

GRAYSON COLLEGE

Course Syllabus

Please Note: Due to extenuating circumstances, including public health issues, course and testing delivery methods, instructional schedules, housing contracts, campus procedures and/or operating hours may be altered, interrupted and/or ceased for a limited or extended period of time. Such changes will be posted on the College website.

Course Information

PHYS 1302 College Physics II and PHYS 1102 College Physics II Lab

Type of Course/Delivery Mode/Testing Requirements

Face-to-face on campus, 3 hour lecture/week, lecture testing in the Testing Center, 2 hour lab/week, lab test performed in class

Professor Contact Information

Instructor: Ryan M^cKinney

Office Phone: 903-463-8725

Science Department Office: (903) 463-8797

E-mail: mckinneyr@grayson.edu

Office Location: S - 102

Office Hours: I will be in my office from 8:30AM until 9:30AM and 11:00AM until 12:00PM

Monday thru Thursday. If I am unable to assist you at that moment, I will let you know. I check my email and Canvas multiple times throughout the day and will respond as soon as possible.

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Concurrent enrollment in PHYS 1102 lab is required.

Although students must register for a separate course number, these sections (lecture and lab) are combined into a single course and are used together for meeting state core objectives (CS1, CT2, CT3, EQS2, and TW1), and for final grade calculations. Lecture work will make up 70% of the final grade and the remaining 30% of the grade will be from lab work. In some instances the courses will also be combined into one Canvas course shell where both lecture and lab work will be completed. Please see instructions when logging into the course online.

Course Description

PHYS 1402. College Physics II – 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. (RM)

State Core Objectives that will be met in this combined Lecture and Lab course:

- Communication Skills, CS1 – Students will develop, interpret, and express ideas

through written communication.

- Critical Thinking Skills, CT2 – Gather and assess information relevant to a question.
- Critical Thinking Skills, CT3 – Analyze, evaluate, and synthesize information.
- Empirical and Quantitative Skills, EQS2 – Students will describe, explain, and predict natural phenomena using the scientific method.
- Teamwork, TW1 – Students will work cooperatively with their peers and leaders to more effectively solve problems by utilizing insights from multiple perspectives.

Student Learning Outcomes

- Solve problems involving the inter-relationship of fundamental charged particles, and electrical forces, fields, and currents.
- Apply Kirchoff's Rules to analysis of circuits with potential sources, capacitance, inductance, and resistance, including parallel and series capacitance and resistance.
- Solve problems in the electrostatic interaction of point charges through the application of Coulomb's Law.
- 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.
- Use Faraday's and Lenz's laws to determine the electromotive forces and solve problems involving electromagnetic induction.
- Articulate the principles of reflection, refraction, diffraction, interference, and superposition of waves.
- Describe the characteristics of light and the electromagnetic spectrum.
- Develop techniques to set up and perform experiments, collect data from those experiments, and formulate conclusions from an experiment.
- Demonstrate the collections, analysis, and reporting of data using the scientific method.
- Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports.
- Solve problems applying the principles of reflection, refraction, diffraction, interference, and superposition of waves.
- Solve practical problems involving optics, lenses, mirrors, and optical instruments.

Required Textbooks (ISBN # included) and Materials

College Physics, Openstax College., Rice, ISBN 978-1-938168-00-0

(available from <http://openstaxcollege.org>.)

Suggested Course Materials

scientific calculator

Outline of Topics Covered-Lecture

Chapter 18: Electric Charge and Electric Field

Chapter 19: Electric Potential and Electric Field

Lecture Exam 1 – Chapters 18 and 19

Chapter 20: Electric Current, Resistance, and Ohm's Law

Chapter 21: Circuits and DC Instruments

Lecture Exam 2 – Chapters 20 and 21

Chapter 22: Magnetism

Chapter 23: Electromagnetic Induction, AC Circuits, and Electrical Technologies
Chapter 24: Electromagnetic Waves
Chapter 25: Geometrical Optics
Lecture Exam 3 – Chapters 22, 23, and 24
Final Exam – Chapters 18 thru 24

Outline of Topics Covered-Lab

Demonstrations of Electrostatics
Computer Simulation of Electric Charge, Field, and Potential
Mapping of Electric Fields
Resistance Color Codes and Ohm's Law
Wheatstone Bridge
Series and Parallel Circuits
Series-Parallel Circuits
Tangent Galvanometer
Measuring e/m
Electromagnetic Induction
Geometrical Optics

In case of inclement weather, emergency closings, or other unforeseen disruptions to scheduled classes, student must log onto their Canvas accounts for directions on where or how to continue their coursework.

Methods of Evaluation

The nature of this course requires that the student become proficient in problem solving skills. To support the development of such skills, students are required to complete and submit Lecture Assignments related to the course material. Lecture Assignments will be posted on Canvas. Lecture Assignments will count for 10% of the final overall grade. The solutions to the Lecture Assignments will be provided in Canvas. No late submissions will be accepted.

Examinations will include problems and multiple choice questions. There will be no makeup exams taken after an exam has been returned to the students, and makeup exams will only be allowed under extenuating circumstances. Schedule such events with the instructor in advance of an exam. There will be three exams during the semester with each exam counting as 15% of the final overall grade.

The final exam will be comprehensive and will count as 15% of the final overall grade. The final exam will also replace the student's lowest exam score (if it benefits the student's final average).

Lab assignments are due on the Friday of the week that they are done. Late lab assignments will only be accepted under extenuating circumstances as determined by the instructor. Lab assignments will include the original data collected during the lab (from the lab handouts), calculations and questions from the lab book and as required by the instructor. The average of the lab assignments will count as 15% of the final overall grade.

The lab exam will consist of a written and a practical portion. The lab exam will count as 15% of the final overall grade. Anyone caught cheating on an exam will be given a zero (0) for that exam.

The student may use a 3" x 5" notecard (both sides) on the exam. The use of textbooks, class notes or on line resources is not allowed during any tests. Any student that violates the Student Academic Integrity Policy or any guideline regarding the use of textbooks, class notes or on line resources during tests will automatically receive a zero for the test. Any grade of zero for violating the Academic Integrity Policy cannot be replaced.

Grading

90.0-100=A

80.0-89.99=B

70.0-79.99=C

60.0-69.99=D

Below 60.0=F

There will not be extra credit assignments available for this course.

I want to remind everyone, no professor "gives" a student a grade. The student earns the grade they receive.

Important Dates

TBD

Computer Software and Hardware Requirements

You will need a computer capable of accessing the internet and Canvas. Please keep the browser and any anti-virus or malware software up to date.

Course & Instructor Policies

Laboratory Safety Policy

1. In order to avoid creating unsafe situations professional, judicious, and safe conduct is required of each student.
2. Be aware of the potential of electrical shock when using the equipment.
3. Laboratory samples are to be used with caution. Under no circumstances are laboratory samples to be moved in an inappropriate manner nor are they to be broken, chipped, or otherwise mutilated. No laboratory samples are to be taken out of the room at any time.
4. All chair legs are to remain on the floor at all times.
5. Report all accidents to the instructor and the campus police immediately.
6. Become familiar with the exits in case of fire.

Class Attendance and Participation

Academic success is closely associated with regular classroom attendance and course participation. All successful students, whether on campus or online, are expected to be highly self-motivated. All students are required to participate in courses regularly and are obliged to participate in class activities and complete and submit assignments following their professors' instructions. Students taking courses during compressed semester time frames such as mini-mester, summer sessions, and mid-semester should plan to spend significantly more time per week on the course. Responsibility for work missed because of illness or school business is placed upon the student. More than two (2) absences are considered to be excessive. In addition, students' eligibility to

receive financial aid or live in a College dormitory can be affected by withdrawal from courses. When withdrawal occurs, any tuition refund would be made in accordance with state regulations.

In order for students to be counted as having attended a class before the census date, the following guidelines are to be used:

- Physical attendance in class with an opportunity for instructor and student interaction
- Submission of an academic assignment
- Completion of an exam, interactive tutorial, or computer-assisted instruction
- Attendance at a study group assigned by the faculty
- Participation in an online discussion in the class
- Contact with a faculty member to ask a question

Students with Approved Accommodations

Any student that has provided the instructor with an accommodations form from the Coordinator of Tutoring and Disability Services then decides not to utilize the accommodation that has been granted must provide the instructor with written notification that the student does not plan to continue to utilize the granted accommodation. The instructor will continue to provide the granted accommodation until informed, in writing, the student has made the decision to no longer utilize the accommodation.

Student Conduct & Discipline

Students are expected to maintain classroom decorum that includes respect for other students and the instructor. Prompt and regular attendance is required. Students must not disrupt the class or leave before class has been released. Students must maintain an attitude that seeks to maximize educational opportunities in the classroom. Failure to comply with proper classroom decorum will result in the student being dropped from the class.

All cell phones and other electronic devices must be turned off before entering the classroom. If you have an emergency and need to take a call during class, you must inform the instructor before the beginning of class. Turn your ringer to vibrate, and when your call comes in, pick up all of your belongings and leave the classroom. You may return to class the next time the class meets. In the event that I see your cell phone out during class, your cell phone rings during class or I catch you leaving class to answer your cell phone, I will **deduct 10 points** from your next lecture test. Each violation of this policy will result in a 10 point deduction on the next lecture test.

Under no circumstances will any electronic devices, except calculators, be allowed in the classroom during a test. You CANNOT use the calculator on your cell phone!

Defacing College Property

Anyone caught defacing property or damaging equipment in the lab or lecture room will be responsible for cleaning, repairing or replacing the defaced property or damaged equipment. **The individual will receive a zero (0) for the next lecture or lab test.** A grade of zero received for defacing property cannot be replaced. Defacing property includes, but is not limited to, writing, marking or scratching on the tables, tabletops, chairs, cabinets, counter tops, shelving or walls.

Hybrid, Online and Distance Education Courses

The best method for communicating with the instructor is to send mail messages in Canvas or to their Grayson College email address. Announcement will be periodically posted to remind students of work they should be doing to progress through the class. Students can communicate with each other using Canvas mail or discussions.

Online participation will not be counted as part of the student's grade.

Discussion posts and mail communications will be monitored by the instructor. Inappropriate comments and behavior will not be tolerated. Before hitting posting a discussion or sending a mail message, think about how you would feel if you received the same message from someone else in the class. Any postings that include vulgar or inappropriate behavior will be deleted and the student that posted the comment will be warned one time. If the behavior continues, points will be deducted from the next lecture or lab test.

All students should have basic computer skills. You should know how to use the browser of your choice and software such as word processors and spreadsheets. Students are expected to understand how to upload and download files from Canvas or the internet when necessary. You will need a computer capable of accessing the internet and Canvas. Please keep the browser and any anti-virus or malware software up to date.

In the event that work needs to be submitted online, files will be sent to the instructor by Canvas mail, email or by uploading the files into Canvas course shells. If there are technical issues with using all of these methods, students can bring a USB drive to the instructor.

The labs for this course do meet on campus. Currently the lecture material will be delivered online.

Academic integrity is expected of all students taking any course not matter how the content for that course is delivered. Any papers submitted in the course will be vetted using turnitin.com to check for plagiarism. The professor will also perform internet searches on their on in the event submitted material is in any way suspect.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic Dishonesty, any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the college's policy on plagiarism (see GC Student Handbook for details). Grayson College subscribes to

turnitin.com, which allows faculty to search the web and identify plagiarized material.

Plagiarism is a form of scholastic dishonesty involving the theft of or fraudulent representation of someone else's ideas or words as the student's original work.

Plagiarism can be intentional/deliberate or unintentional/accidental.

Unintentional/Accidental plagiarism may include *minor* instances where an attempt to acknowledge the source exists but is incorrect or insufficient. Deliberate/Intentional plagiarism violates a student's academic integrity and exists in the following forms:

- Turning in someone else's work as the student's own (such as buying a paper and submitting it, exchanging papers or collaborating on a paper with someone else without permission, or paying someone else to write or translate a paper),
- Recycling in whole or in part previously submitted or published work or concurrently submitting the same written work where the expectation for current original work exists, including agreeing to write or sell one's own work to someone else,
- Quoting or copy/pasting phrases of three words or more from someone else without citation,
- Paraphrasing ideas without citation or paraphrasing incompletely, with or without correct citation, where the material too closely matches the wording or structure of the original,
- Submitting an assignment with a majority of quoted or paraphrased material from other sources, even if correctly cited, when original work from the student is expected,
- Copying images or media and inserting them into a presentation or video without citation,
- Using copyrighted soundtracks or video and inserting them into a presentation or video without citation,
- Giving incorrect or nonexistent source information or inventing source information,
- Performing a copyrighted piece of music in a public setting without permission,
- Composing music based heavily on someone else's musical composition.

Please refer to your course syllabus. Infractions may result in disciplinary options on behalf of the faculty member and/or dean.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal from any collegelevel courses. These dates and times are published in that semester's schedule of classes. Administrative procedures must be followed. It is the student's responsibility to handle student initiated withdrawal requirements from any class. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled (see Grayson College Catalog for details).

TITLE IX

GC policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status. Furthermore, Title IX prohibits sex discrimination to include sexual misconduct: sexual violence (sexual assault, rape), sexual harassment and retaliation.

For more information on Title IX, please contact:

Dr. Molly M. Harris, Title IX Coordinator (903)463-8714

Ms. Logan Maxwell, Title IX Deputy Coordinator - South Campus (903) 415-2646

Mr. Mike McBrayer, Title IX Deputy Coordinator (903) 463-8753

Website: <http://www.grayson.edu/campus-life/campus-police/title-ix-policies.html>

GC Police Department: (903) 463-8777- Main Campus, (903) 415-2501 - South Campus

GC Counseling Center: (903) 463-8730

For Any On-campus Emergencies: 911

Grayson College campus-wide student policies may be found on our Current Student Page on our website: <http://grayson.edu/current-students/index.html>

Grayson College is not responsible for illness/injury that occurs during the normal course of classroom/lab/clinical experiences.

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

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