

## Physics 212 Syllabus and General Guidelines (Fall 2023)

### Instructors:

Dr. Chuck Yeung, Witkowski 118, (898-6309), [cyeung@psu.edu](mailto:cyeung@psu.edu) (Section 1):

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**Office Hours:** Office hours are listed on the class Canvas homepage. You may attend office hours of either instructor. You are also welcome to email your instructor and make an appointment.

**Classes:** All in Witkowski 021. Section 001: MWF 8:00-9:40AM, Section 002: MWF 10:10–11:50AM, Section 003: MWF 12:20–2:00PM

**Cell Phones:** The use of cell phones is **NOT PERMITTED** during class except when approved by a faculty member. Please put away your cell phones once class has started. On quiz and test days, do not access your cell until after you have left the room. If you need to use your cell phone during class, please step outside the room.

**Textbook.** We will give reading assignments using chapter and section numbering from the OpenStax textbook *University Physics Volume 2* by Sam Ling, William Moebs, and Jeff Sanny, and from *Physics for Scientists and Engineers, Vol. 2, Electricity and Magnetism* by Randall Knight. The OpenStax textbook is available for free via the OpenStax app or as an e-book or pdf download at <https://openstax.org/details/books/university-physics-volume-2>.

You can use either book to do your reading, or you are free to use any other calculus based introductory physics textbook that you might prefer.

**Prerequisites:** Passing grade in Physics 211 and Math 140. Passing grade or concurrent enrollment in Math 141.

**Class Webpage:** CANVAS has the syllabus, calendar, homework instructions, class agendas, pre-class videos and reading quizzes, exam reviews, class PowerPoints, activity solutions (available the following day) and handouts. All your grades will be on CANVAS. Open the next Class Agenda to see what you should do to prepare for class.

**Grading Criteria:** Exams 45%, Final Exam 20%, Activities/Attendance 10%, Reading Quiz 5%, Quizzes 10%, Homework 10%

**Grades:** A:> 93, A-: 88-93, B+: 84-88, B: 80-84, B-: 75-80, C+: 70-75, C: 65-70, D: 60-65, F:< 60; You can check all your class grades and overall grade at any time on CANVAS. With thousands of grades to input mistakes will occur. Always check your grades and alert us to any errors. Questions about how something is graded are welcomed but grade adjustments must be *submitted within **three** weeks after receiving the graded material and **before** the final exam.*

**Missing a Graded Event:** If you are unable to attend a class or complete an assignment on time due to a “university approved excuse” **YOU MUST NOTIFY US BEFORE THE EXAM, QUIZ, CLASS, OR any DUE DATE for a READING QUIZ or HOMEWORK** for us to accommodate you. Approved excuses include illness, quarantine, family emergency, athletic team competition or military commitment (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/42-00-acquisition-of-credit/#42-27>). If you are ill, email your instructor before the start of class and tell us you are sick. Please provide documentation if you have an extended or repeated absence due to illness.

For an approved excuse: 1) You will not be required to make-up quizzes (unless more than two are missed), reading quizzes, or in-class activities. Your grade will be pro-rated for any graded event missed. 2) If you miss an exam, you must take make-up within 3 weeks after the original scheduled date or you will receive a grade of zero.

If you are absent for an extended period, please check-in with your instructor regularly. Take advantage of the many resources available to you on the class CANVAS page such as pre-class overviews, in-class activities and their solutions, and quizzes and their solutions.

**Pre-Class Videos and Reading Assignments:** It is important that you are prepared for each class. There are pre-class videos and reading assignments linked in the reading quizzes. Please watch the videos and/or read the textbook sessions before class. The videos and reading will prepare you for the next class and help you with your reading quizzes.

**Reading Quizzes:** Reading quizzes are on CANVAS and are due at 11:59 pm the day before class. They are available one week before the due date. You will receive the highest grade out of three tries. The quiz varies from student to student and try to try. *The four lowest grades will be dropped. There are no makeups.*

**Online Homework:** We will use “The Expert TA” homework service for the online homework. See CANVAS for Homework Instructions. Homework is due at 11:59 pm on due dates (see schedule). *There are no makeups.*

**Quizzes:** The quizzes are in class and will focus on material by chapter (see schedule). *The lowest grade will be dropped. There are no makeups.* There is a final assessment quiz that is worth up to 1% Extra Credit.

**Exams:** There will be three in-term exams in class (see schedule). You must notify your instructor **before** the exam if you have a university approved excuse to arrange a makeup exam without penalty. If you miss the exam for your section without a valid excuse, you must notify your instructor within 24 hours of the start of your section’s exam. If you can take the exam at the same time as another section, there will be a 5% penalty. If you are unable to do so, for example, because you did not notify your instructor until after the last section, you can schedule a make-up with the instructor with a 25% penalty.

**Final Exam:** The final exam is cumulative.

**Problem Solving Session, and Tutoring:** To succeed in this course, you need to learn/study outside of class. On most weeks, **Dr. Yeung will hold a problem-solving session from noon to 1 pm on Thursdays in Nick 166.** Tutoring services are available at the Learning Resource Center. Information regarding tutoring is available on the LRC Web pages at <http://psbehrend.psu.edu/Academics/academic-services/lrc/tutoring>.

**Course Goals and Objectives:** The goal of this course is for you to develop the knowledge base and skill set required for success in an engineering and/or science career. This includes the understanding of physical concepts, developing quantitative problem-solving skills, and the ability to accomplish assigned tasks as a team. The course is a calculus-based introduction to classical electricity and magnetism, including such topics as: electric charge and electric fields, Gauss's law, electric potential, capacitance, current, resistance, and circuits, magnetic fields, and fields due to currents, induction and inductance, magnetism of matter, Maxwell's equations, and electromagnetic oscillations. This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws.

**Method - SCALE-UP Physics:** You will quickly notice that the course is NOT the same as a “traditional” lecture course that you may be used to. Using the results of education research, SCALE-UP physics encourages student learning and problem solving with “brains-on” activities in order to improve student success. In SCALE-UP physics, you will be asked to complete tasks with the same methods that working engineers and scientists use to figure out what they need to know.

**Activities & Attendance:** There are in-class activities for each class. You must be present to receive credit for the activity. Each day one activity will be chosen for grading. Your lowest grade will be dropped. *There are no makeups.* Your activity grade will be pro-rated for valid excuse absences. You will be assigned to a team of two or three people that you usually will keep for the entire semester. Learning to work as part of a team and performing the assigned task in the time allotted are also required skills for a successful career in engineering and science, just as much as understanding the physical concepts and mastering quantitative problem solving. Each team is responsible for their area and equipment. Misuse of equipment, not maintaining the neatness of their area, etc. will result in deductions from the team's activity grade.

**Student Responsibility for Learning:** To be successful in this course, you must come to class prepared to learn. This requires knowing the information from the assigned reading in the textbook, viewing the pre-class material, and doing the reading quizzes before class. Coming to class without knowing the required information will waste your opportunity to learn from the day's activities and you will not be able to complete the activity in the assigned time. Success in this course requires spending about 8 to 12 hours a week thinking about and working on physics OUTSIDE of class time.

**Expectations:** We will be using the physics covered in Physics 211 as well as concepts from Math 140 and 141. You should be comfortable with differentiation and simple integration. More importantly, you should have the basic ability to solve problems. The basic concepts and techniques you learn and apply in this course will be required in all aspects of science and engineering. You are encouraged to talk to your classmates about the homework and any other problems or ideas, but you should try them yourself first. It is particularly important that you do not fall behind in this class as we will always be building on previous material. Talk to your instructor if you are having problems since it will be very difficult to catch up if you get behind. The studying methods that you find most useful will depend on yourself. The common denominator for success in this course is hard work.

**Academic Integrity:** Academic integrity is a basic guiding principle for all academic activity at the University, and all members of the community are expected to adhere to this principle. Specifically, academic integrity is the pursuit of scholarly activity in an open, honest, and responsible manner. It includes a commitment not to engage in or tolerate acts of falsification, misrepresentation, or deception. Such acts violate the fundamental ethical principles of the University community and undermine the efforts of others.

Violations of academic integrity are not tolerated at Penn State Behrend. Violators will receive academic sanctions and may receive disciplinary sanctions, including the awarding of an XF grade. In cases such as these, an XF grade is recorded on the transcript and states that failure of the course was due to an act of academic dishonesty. All acts of academic dishonesty are recorded so those repeat offenders can be sanctioned accordingly.

For more information: <http://behrend.psu.edu/for-faculty-staff/faculty-resources/academic-integrity>

**Disabilities and Learning Differences:** Penn State is strongly committed to providing full access to its programs and services for all individuals. The University encourages academically qualified students with disabilities to take advantage of the educational programs and accommodations offered at Penn State Behrend.

For more information: <http://behrend.psu.edu/student-life/educational-equity-and-diversity/student-resources/students-with-disabilities-and-learning-differences>

**Educational Equity Concerns:** Penn State takes great pride in fostering a diverse and inclusive environment for students, faculty, and staff. Acts of intolerance, discrimination, harassment, and/or incivility due to age, ancestry, color, disability, gender, national origin, race, religious belief, sexual orientation, or veteran status are not tolerated and can be reported through Educational Equity at the Report Bias site:

<http://equity.psu.edu/reportbias/statement>.

**Counseling and Psychological Services:** Students with academic concerns related to this course should contact the instructor in person or via email. Students also may occasionally have personal issues that arise in the course of pursuing higher education that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the Penn State Behrend Personal Counseling Services at (814) 898-6504.

For more information: <http://psbehrend.psu.edu/student-life/student-services/personal-counseling>

**LionHELP:** LionHELP is a smartphone application, available for both iOS and Android, that you can download if you or someone you know may be facing a mental health emergency. This app provides information about the signs of a mental health crisis, how to talk to someone who may be in crisis, a guide to help refer someone to the appropriate resource, and a full list of resources available on campus. The app can be downloaded free of charge, and there is absolutely no tracking of any information. **Please note that LionHELP is not a diagnostic tool and should not take the place of services provided by a licensed mental health professional.**

**Title IX:** Penn State is committed to fostering an environment free from sexual or gender-based harassment or misconduct. The Office of Sexual Misconduct Prevention and Response ensures compliance with Title IX, a federal law that prohibits discrimination based on the sex or gender of employees and students. Behaviors including sexual harassment, sexual misconduct, dating violence, domestic violence, and stalking, as well as retaliation for reporting any of these acts violate Title IX and are not tolerated. The University is also committed to providing support to those who may have been impacted by incidents of sexual or gender-based harassment or misconduct and may provide various resources and support services to individuals who have experienced one of these incidents.

For more information: <http://titleix.psu.edu/> or <http://titleix.psu.edu/resources-penn-state-erie-the-behrend-college/>

**Copyright of Class Materials:** You may not share any information from this course (including notes and assignments) with others who are not currently registered for the course, nor post such information electronically without the permission of the instructor -- this includes online note-taking/note-sharing services (See Penn State Administrative Policy AD-40). Also prohibited in the policy is the posting of audio, video, or photographs posted to social media sites or other publicly accessible resources without permission.