South Plains College

Common Course Syllabus: PHYS 1402

Revised Fall 2022

Department: Science
Discipline: Physics
Course Number: PHYS 1402.601
Course Title: General Physics 2
Available Formats: face to face
Campus: Downtown Lubbock

Instructor: Dr. Kimberly Bouldin
Office: S70 Levelland campus, B032 Downtown Lubbock campus
Office hours: MW 12:30-1pm (Levelland), 2-2:30 (Downtown Lubbock),
TTh 10-11am & 12:30-1pm (Levelland), **F** 9am-noon (Levelland), *other times by appointment*
Office phone number: 806-716-2950
Email: KBouldin@southplainscollege.edu

SOUTH PLAINS COLLEGE IMPROVES EACH STUDENT'S LIFE.

Course Room: B032
Course Description: Fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving.

Pre-requisite: PHYS 1401
Credit hours: 4 **Lecture hours:** 3 **Lab hours:** 3

Course Textbook: Physics, 5th Edition by James Walker, required (online access code not required)

Supplies: Students will each need a three ring binder, a spiral notebook or loose leaf paper that will fit inside the binder, a notecard or notecards no larger than 3" by 5", a scientific calculator (not a phone), and writing utensils.

This course partially satisfies a Core Curriculum Requirement: Life and Physical Sciences Foundational Component Area (030)

Core Curriculum Objectives addressed:

Communication skills--to include effective written, oral, and visual communication.
Critical Thinking skills--to include creative thinking, innovation, inquiry and analysis, evaluation and synthesis of information.
Empirical and Quantitative skills--to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
Teamwork skills--to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Student Learning Outcomes:
Upon successful completion of this course, students shall be able to:

1. Solve problems involving the inter-relationship of fundamental charged particles, and electrical forces, fields, and currents.
2. Apply Kirchhoff's Rules to analysis of circuits with potential sources, capacitance, inductance, and resistance, including parallel and series capacitance and resistance.
3. Solve problems in the electrostatic interaction of point charges through the application of Coulomb's Law.
4. Solve problems involving the effects of magnetic fields on moving charges or currents, and the relationship of magnetic fields to the currents that produce them.
5. Use Faraday's and Lenz's laws to determine electromotive forces and solve problems involving electromagnetic induction.
6. Articulate the principles of reflection, refraction, diffraction, interference, and superposition of waves.
7. Describe the characteristics of light and the electromagnetic spectrum.

Student Learning Outcomes Assessment: A pre- and post-test will be used to determine the extent of improvement that the students have gained during the semester.

Breakdown of Grading:

Lab exercises/homework	10%
Quizzes	10%
Exam 1	25%
Exam 2	25%
Midterm project	25%
Final	5%

Grading scale:
100---A---90, 89---B---80, 79---C---70, 69---D---60, 59---F---0
(**Bonus points** may be given for assignments and activities that are considered above and beyond course requirements. All bonus points will be added to one quiz grade. *Students are strongly encouraged to attempt all bonus assignments.*)

Attendance Policy:
Attendance in this class will be taken from completed assignments. Everything done face-to-face in class will be recorded and posted on Blackboard. If a student feels ill with ANY symptoms of COVID-19, the student will be required to stay home and complete the assignments for the day at home.
If you are experiencing any of the following symptoms, please do not attend class and either seek medical attention or test for COVID-19.

- Cough, shortness of breath, difficulty breathing
- Fever or chills
- Muscles or body aches
- Vomiting or diarrhea
- New loss of taste and smell

Please also notify DeEtte Edens, BSN, RN, Associate Director of Health & Wellness, at dedens@southplainscollege.edu or 806-716-2376. Proof of a positive test is required. A home test is sufficient but students must submit a photo of the positive result. The date of test must be written on the test result and an ID included in the photo. If tested elsewhere (clinic, pharmacy, etc.), please submit a copy of the doctor's note or email notification. Results may be emailed to DeEtte Edens, BSN, RN at dedens@southplainscollege.edu.

A student is clear to return to class without further assessment from DeEtte Edens, BSN, RN if they have completed the 5-day isolation period, symptoms have improved, and they are without fever for 24 hours without the use of fever-reducing medication.
Students must communicate with DeEtte Edens, BSN, RN prior to their return date if still symptomatic at the end of the 5-day isolation.

You should always check Blackboard before coming to class in order to make sure that class has not been cancelled due to the instructor's illness.

Computer/Software requirements
Minimum Computer Requirements:
1. Personal computer with a 1 GHz Pentium processor and at least 512 MB of RAM memory, a minimum 5 GB of free hard drive, running Windows 7 / MacOS 10.8 or later (Windows 10 / MacOS 10.12 recommended).
2. Web Browser: Google Chrome seems to work the best with Blackboard and HOL.
3. A high speed internet connection of 5+ Mbps.
4. Microsoft Office and Microsoft PowerPoint and Word software (a recent version, preferably 2016 or higher).
5. Windows Media Player (the latest version).
6. Soundcard and functioning speakers.
7. Knowledge of how to navigate Google Chrome web pages and how to deal with pop-up blockers and other devices and warnings on Google Chrome.
8. Knowledge of how to download files from the Google Chrome and find them on your computer once they are downloaded.
9. Knowledge of basic operations of Microsoft Word and Microsoft PowerPoint.
10. Knowledge of how to view and adjust videos with Windows Media Player.

Additional notes on technology:
I will respond to individual emails as quickly as I can. I will always send a reply email when an assignment is sent through email to let the student know that I have received it. If you send me something through email, and you do not receive a response within 2 days, please resend it. I will always at least touch base with you within a 2-day time period unless I am ill.
Also, a student will not be punished in the event that Blackboard or an SPC server is down when an assignment is due. If you need to print, turn something in, or access something online, please try to do so ahead of time and not at the last minute in order to avoid this situation.

Academic Integrity
It is the aim of the faculty of South Plains College to foster a spirit of complete honesty and a high standard of integrity. Classroom behavior that is not conducive to learning will be dealt with according to the guidelines set forth on the South Plains College Catalog. The attempt of any student to present as his or her own work which he or she has not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offender liable to serious consequences, possibly suspension.

Student Code of Conduct Policy: Any successful learning experience requires mutual respect on the part of the student and the instructor. Neither instructor nor student should be subject to others' behavior that is rude, disruptive, intimidating, aggressive, or demeaning. Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class.

Diversity Statement: In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Disabilities Statement
Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Lubbock Centers (located at the Lubbock Downtown Center) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

Non-Discrimination Policy
South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

Title IX Pregnancy Accommodations Statement
If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362 or email rcanon@southplainscollege.edu for assistance.

Campus Concealed Carry Statement
Texas Government Code 411.2031 et al. authorizes the carrying of a concealed handgun in South Plains College buildings by individuals and in accordance with Texas Government Code 411.209 (a). All holders of a valid Texas License to Carry may carry on their person a handgun that is concealed in accordance with Texas Penal Code 46.03 (a-2).
Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy. Individuals may not carry a concealed handgun in restricted locations.
For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: http://www.southplainscollege.edu/campuscarry.php
Report violations to the College Police Department at 806-716-2396 or 9-1-1.

PHYS 1402 General Physics 2 Tentative Daily Schedule Fall 2022

Week 1 Aug 29, 31 Introduction, Ch 19 Lab 1—Electrostatics: electrostatics kit	Week 10 Oct 31, Nov 2 Ch 21 cont Lab 7--Kirchhoff's Law problem Nova Fabric of the Cosmos Ep 3
Week 2 Sept 7 Ch 19 cont Lab 2—Electrostatics: Van de Graff generator (**Sept 5 Labor Day Holiday**)	Week 11 Nov 7, 9 Ch 22 Lab 8—Simplest Motor HW for Ch 21 due Nov 7
Week 3 Sept 12, 14 Ch 19 cont Lab 3—Electrostatics: repelling charged pith balls	Week 12 Nov 14, 16 Ch 22 cont Lab 9—Simple Motor Review for **Exam 2**
Week 4 Sept 19, 21 Ch 20 **Quiz 1** on Ch 19 on Sept 19 HW Ch 19 due Sept 19 Start Ch 20 on Sept 21	Week 13 Nov 21 **Exam 2 on Ch 21-22 on Nov 21** HW for Ch 22 due Nov 21 (**Thanksgiving break Nov 23-25**)
Week 5 Sept 26, 28 Ch 20 cont Lab 4—Introduction to multimeters **Draw Midterm topics and discuss rubric** Nova Fabric of the Cosmos Ep 1	Week 14 Nov 28, 30 **Midterms projects are due on Nov 28 by 1pm.** **Day 1 Midterm presentations Nov 28** **Day 2 Midterm presentations Nov 30**
Week 6 Oct 3, 5 Ch 20 cont Lab 5—Mapping the Electric Field Review for **Exam 1**	Week 15 Dec 5, 7 Ch 23 **Quiz 2** over Midterm Projects Dec 5 Lab 10—Optics: diffraction, interference, refraction Nova Fabric of the Cosmos Ep 4 Review for **Final Exam** HW for Ch 23 due by Dec 7
Week 7 Oct 10, 12 **Exam 1 on Ch 19-20 on Oct 10** HW for Ch 20 due Oct 10 Start Ch 21 on Oct 12	**Final Exam** will be posted on Blackboard by 8am on December 12 and will be due by midnight on December 12.
Week 8 Oct 17, 19 Ch 21 cont Nova Fabric of the Cosmos Ep 2	All Bonus assignments will be due by Dec 7 at midnight.
Week 9 Oct 24, 26 Ch 21 cont Lab 6—Resistors and multimeters	(Exemption from the final exam, or replacement of an exam grade with a 100, will be a fidget spinner motor, surrendered to the instructor, which runs continuously for at least 2 full minutes in the instructor's presence.)