momentum; Light (23.5—23.6)	10/8: HW#6 due;
	15. Reflection & Refraction (23.7—23.8)	online session @ 2:30
10/12	16. Dispersion, Polarization, & Huygen's Principle (23.9—23.11)	10/15: HW#7 due;
	17. Review for Hour Exam 2	online session @ 2:30
Hour Exam 2 on Tuesday, 10/20 (online)		
10/19	18. Reflective Optics: Mirrors (24.1—24.3)	10/22: online session
10/26	19. Refractive Optics: Lenses (24.5—24.6)	10/29: HW#8 due;
	20. Examples of Optics (25.1—25.5)	online session @ 2:30
11/2	21. Interference & Diffraction (26.1—26.7)	11/5: HW#9 due;
	22. Photoelectric Effect, Atomic Spectra (28.1—28.2)	online session @ 2:30
11/9	23. Atoms and Nuclei (28.3—28.4)	11/12: HW#10 due; &
	24. Electrons in Atoms, Periodic Table (29.1—29.2)	online session @ 2:30
11/16	25. Review for Hour Exam 3	
Hour Exam 3 on Thursday, 11/19 (online)		
11/23	26. Nuclear Decay & Radioactivity (30.1—30.4)	
Final Exam (TBD)		

General Course Policies

Exams

- Exams will be conducted on-line through eLearning.** The exam will be available for a 24 hour period on the date of the exam. You may begin the exam at any time during that 24 hour period. However, once you begin the exam, you must complete it within the next 75 minutes (for any hour exam) or within the next 2 hours 45 minutes (for the Final Exam).
- Calculators will be necessary** for all exams. **Any calculator that has internet access will not be allowed in the exams.** A scientific calculator that has trig functions should be all that is used on the exams.
- Exams will cover textbook, lecture videos, and homeworks.**
- No phones of any kind or any devices that can access the internet (except the exam website) are allowed to be used during exams.**
- You are responsible for all the reading assignments even if we do not discuss them in lectures. This includes the lecture notes available on eLearning.

6. The final exam will be *cumulative* and will be based on the exams, homework, and any material presented in lectures.
7. There will be no make-up exams for any reason.

Homeworks/Preview readings/Classroom courtesy

8. There will be one homework assignment each week, except in weeks preceding an Hour Exam, assigned on a Thursday and due on the following Thursday, 11:59 pm (as specified on [Schedule](#)). **No late homework will be accepted.**
9. You are welcome to work together on homework but everyone must do his or her own problems and what you turn in should represent an honest reflection of your understanding.
10. Each homework assignment will have a total of 110 points, but will be graded on the basis of 100 points. Therefore, you have the chance to score 10% “Extra Credit” on each homework assignment.
11. You can go to the course under [eLearning](#) and download lecture notes that form part (but NOT ALL) of the lectures. Be careful: these lecture notes may not be a complete record of what is covered in lecture and will not be enough to pass the course.
12. The reading assignment includes the relevant sections from the chapters given above and the lecture slides. Therefore you do need to read the chapter sections before the watching the lecture videos.

University policies

13. Academic Integrity: Each student in this course is expected to exercise independent scholarly thought, expression, and aptitude. Copying or assisting in copying of homework assignments or exams, in whole or in part, from other students or from assignments from other sections/semesters will be considered to be an act of academic dishonesty, which, once suspected, will be reported to University. See more information on [UTD Community Standards and Conduct](#) website.
14. Disability Services: It is the policy and practice of UTD to make reasonable accommodations for students with properly documented disabilities. However, written notification from the [Office of Student AccessAbility](#) (OSA) is required. If you are eligible to receive an accommodation and would like to request it for this course, please discuss it with the instructor and allow **one week** advance notice.
15. In the event of public emergency, inclement weather, etc., that leads to unexpected closure of the university, class will not proceed. Please follow the university announcement for its closure and reopening. After the event, look for Announcement on [eLearning](#) about the class reschedule.
16. For more policies, please refer to [University Policies and Procedures](#) below.

COVID-19 Guidelines and Resources

The information contained in the following link lists the University’s COVID-19 resources for students and instructors of record.

Please see <http://go.utdallas.edu/syllabus-policies>

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

“As a Comet, I pledge honesty, integrity, and service in all that I do.”

University Policies and Procedures

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

These descriptions and timelines are subject to change at the discretion of the Instructor.