SYLLABUS FOR CONCEPTS OF GENERAL PHYSICS (PHYS 2B)

Session: Spring 2021	Instructor: Harinder Singh Bawa
Location of class: Web/Virtual	Email: harinder.singh.bawa@gmail.com
Office hours: Friday 9am-11am	Weekly Class Schedule: N.A

Goal:

Physics 2B is an algebra-based introductory physics course consisting of topics: electricity and magnetism, optics, and modern physics. You are expected to know the material of Physics 2A and will need a scientific calculator.

Prerequisites:

Phys 2A, or permission to register from the Department of Physics.

Required Textbooks and Materials:

Required purchases:

- *College Physics* by Serway and Vuille with WebAssign online homework system

Online homework requires purchase and registration to WebAssign:

****Include your student ID**

Website: www.webassign.net
Course Name: PHYS2B
Section: Reedley 57063
Course access key: **csufresno 8719 9260**

Homework will be worth 20% of your grade and I will drop your lowest homework score.
*****THE WEBASSIGN DEADLINES ARE INDEPENDENT AND ARE ONLY SHOWN ON THE WEBASSIGN WEBPAGE ONLY NOT SHOWN ON CANVAS, SO take care of deadlines.**

ATTENDANCE: This is asynchronous class; attendance is not applicable. Every week you would be receiving two video of the lecture along with some helpful videos, you need to watch and understand the video and attempt the quiz made from the video. **Take care of deadlines, its every weekend (Sunday midnight) for the quiz from the lecture posted. Its worth 10%**

Class Meetings: We would be meeting on every Friday at 9am-11am on Zoom to discuss the issues/problem with concepts/homework or lab. Detail of the zoom meeting is as follows:

Join Zoom Meeting
https://fresnostate.zoom.us/j/85151480533?pwd=Ui9RZzVKRlVua0pYVmhpNHFRL0R1Zz09
Meeting ID: 851 5148 0533
Passcode: PHY2B_SP21
****You need to join the meeting at 9am if you have issues.**

Behavioral Standards: Your classmates and I would greatly appreciate your behavior on zoom class. Please turn your phone off when entering zoom session. Mute yourself in zoom and unmute only when asking questions.

LAB REPORTS: This class has a laboratory section that is mandatory. We will be doing online virtual labs from Phet simulation or Pivot Interactive or both combined every week. Phet Simulation is free but You need to purchase pivot interactive subscription (approx. $10) by registering to the webpage:

Join Class Link: https://app.pivotinteractives.com/join-class?classKey=ck-45bc78ce
Class Key: ck-45bc78ce
Name: Reedley College: PHYS2B

Lab reports will be worth 20% of your grade.

Midterm EXAMS: There will be 3 mandatory midterm exams during the semester. There are no makeup exams for missed tests. NO EXCEPTIONS! You may use a 3" x 5" note card (both sides) for your own formula sheet on midterm exams and the final (you may write ANYTHING on here, formulas, practice problems, whatever helps you the most!) Exams will mostly be multiple choice problems and may require 1-3 free response questions. Only scientific calculators may be used. The exams should only take 90 minutes to complete but I will give you 1 hours and 50 minutes. **The midterm exams are worth 30% (equally weighted, 10% each) of your grade.**

FINAL EXAM: The final exam should only take 90 minutes to complete but I will give you 2 hours and 50 minutes. This exam will be comprehensive, but most of the material will be from the final unit of the class. **The final will be worth 20% of your grade.**

****Date of Final exam is mentioned on Reedley College Website.**

Example Student: Example student has the following grades:

- Homework: 75%
- Midterm Average: 85%
- Lab Reports: 95%
- Quiz from videos: 90%
- Final Exam: 80%

Their grade is calculated as follows: (Canvas will do this automatically, including drops)

(.20) (75) + (.30) (85) + (.20) (95) + (.20) (80) + (0.10) (90) = 84.5%

Percent of Total Points	Grade
89-100	A
78-88.99	B
65-77.99	C
55-64.99	D
0-54.99	F

WHERE TO FIND YOUR GRADE:

I will put your grades on Canvas. You can also calculate it yourself at any time using the method above. The grades at the last column of gradebook is close but not accurate and depend upon various factors.

SPECIAL NEEDS REQUESTS: If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Course Plan

#Week	Topics
3	Mathematical Intro, Electric charge, Coulomb law, Electric field
	Electric fields, Electrostatic Equilibrium
	Electric potential, Conductors
	Electric Work, Energy, Equipotentials, Capacitors
4	Current, Resistivity, Ohm's law, Electrical energy and power, circuits
	Current and resistance, Capacitance and capacitors, dielectrics
	Circuits: direct current, resistors and emf, loop laws
	RC circuits (qualitative)
3	Magnetic fields: magnetic force on a charged particle and current, magnetic torque on a current loop
	Magnetic fields: Bio-Savard and Ampere laws and applications
	Induction: Faraday's law, Lenz's law
	Inductance and self induction
3	Reflection & Refraction, Dispersion
	Plane mirror, Curved mirrors, Thin lens equation
	Lens Aberration, Magnification, Physical Optics, Interference
	Slit Diffraction, Polarization
4	Special Relativity, Einstein Postulates
	Relativistic Momentum and Velocity
	Wave Particle Duality, Wave and Particle nature of light, Photo-electric effect
	Emission Spectrum, Bohrs Model of Hydrogen atom
	Nuclear Structure of atom, Radioactive Decay, Nuclear Decay

Academic Dishonesty

Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences.

Cheating is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's permission, using or is playing notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

Plagiarism is a specific form of cheating: the use of another's words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights.

Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on a particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents.