Patrick & Henry Community College

PHY 202: GENERAL COLLEGE PHYSICS II
SPRING SEMESTER 2023 INSTRUCTOR: SHANNON KING

OFFICE LOCATION: PIEDMONT GOVERNOR'S SCHOOL, 308 West Hall, 645 Patriot Avenue, Martinsville, VA

OFFICE HOURS: M-Th 11AM – 3PM

OFFICE PHONE: (276) 656-0328 option 6

E-MAIL ADDRESS: sking@pgsmst.com, sking@patrickhenry.edu: email response will be within 48 hours.

CLASS MEETING TIME: M/W 9:25am – 10:55am and alternating FRI 9:25am – 10:55am

CLASSROOM LOCATION: PHCC West Hall Room 207

COURSE CREDITS: 4

PREREQUISITE(S): ENF 3 or above; Co-requisite: MTH 163

COURSE DESCRIPTION:
Teaches fundamental principles of physics. Covers mechanics, thermodynamics, wave phenomena, electricity and magnetism, and selected topics in modern physics. Prerequisite MTH 165 or equivalent.

COURSE OBJECTIVES:
Upon completion of this course, the student should:

- Understand and explain the principles of general college physics, using proper vocabulary and nomenclature. Use principles of physics, along with the basic mechanics of standard written English, to prepare formal laboratory reports.
- Apply the principles of general college physics, along with mathematical skills, to solve a wide variety of problems.
- Apply interpersonal skills to work with individuals in group-laboratory experiments.
- Use effective study skills in order to master course content.
- Use scientific tools for data processing, evaluation, and presentation, such

as calculators, spreadsheets, and other computer software.
- Develop analytical thinking and logical reasoning skills that are essential for interpreting scientific data and analyzing physical problems.

COURSE OUTLINE:

1. Heat, Temperature, Kinetic Theory
2. Thermodynamics
3. Light, Geometric Optics, Color
4. Electricity, Magnetism
5. Modern Physics

VCCS GENERAL EDUCATION OUTCOMES

Scientific Literacy is the ability to apply the scientific method and related concepts and principles to make informed decisions and engage with issues related to the natural, physical, and social world. Students will recognize and know how to apply the scientific method, and evaluate empirical information.

- Explain the scientific method of inquiry that leads to evidence-based knowledge
- Identify elements of research design
- Plan, design, and conduct scientific investigations in a collaborative environment
- Test hypotheses and communicate procedures and results, based on scientific evidence

METHOD OF INSTRUCTION:

The lecture-discussion format of instruction will be used in this course. As a result, interactive lectures with an emphasis on problem-solving will be an integral part of course instruction. In addition, laboratory experiments will be conducted by the instructor and students. Other methods of instruction will include using technology in the learning of physics, such as computer-aided exercises.

TEXTBOOK(S) AND SUPPLIES:

- Giancoli, Physics: Principles with Applications AP® Edition 7th Edition
- 3 Ring Binder with dividers and loose-leaf paper
- Calculator, pens, and pencils
- Laboratory notebook
- Planner

STUDENT EVALUATION:

- Grades are calculated on a point value system. Each assignment has a point value that is totaled at the end of each grading period to yield the points available. Each students points are added each grading period to yield the total points earned. The final grade for the reporting period is

calculated by dividing the total points earned by the total points available and then multiplying by 100.

- Individual assignments could include but are not limited to the following:
  Concept quizzes
  Lab assessments and activities
  Research Articles
  Classwork/Practice Problems
  Tests/Exams
  Online assignments
- Grades will be posted in CANVAS/THINKWAVE within two weeks of assignment submission.
- Late penalties will accrue at a rate of 5 points per 24 hour time period (including weekends) past the due date/time. No work will be accepted 5 days past the due date and time.

GRADING SCALE:

A	90 - 100
B	80 - 89
C	70 - 79
D	60 – 69
F	59 – below

EXPECTATIONS FOR STUDENT SUCCESS

RULES OF CONDUCT:

All students are expected to conduct themselves in a scholarly manner. Please turn off all cellular phones during the lecture period so that a non-disruptive learning environment is maintained. Cell phones, smart watches, and other electronic communication devices are to be placed in the phone caddy during each class period. Students whose conduct hinders the academic achievement of others will be subject to disciplinary action.

NO food, drinks, or horseplay in the **lab**.
Failure to follow lab rules and/or instructions will result in points subtracted from the student's lab grade.

STUDYING REQUIREMENTS AND SUGGESTIONS:

This course will assume that you have no previous knowledge of physics. However, a basic understanding of some high school science principles as well as familiarity with high school algebra will be assumed. There are no shortcuts in studying physics. To learn physics, you must practice problem solving. It is impossible to learn by osmosis (in other words, merely looking at solutions to problems, hearing explanations from your fellow classmates, thinking about problems while you listen to the stereo or watch television, etc.). THE KEY TO

THE CLASS IS TO READ YOUR TEXTBOOK, UNDERSTAND LECTURE AND READING MATERIALS, AND TO WORK PROBLEMS! Make sure that you read THE ENTIRE CHAPTER in the textbook unless you are instructed to specifically omit something. To help with your studies, problems will be assigned from the textbook for grading purposes. However, it is essential that you work all of the assigned problems and then some. *It is your responsibility to solve enough problems to satisfy yourself that you understand the material.* Do not mistakenly believe that you have mastered the major learning objectives prior to working additional problems from the textbook. In general, there is a direct correlation between the number of suggested problems worked and understood and those who earn good grades.

Several comments about studying are worth noting. First, memorization is not the same as learning and understanding. It is expected that you understand and apply learned concepts to similar but different problems. Second, to assist in learning and understanding, you are encouraged to study in small groups with classmates. Finally, take advantage of assistance from the professor and peer-tutors.

ASSIGNMENTS:

All assignments are to be completed and submitted by the designated due date unless otherwise stated by the instructor. All CANVAS submissions ***must*** be in either a **WORD format or PDF format**.

Show all your work/thought processes, including formulas, for mathematical problems. This allows for the possibility of awarding partial credit and a record of steps taken throughout a problem to aid in identifying mistakes. All final answers should be recorded with proper units.

Working in groups on homework problems is not prohibited; in fact, group work can greatly facilitate your learning of the material. However, to develop problem-solving skills, you need to attempt all problems on your own before obtaining help from classmates. Once you have attempted problems, you will be in an optimal position to discuss approaches and strategies with other classmates.

The work you present must be your own. In other words, do not merely copy answers from a classmate or copy solutions directly from an answer key or a solution manual, for these actions are considered to be forms of academic dishonesty. Do not copy and paste information from online resources as this is blatant plagiarism. All information obtained and used for assignments must be properly referenced using APA formatting.

CHEATING OR PLAGIARIZING:

Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations, projects, labs, or homework. However, it is the intent of this definition that the term "cheating" not be limited to above listed situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating that consists of the misuse of the published and/or unpublished works of others by misrepresenting the material so used as one's own work. Penalties for cheating and plagiarism range from a grade of zero or F on a particular assignment, through an F for the course, to expulsion from the college. Plagiarism can include submitting a paper written by someone else as your own, written by means of inappropriate collaboration, written by you for another course and submitted without the permission of both instructors, purchasing, downloading, cutting, or pasting from the Internet, or that fails to properly acknowledge its sources through standard citations.

HONOR CODE:

According to the honor system, ***ALL*** work submitted for grading purposes should represent the student's ***own*** best efforts. Discussion of assignments with other class members is a good idea, but copying work from each other or from other sources (former laboratory reports, previously graded written assignments, answer keys, etc.) is an honor code violation.

Neither Patrick & Henry Community College nor Piedmont Governor's School for Mathematics, Science and Technology will tolerate any form of dishonesty, including cheating, plagiarism, knowingly furnishing false information to the college, forgery, or alteration or use of college documents or instruments of identification with intent to defraud. All students are expected to abide by the honor code and may be required to sign a pledge on their work. In general, assignments, as well as major and final exams, will not be graded unless a pledge is signed.

EMERGENCY INFORMATION:

In the case of fire, refer to evacuation map located at the entrance/exit of the classroom.

STUDENT SUPPORT/DISABILITY STATEMENT:

If you have a disability or other need for reasonable accommodation in order to successfully complete the requirements of this course, please contact the 504/ADA Coordinator (Learning Resource Center #109D, 276-656-0257 or 800-232-7997 ext. 0257, disabilityresources@patrickhenry.edu) to discuss this matter confidentially.

IMPORTANT DATES TO REMEMBER:
See Piedmont Governor's School academic calendar.

ONLINE TUTORING:
Brainfuse is an online tutoring service PHCC students may use free of charge 24/7. Students may access Brainfuse through Canvas or at their MYPHCC portals. Through this tutoring service, students can communicate with tutors synchronously (live or near real time) or asynchronously (delayed or not simultaneously).

This syllabus conforms to the Patrick & Henry Community College syllabus guidelines and is subject to change at the instructor's discretion.

AFFIDAVIT

My signature below indicates that I have read and understand this syllabus for PHY 202 and have been provided a copy to access online via CANVAS.

Student printed name: _____
Student signature: _____
Date: _____

Parent printed name: _____
Parent signature: _____
Date: _____