



Course Syllabus

Course Title: College Physics II and Laboratory

Term and Year:

Course and Section Number: PH 164 and PH 164 L

Time and Place:

Number of Credit Hours: 4

Instructor:

Office Location/Hours:

Office Phone:

Email:

Course Description: An algebra-based introduction to the concepts and application of vibrations, waves and sound, Coulomb's Law, capacitance, DC electric circuits, magnetism, electromagnetic induction, optics and optical instruments. Experimental investigation of selected topics.

Prerequisites: PH 154 College Physics I

Learning Outcomes: Upon completion of this course, the student should be able to:

1. Explain the physics concepts related to vibrations, waves and sound, Coulomb's Law, capacitance, DC electric circuits, magnetism, electromagnetic induction, optics and optical instruments.
2. Solve algebra-based quantitative problems related to vibrations, waves and sound, Coulomb's Law, capacitance, DC electric circuits, magnetism, electromagnetic induction, optics and optical instruments.
3. Construct graphs which illustrate the relationships between quantities in the physics equations related to the topics listed in the course description.
4. Interpret graphs to obtain quantitative relationships between quantities.
5. Make measurements using a variety of tools and instruments.
6. Analyze data using common quantitative measures such as regression, standard deviation, and propagation of uncertainty.

Required Text: This course utilizes OER (Open Educational Resources) materials at no cost to learners. All required reading is available in the online course room.

[Openstax College Physics](#)

References:

Bozeman Science (2015). *Magnetic force* [Video]. YouTube.

<https://www.youtube.com/watch?v=dFT7-s0jh0>

Holt McDougal (2004). *Holt science and technology*.

Course Requirements:

Attendance/Participation: All students are expected to log in to their courses regularly throughout the week to receive instruction, materials, and updates from the instructor. It is your responsibility to check in and submit your assignments, complete your discussion board postings, and finish quizzes and exams by the due dates.

If you do not participate in the course, you will be counted absent. Simply logging in is not enough; you must submit/complete an assignment, post to a discussion board, or other similar assignment tasks to avoid being counted absent. Instructors are required to submit attendance the Monday following each week of class.

This attendance is reported to the Financial Aid Department and may result in the loss of any financial aid refund you are expecting if you have not been participating in your courses. **In addition, you will be administratively dropped from the course if you are reported absent a total of three weeks.**

Grading/Evaluation:

Grades are calculated by points. The points will come from the following assignments.

Discussion Posts	(8 @ 10 points each)	80 points
Concept Checks	(8 @ 20 points each)	160 points
Course Presentations	(8 @ 10 points each)	80 points
Activities	(16 @ 10 points each)	160 points
Labs	(12 @ 15 points each)	180 points
Quizzes	(8 @ 20 points each)	160 points
Total:		820 points

The undergraduate course grading scale is as follows:

90-100% A	77-79% C+	60-67% D
87-89% B+	70-76% C	59% and below F
80-86% B	67-69% D+	

Late Work: Late work will be accepted for a reduced grade of 10% per day up to 5 days. After 5 days, a zero will be assigned. Discussion posts will not be accepted late. Communication is key.

Other Policies:

Academic Misconduct:

The University prohibits all forms of academic misconduct. Academic misconduct refers to dishonesty in examinations (cheating), presenting the ideas or the writing of someone else as one's own (plagiarism) or knowingly furnishing false information to the University by forgery, alteration, or misuse of University documents, records, or identification. Academic dishonesty includes, but is not limited to, the following examples: permitting another student to plagiarize or cheat from one's own work, submitting an academic exercise (written work, printing, design, computer program) that has been prepared totally or in part by another, acquiring improper knowledge of the contents of an exam, using unauthorized material during an exam, submitting the same paper in two different courses without knowledge and consent of professors, or submitting a forged grade change slip or computer tampering. The faculty member has the authority to grant a failing grade in cases of academic misconduct as well as referring the case to Student Life.

Plagiarism:

You are expected to submit your own work and to identify any portion of work that has been borrowed from others in any form. An ignorant act of plagiarism on final versions and minor projects, such as attributing or citing inadequately, will be considered a failure to master an essential course skill and will result in an F for that assignment. A deliberate act of plagiarism, such as having someone else do your work, or submitting someone else's work as your own (e.g., from the Internet, fraternity file, etc., including homework and in-class exercises), will at least result in an F for that assignment and could result in an F for the course.

Electronic Devices:

Use of electronic devices including smart watches and cell phones is prohibited during exams or quizzes unless directly allowed by the instructor.

Course Schedule

Note: Review syllabus in Moodle course for details on the late policy for this course.

Week 1:

- Due Wednesday 11:59 PM EST
 - Introduction Discussion
 - Forum #1 Discussion
- Due Friday by 11:59 PM EST
 - Concept Check #1
 - Chapter 16-17 Course Presentation
- Due Sunday by 11:59 PM EST
 - 2 replies to Forum #1
 - Crossword Puzzle
 - Lab: Pendulum
 - Lab: Hooke's Law Lab
 - Lab: Doppler Effect
 - Chapter 16-17 Quiz

Week 2:

- Due Wednesday 11:59 PM EST
 - Forum #2 Discussion
- Due Friday by 1:59 PM EST
 - Concept Check #2
 - Chapter 18 Course Presentation
- Due Sunday by 11:59 PM EST
 - 2 replies to Forum #2
 - Frog Game: Charge and Force Concepts
 - Lab: Charge and Field
 - Lab: Coulomb's Law
 - Chapter 18 Quiz

Week 3:

- Due Wednesday 11:59 PM EST
 - Forum #3 Discussion
- Due Friday by 11:59 PM EST
 - Concept Check #3
 - Chapter 19 Course Presentation
- Due Sunday by 11:59 PM EST
 - 2 replies to Forum #3
 - Crossword Puzzle - vocab and concepts
 - Analogy: PE and position Drawing
 - Lab: Capacitors
 - Chapter 19 Quiz

Week 4:

- Due Wednesday 11:59 PM EST
 - Forum #4 Discussion
- Due Friday by 11:59 PM EST
 - Concept Check #4
 - Chapter 20-21 Course Presentation
- Due Sunday by 11:59 PM EST
 - 2 replies to Forum #4
 - Game: Electric Component ID
 - Lab: Resistance
 - Lab: Circuits
 - Chapter 20-21 Quiz

Week 5:

- Due Wednesday 11:59 PM EST
 - Forum #5 Discussion
- Due Friday by 11:59 PM EST
 - Concept Check #5
 - Chapter 22-23 Course Presentation
- Due Sunday by 11:59 PM EST
 - 2 replies to Forum #5
 - Crossword: Vocab
 - Activity: Right Hand Rule Practice
 - Activity: Magnetic Field on a Wire
 - Activity: Magnetic Induction
 - Lab: Faraday's Law
 - Chapter 22-23 Quiz

Week 6:

- Due Wednesday 11:59 PM EST
 - Forum #6 Discussion
- Due Friday by 11:59 PM EST
 - Concept Check #6

- Chapter 25 Course Presentation
- Due Sunday by 11:59 PM EST
 - 2 replies to Forum #6
 - Crossword: Vocab/Concepts
 - Activity: Who can you see?
 - Activity: Refraction concepts
 - Lab: Snell's Law
 - Chapter 25 Quiz

Week 7:

- Due Wednesday at 11:59 PM EST
 - Forum #7 Discussion
- Due Friday at 11:59 PM EST
 - Concept Check #7
 - Chapter 25 Course Presentation
- Due Sunday by 11:59 PM EST
 - 2 replies to Forum #7
 - Activity: Matching lenses and Mirrors
 - Activity: Guess the lens or mirror
 - Lab: Mirrors and Lenses
 - Chapter 25 Quiz

Week 8: Work due by Saturday at 11:59 PM EST

- Due Wednesday 11:59 PM EST
 - Forum #8 Discussion
- Due Friday by 11:59 PM EST
 - Concept Check #8
 - Chapter 26-27 Course Presentation
- Due Saturday by 11:59 PM EST
 - 2 replies to Forum #8
 - Sporcle Game - concepts
 - Activity: Color Fun
 - Lab: Young's Double Slit Experiment
 - Chapter 26-27 Quiz