

Online College Physics I (physics 1210) Syllabus

COURSE OBJECTIVES

By the end of this course, students should be able to:

- 1) Demonstrate the ability to think critically and to use appropriate concepts to analyze qualitatively problems or situations involving physics.
- 2) Use appropriate mathematical techniques and concepts to obtain quantitative solutions to problems in physics.
- 3) Demonstrate the ability to collect and analyze data and prepare coherent reports of their findings.

COURSE INFORMATION

Course Number & Title: (100% online) Physics 1210, College Physics I

Course Description: First course in algebra-based physics. Covers kinematics, dynamics, fluids, oscillatory motion, waves, and thermodynamics. Math Reasoning Proficiency Course. Students may not receive credit for both Physics 2750 and 1210.

Prerequisite(s): College Algebra (Math 1100/1120) or equivalent with a grade of C- or better.

Required Textbook/Materials:

1. Physics, vol I, by Walker, 5th edition
2. [Mastering Physics access code](#) for online homework (may be purchased separately from the textbook)

Technical Help: If you are having any technical difficulties (e.g. logging in, accessing the discussion board) please e-mail helpdesk@missouri.edu or contact the DoIT Help Desk at (573) 882-5000.

COURSE POLICIES

1. **Recorded Lectures:** The material covered in this course is structured into 7 instructional units. There are deadlines for completing each unit and you should make sure you complete each unit in the time specified in the Course Calendar. You may work at your own pace, but you must not fall behind, as deadlines for homework, labs, and exams are very strict. The course provides recorded lectures for every instructional unit. Pay close attention to the learning goals listed for each lecture: that is what you will need to know/be able to do in order to be successful in this course. Lecture notes are also provided for each recorded lecture. You can print out the lecture notes and take your own notes over them during the time you are listening/viewing a recorded lecture, exactly the same way you would take notes in a regular class. Every instructional unit contains a list of chapters covered. It is strongly suggested that you finish your reading assignments either before or after viewing the recorded lectures. *These recordings are jointly copyrighted by the Curators of the University of Missouri and your instructor. Posting them, either in part or in full, to another website, including YouTube, Facebook, BlipTV, or any other site without express, written permission may result in disciplinary action and possible civil prosecution.*
2. **Tutorial Problems:** Tutorial problems are recordings of problems solved by the instructor. They replace the discussion section of the course and are provided to help you understand the thought process that goes into solving physics problems. Many of them bear similarity to homework problems. Pay attention to the questions the instructor is asking, as those are the

questions that you should ask yourself when you are stuck. You will see similar problems on the exams. Printable solutions to these problems are also provided. *These recordings are jointly copyrighted by the Curators of the University of Missouri and your instructor. Posting them, either in part or in full, to another website, including YouTube, Facebook, BlipTV, or any other site without express, written permission may result in disciplinary action and possible civil prosecution.*

3. **Laboratories:** There are 6 online lab assignments in this course (using simulations). Detailed information about these labs is provided in each instructional unit. Deadlines for submitting the lab reports are clearly marked in the Course Calendar and in the lab report that needs to be submitted. Students who have taken Physics 1210 before can opt to have their average lab grade transferred to this course instead of performing the labs again. If you select this option, contact your previous instructor for physics 1210 and ask him/her to email your lab scores to the instructor. Alternatively, you can redo all labs. You must submit all the labs and get a passing grade (at least 75% of the total points for the lab). Failure to do so results in an automatic F grade for this class.
4. **Homework:** This class uses [Mastering Physics](#) for graded homework. For more information on how to register for it and how it works, see the course website. Deadlines for submitting homework are listed in the Course Calendar and can also be found in Mastering Physics. For info regarding the grading of homework problems, check out "Grading policy" for each homework on Mastering Physics. Work out all the homework problems yourself or with a group, but make sure you understand each solution. You are encouraged to ask for help from your instructor, and other students in this class by posting questions on the Discussion board. It is the student's responsibility to make sure that he/she does not forget to do the homework or follow-up assignments. No make-up homework will be allowed.
5. **Quizzes:** For each instructional unit you will have to take a quiz. Deadlines for submitting quizzes are listed on the course website. All quizzes have simple multiple choice conceptual questions that test your understanding of the concepts and theories learned in lectures. Pay close attention to the deadline for taking a quiz. One day after the deadline has passed the quiz will no longer be available. It is the student's responsibility to make sure that he/she does not forget to take the quiz. No quiz deadline extensions will be given.
6. **Exams:** There are 3 proctored exams in this course. The date for each exam is clearly written in the Course Calendar. MU Online handles all the proctoring for exams wherever you are (within US). You must take all of the exams on the set dates. You will automatically receive a grade of F in this class if you miss an exam. No make-up exams will be allowed except for very special circumstances.

For homework questions, test preparation, or general questions about physics, please use the Discussion Board. We want all students in the course to see the answers to your questions (they may have the same questions). If you have any private concerns, please use the course instructor or TA email, otherwise please post all your questions on the Discussion Board. The instructor and the TA will check the Discussion Board every day and will answer all the questions posted within 24 hours.

Online Etiquette

Your instructor and fellow students wish to foster a safe on-line learning environment. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Our differences, some of which are outlined in the University's nondiscrimination statement below, will add richness to this learning experience. Please consider that sarcasm and humor can be misconstrued in online interactions and generate unintended disruptions.

Working as a community of learners, we can build a polite and respectful course ambiance.

GRADING SCALE

You can keep track of your grades by adding up your points and finding the percentage that they represent from the total number of points awarded in class up to that moment in time. Don't forget, you fail the class automatically if you miss any lab or exam!

Formula for calculating your grade:

$$0.5*(\text{Exams avg \%}) + 0.2*(\text{Lab avg \%}) + 0.2*(\text{HW avg \%}) + 0.1*(\text{Quizz avg \%})$$

POINTS DISTRIBUTION:	PERCENTAGE	GRADE
Exams 50%	93% and above	A+
Labs 20%	90% to 93%	A
Quizzes 10%	88% to 90%	A-
Homework 20%	86% to 88%	B+
	80% to 86%	B
	78% to 80%	B-
	76% to 78%	C+
	70% to 76%	C
	68% to 70%	C-
	65% to 68%	D
	less than 65%	F

COURSE STRUCTURE AND CONTENT COVERED

DATES	CONTENT COVERED	HW/Quiz/Lab
Unit 01	Lecture 01 Uniform Motion Lecture 02 Accelerated Motion Lecture 03 Vectors Lecture 04 Projectile Motion	HW 01 Quiz 01 Lab 01: Projectile Motion Syllabus Quiz
Unit 02	Lecture 05 Forces Lecture 06 Newton's Laws Lecture 07 Uniform circular motion	HW 02 Quiz 02 Lab 02: Forces
Unit 03	Lecture 08 Work and Power Lecture 09 Work Kinetic Energy Theorem Lecture 10 Pot Energy and Energy Conservation Lecture 11 Conservative Forces	HW 03 Quiz 03 Lab 03: Energy Conservation
June 21	EXAM 1 (covers ch 1 - 8)	
Unit 04	Lecture 12 Momentum and impulse Lecture 13 Conservation of Momentum Lecture 14 Center of mass	HW 04 Quiz 04 Lab 04: Collisions
Unit 05	Lecture 15 Rotational kinematics Lecture 16 Energy in rolling motion Lecture 17 Torque	HW 05 Quiz 05 Lab 05: Rotational dynamics

	Lecture 18 Static equilibrium Lecture 19 Angular momentum	
Unit 06	Lecture 20 Static fluids Lecture 21 Archimedes' Principle Lecture 22 Dynamic fluids	HW 06 Quiz 06 Lab 06: Fluids
July 12	EXAM 2 (covers ch 9-11, 15)	
Unit 07	Lecture 23 SHM Lecture 24 Energy in SHM Lecture 25 Simple Pendulum	HW 07 Quiz 07 No lab
Unit 08	Lecture 26 Waves Lecture 27 Sound Waves Lecture 28 Doppler Effect Lecture 29 Interference of Waves Lecture 30 Standing Waves	HW 08 Quiz 08 Lab 07: Waves and Sound
Unit 09	Lecture 31 Temperature and Expansion Lecture 32 Heat Lecture 33 Ideal Gas Law Lecture 34 First Law of Thermodynamics Lecture 35 Second Law of Thermodynamics	HW 09 Quiz 09 No lab
July 26	EXAM 3 (covers ch 11, 12, 16-18)	

Minimum Technology Requirements

To complete this course you will need on a daily basis:

- 1) access to a computer with a modern/updated Web browser (e.g., desktop, laptop, or tablet computer)
- 2) a working internet connection with "Basic Broadband" access (i.e., download speed of 3 mb/s or higher)
- 3) a browser that supports graphics, runs JavaScript, and accepts cookies.
- 4) a quality virus-protection software especially critical if you are accessing coursework from a computer on a network that is not protected by regularly updated virus-protection software.

Accommodations

If you anticipate barriers related to the format or requirements of this course, if you have emergency medical information to share with me, or if you need to make arrangements in case the building must be evacuated, please let me know as soon as possible.

If disability related accommodations are necessary (for example, a note taker, extended time on exams, captioning), please register with the Office of Disability Services (<http://disabilityservices.missouri.edu>), S5 Memorial Union, 573- 882-4696, and then notify me of your eligibility for reasonable accommodations.

For more information, please contact: Disability Center at MU

Address: S5 Memorial Union, Columbia, MO 65211

Voice: 573-882-4696 | VP: 573-234-6662 | Fax: 573-884-5002

E-mail: disabilitycenter@missouri.edu

Office Hours: Monday-Friday, 8:00 a.m.–5:00 p.m.

Academic Dishonesty

Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious consequences that range from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructor. Academic Dishonesty includes but is not necessarily limited to the following:

- Cheating or knowingly assisting another student in committing an act of cheating or other academic dishonesty.
- Plagiarism which includes but is not necessarily limited to submitting examinations, themes, reports, drawings, laboratory notes, or other material as one's own work when such work has been prepared by another person or copied from another person.
- Unauthorized possession of examinations or reserve library materials, or laboratory materials or experiments, or any other similar actions.
- Unauthorized changing of grades or markings on an examination or in an instructor's grade book or such change of any grade report.

Academic Integrity Pledge: Students are expected to adhere to this pledge on all graded work whether or not they are explicitly asked in advance to do so: I strive to uphold the University values of respect, responsibility, discovery, and excellence. On my honor, I pledge that I have neither given nor received unauthorized assistance on this work. The University has specific academic dishonesty administrative procedures. Although policy states that cases of academic dishonesty must be reported to the Office of the Provost for possible action, the instructor may assign a failing grade for the assignment or a failing grade for the course, or may adjust the grade as deemed appropriate. The instructor also may require the student to repeat the assignment or to perform additional assignments. In instances where academic integrity is in question, faculty, staff and students should refer to Article VI of the Faculty Handbook. Article VI is also available in the M-Book. Article VI provides further information regarding the process by which violations are handled and sets forth a standard of excellence in our community. *In the event of a suspected incident of misconduct, the instructor will give the student a zero for the assignment/exam and plans to use option B of the M-Book guidelines on reporting offenses. (M-Book, ARTICLE VI - ACADEMIC INTEGRITY: 6. Option B)*

Intellectual Property Notice

All course materials including but not limited to the syllabus, course assignments, study guides, learning guides, online lecture videos and content, and lab book (i.e. course pack) are property of the instructor and University and may not be shared online or distributed in any manner to others. Students are prohibited from posting course materials or notes online and from selling notes to or being paid for taking notes by any person or commercial firm without the express written permission of the professor teaching this course. Doing so will constitute both an academic integrity violation and a copyright violation. Violations of copyright laws could subject you to civil penalties and criminal liability. Violations of academic integrity may subject you to disciplinary action under University policies.

Intellectual Pluralism

The University community welcomes intellectual diversity and respects student rights. Students who have questions or concerns regarding the atmosphere in this class (including respect for diverse opinions) may contact the departmental chair or divisional director; the director of the Office of Students Rights and Responsibilities; the MU Equity Office, or equity@missouri.edu.

Executive Order #38, Academic Inquiry, Course Discussion and Privacy

University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in Section 200.015 of the Collected Rules and Regulations. In this class, students may make audio or video recordings of course activity unless specifically prohibited by the faculty member. However, the redistribution of audio or video recordings of statements or comments from the course to individuals who are not students in the course is prohibited without the express permission of the faculty member and of any students who are recorded. Students found to have violated this policy are subject to discipline in accordance with provisions of section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.