

College Physics I (Physics 1210)

Syllabus – Summer 2021

COURSE LEARNING GOALS

Welcome to Physics 1210! The course is designed to be a significant experience for you, and it will:

- Demonstrate the relevance and utility of physics to everyday life.
- Help students become critical thinkers and problem solvers.

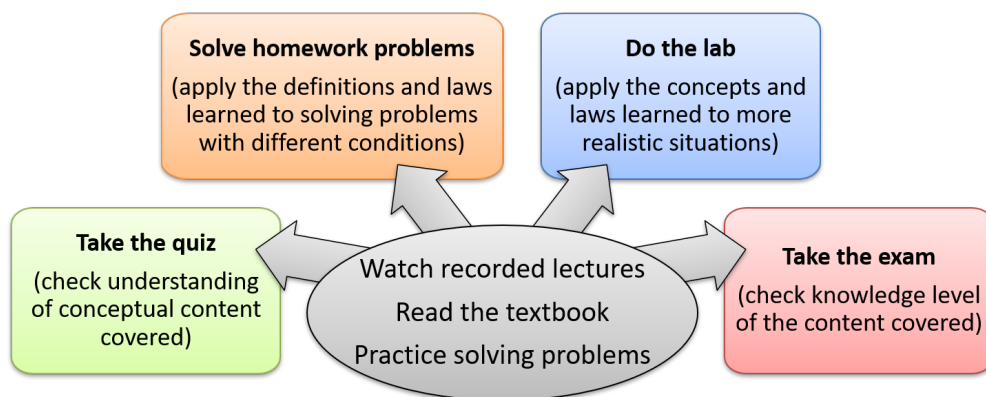
COURSE LEARNING OBJECTIVES

During this course you will learn some of the fundamental laws of physics as well as develop skills and habits of mind that will help you be successful throughout your academic journey.

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

1. Demonstrate the ability to think critically and to use appropriate vocabulary and concepts to analyze qualitatively problems or situations involving physics.
2. Use appropriate mathematical techniques and physics concepts and laws to obtain quantitative solutions to problems in physics.
3. Assess the results of a problem or laboratory experiment.
4. Collect, analyze, interpret data, and draw conclusions.

Student Learning Objectives for each individual lecture (what students should know and be able to do after each lecture) are posted on the first slide of each lecture. The figure below shows the Learning Cycle for achieving the learning goals.



COURSE INFORMATION

Course Number & Title: Physics 1210, College Physics I, 4crh

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

Pre-requisite: Math 1100, College Algebra, with a grade of C- or better.

Required Course Materials: Modified Mastering Physics for Physics, 5th Edition, Author(s): Walker, James

This course is part of the AutoAccess program which means you will have access to the required textbook on the first day of classes! The AutoAccess program delivers all required digital course materials (electronic textbook and online homework system) as part of your tuition or fees. You get the required digital resources automatically uploaded to your Canvas account, so you can get started on assignments faster and hassle-free.

Registration Instructions for Mastering Physics (textbook and homework system):

1. Watch this How to Register for MyLab & Mastering via Canvas (Links to an external site.) video.
2. Find your access code required for registration in the Canvas course under VS Materials (see course menu on the left side). Click on VS Materials to reveal AutoAccess code needed for registration.
3. Select the MyLab & Mastering link in the left side menu of the Canvas course.
4. Click on the course link.
 - a. If you have an account already, enter your Pearson account username and password. This will link your account to Canvas.
 - b. If you don't have a Pearson account, select Create and follow the instructions.
5. When your accounts are linked, select the option to enter the access code you found under the VS Materials link. The access code was also included in the email you received from the bookstore regarding Auto Access.
6. DO NOT PURCHASE OR JOIN THE TRIAL PERIOD!
7. From the "You're Done" page, select Go to My Courses.

If you do not wish to participate in the program you have the option to "Opt Out" by June 16th. If you "Opt Out" of receiving and paying for your materials via this program, you will be responsible for obtaining those on your own. Please visit your Bookstore website to "Opt Out".

For help with AutoAccess questions, please go to the Mizzou Store or email autoaccess@missouri.edu

For 24/7 help with your Pearson Courseware with Canvas, go to:

<https://support.pearson.com/getsupport/s/>

Pearson products/Mastering Physics work best with Firefox or Chrome web browsers. You may have to turn off pop-up blockers when using Mastering Physics.

INSTRUCTOR AND TA INFORMATION

Instructor: Dr. Dorina Kosztin

Email: use the email from Canvas

Office Hours: TBD

Something about me: I was born and raised in Romania (specifically Transylvania - it is a part of Romania). I have received my BS in Physics from the University of Cluj, Romania, and my PhD from University of Illinois at Urbana-Champaign. I have been teaching at MU since 2001. I love teaching and I am looking forward to helping you learn physics this semester.

TAs:

Creighton Lisowski

Alex Bretana

George Yumnam

How to contact instructor/TAs: 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 those questions (they may have the same questions as you). If you have any private concerns, please use the email in Canvas. The instructor and the TAs will check the Discussion Board every day and will answer all questions posted within 24 hours. Questions posted during the weekend will be answered on Monday. You are all encouraged to answer each other's posted questions and help each other!

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.

Zoom help sessions: TBD (see schedule in the Zoom UMSystem link in the Canvas menu for the course)

Learning Center Help:

WHEN: TBD

HOW: Via Zoom

COURSE CONTENT

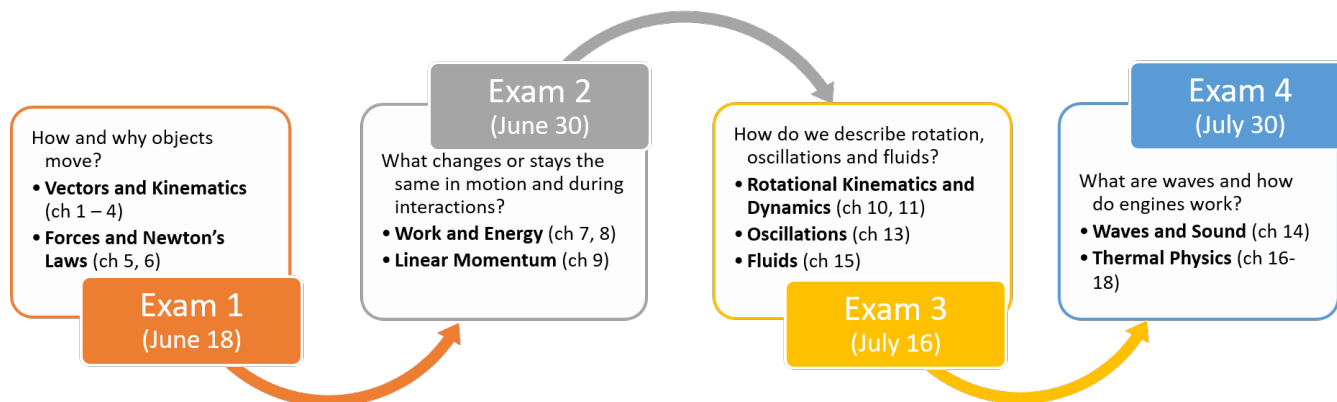
This 4 crh course (as set up in myZou) has lectures, discussions and laboratories. While all components of this course are online and asynchronous, this is NOT a self paced course! You have specific content to cover and assignments/assessments to submit every week. The material covered in this course is structured into 4 instructional units, each followed by an exam. The diagram below shows you the overall structure of the course and the chapters covered in each unit. In physics, everything is connected to everything else. If you do not know the content covered in the first few chapters, you will not be able to master the content in the following chapters.

For the fully online course:

- Lectures: are pre-recorded and available 24h/day. Keep in mind that during the 8 weeks summer semester everything goes twice as fast as during the regular semester, so you will have to watch 5-6 lectures every week, as the regular course has 3 lectures/week. All lectures are 20 minutes or less and lecture notes are provided to help you take notes: you can print out the lecture notes and take notes on top of them or simply take notes in a notebook.
- Discussions: are replaced by recorded tutorial problems in which the instructor shows how to apply the concepts/laws learned in lectures to solving problems. You have such recorded tutorial problems after each lecture. These problems are similar to the homework and exam problems.
- Laboratories: are online and asynchronous with a set deadline for submission. Detailed information about the labs is provided in the "Laboratory" tab and in each lab assignment.

Although you may work through the content anytime you like and at the pace you want during the week, you will need to complete assignments at the end of each week: there are set due dates and deadlines. Studying ahead is recommended, falling behind means you will never catch up. Plan on studying at least 3-4 hours per day if you want to succeed. However, the choice of WHEN you study during each week is up to you. Do not forget that this is a very fast paced course!

The figure below shows how the course content is structured this summer:



QUIZZES AND HOMEWORK

Each week you will have to submit a quiz and a homework assignment.

QUIZZES

All quizzes have simple multiple choice conceptual questions that test your understanding of the concepts and theories learned in lectures. This quiz should not take you longer than 10-20 minutes to complete. You may take each quiz twice and the highest score will be recorded in the gradebook. All quizzes are due on Friday at 11:59 PM (also see deadline listed in the quiz).

HOMEWORK

This class uses Modified Mastering Physics for graded homework. To access the homework in Mastering Physics from Canvas, follow the instructions written on the Syllabus | Course Information page in Canvas.

All homework assignments are open from the first day of class and you can work ahead in submitting them. All homework assignments are due on Saturday at 11:59 PM. Do not wait until the last day to start working on the homework. You are strongly encouraged to ask for help from your instructor or TA, and other students in this class by posting questions on the Discussion Board.

Both quizzes and homework are available two more days after the deadline, with a 10% penalty/day for submitting them late. It is the student's responsibility to make sure that he/she does not forget to submit the weekly quiz/homework. No deadline extensions will be given.

LABORATORIES

There are 6 lab assignments in this course. Detailed information about each lab is provided in the lab assignment itself. Lab assignments are not timed and can be submitted only once. Save your answers to individual questions as you go through the lab. Do NOT submit the lab until you are finished. Pay close attention to the deadline for submitting a lab: all labs are due Sunday at 11:59 PM. The lab assignment is available two more days after the deadline and there is a 20% penalty/day for submitting the lab late. Be aware that you will not be able to access the lab after that!!! No deadline extensions will be given except for very special circumstances.

You can miss at most one lab. Missing two or more labs leads to automatically failing the class.

In these labs you will use simulations created by PhET (Links to an external site.) at University of Colorado Boulder. You can have these simulations downloaded and running on your own computer before starting a lab, or run them directly from PhET.

Weekly labs	Simulations from PhET
Week 01 Laboratory Projectile Motion	Projectile-motion
Week 02 Laboratory Forces and Newton's Laws	Masses & springs
Week 03 Laboratory Conservation of Energy	Energy-skate-park-basics
Week 04	No lab
Week 05 Laboratory Torque and Static Equilibrium	Balancing-act
Week 06 Laboratory Fluids	Under pressure
Week 07 Laboratory Waves and Sound	Waves on a string Wave Interference
Week 08	No lab

Please note that you may not be able to complete these activities on a mobile device (i.e., smartphone or tablet). You must have access to a desktop or laptop computer.

EXAMS

There are 4 online exams in this course and NO final exam. All exams must be taken on the specific days shown below. For detailed information on exams, see “Exam Information, Tutorial Problems, Practice Exams” page.

	Day	Covers
Exam 1	June 18 (Friday)	ch 1 - 6
Exam 2	June 30 (Wednesday)	ch 7 - 9
Exam 3	July 16 (Friday)	ch 10, 11, 13, 15
Exam 4	July 30 (Friday)	ch 14, 16 - 18

- All exams have about 20-30 multiple choice questions and you have 60 minutes to finish the exam and submit your answers. There is NO proctoring software that you need to install/use.
- All exams are available from 5 pm to 11:59 pm the day of the exam . Do not start the exam later than 11:00 pm, as you will run out of time.
- You can take the exam only ONCE, so make sure your internet connection is stable. Once the exam is started, it cannot be stopped and the clock is counting.
- You are allowed to use your textbook and course notes/materials. Just because you have access to all course materials does not mean you will be able to find the answers to the exam questions if you did not prepare for the exam. So be aware, that trying to find the answers/solution to a question by flipping through the book or searching the internet will take time, and you may run out of time to finish the exam.
- You are NOT allowed to solicit answers to exam problems from any source (internet or other student/person).
- You are NOT allowed to use any "answer sharing website" to search for the solutions to exam problems.
- Asking for help from anybody, including any companies (such as Chegg) is considered cheating and it will be treated as such. Students caught cheating will be assigned a failing grade for this class.

Academic integrity is essential to our institutional values of respect, responsibility, discovery, and excellence. These values are fundamental to the everyday function of our academic community, as well as to the goals and vision we have for the University of Missouri. Academic integrity ensures that all students have a fair and equal opportunity to succeed. Any behavior that provides an unfair advantage to one student is unacceptable and will not be tolerated. Each piece of work completed by a student must be solely a reflection of that student's own work or his or her contribution to a collaborative effort.

STUDENT PLEDGE

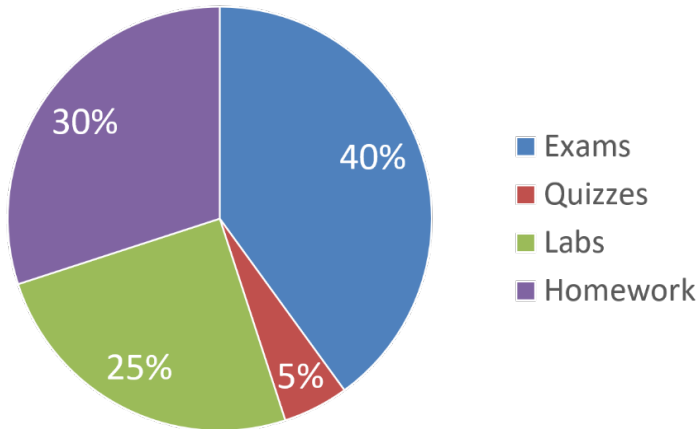
I strive to uphold the University values of respect, responsibility, discovery, and excellence. On my honor, I pledge that I have neither given nor received unauthorized assistance on this work.

Students are expected to adhere to this pledge on all graded work.

You must take all exams: 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.

GRADING SCALE

Course grades will be given on the plus/minus scale based on the following scheme:



Percentage	Grade
94% and above	A+
92% to 94%	A
89% to 92%	A-
87% to 89%	B+
82% to 87%	B
79% to 82%	B-
77% to 79%	C+
72% to 77%	C
69% to 72%	C-
68% to 69%	D
less than 68%	F

Canvas displays your current grade based on all assignments that were submitted and graded. An assignment that has a dash line ("-") displayed is not used in the calculation of the current grade until a score is entered for it. All missing assignments will be assigned a score of zero after the assignment closes.

Online College Physics I (Physics 1210)
Calendar – Summer 2021

DATES	CONTENT COVERED	Assignments
Week 01 June 7-11	Welcome, read Syllabus Ch02 Lecture 01 Uniform Motion Ch02 Lecture 02 Accelerated Motion Ch03 Lecture 01 Vectors Ch04 Lecture 01 Free Fall Ch04 Lecture 02 Projectile Motion	Week 01 Quiz Week 01 HW Week 01 Lab: Projectile Motion
Week 02 June 14-18	Ch05 Lecture 01 Forces Ch05 Lecture 02 Newton's Laws Ch06 Lecture 01 Applications of Newton's Laws Ch06 Lecture 02 Newton's Laws and Uniform Circular Motion Friday: Exam 1 (June 21) covers ch 1 – 6	Week 02 HW Week 02 Quiz Week 02 Lab: Forces and Newton's Laws
Week 03 June 21-25	Ch07 Lecture 01 Work and Power Ch07 Lecture 02 Work Kinetic Energy Theorem Ch08 Lecture 01 Potential Energy and Energy Conservation Ch08 Lecture 02 Conservative Forces Ch09 Lecture 01 Momentum and Impulse	Week 03 HW Week 03 Quiz Week 03 Lab: Conservation of Energy
Week 04 June 28-July 2	Ch09 Lecture 02 Conservation of Momentum Ch09 Lecture 03 Center of Mass Wednesday: Exam 2 (June 30) covers ch 8, 9, 10 Ch10 Lecture 01 Rotational Kinematics Ch10 Lecture 02 Energy in Rolling Motion	Week 04 HW Week 04 Quiz No lab
Week 05 July 5-9	Ch11 Lecture 01 Torque Ch11 Lecture 02 Static Equilibrium Ch11 Lecture 03 Angular Momentum Ch13 Lecture 01 SHM Ch13 Lecture 02 Energy in SHM	Week 05 HW Week 05 Quiz Week 05 Lab: Torque and Static Equilibrium
Week 06 July 12-16	Ch13 Lecture 03 Simple Pendulum Ch15 Lecture 01 Static Fluids Ch15 Lecture 02 Archimedes' Principle Ch15 Lecture 03 Dynamics Fluids Friday: Exam 3 (July 16) covers ch 10, 11, 13, 15	Week 06 HW Week 06 Quiz Week 06 Lab: Fluids
Week 07 July 19-23	Ch14 Lecture 01 Waves Ch14 Lecture 02 Sound Waves Ch14 Lecture 03 Doppler Effect Ch14 Lecture 04 Interference of Waves Ch14 Lecture 05 Standing Waves	Week 07 HW Week 07 Quiz Week 07 Lab: Waves and Sound
Week 08 July 26-30	Ch16 Lecture 01 Temperature and Expansion Ch16 Lecture 02 Heat Ch17 Lecture 01 Ideal Gas Law Ch18 Lecture 01 First Law of Thermodynamics Ch18 Lecture 02 Second Law of Thermodynamics Friday: Exam 4 (July 30) covers ch 14, 16, 17, 18	Week 08 HW Week 08 Quiz No lab

Accommodations

Your success in this class is important to me. If there are aspects of this course that prevent you from learning, or if you anticipate barriers related to the format or requirements of this course, or if you have emergency medical information to share with me, please let me know as soon as possible. Together we will develop strategies to meet both your needs and the requirements of this course. If disability related accommodations are necessary (for example, a note taker, extended time on exams, captioning), please register with the [Office of Disability Services \(Links to an external site.\)](http://disabilityservices.missouri.edu) (<http://disabilityservices.missouri.edu>), S5 Memorial Union, 573- 882-4696, and then notify me of your eligibility for reasonable accommodations. For other more information, please contact the [Office of Disability Services \(Links to an external site.\)](#).

[Disability Center at MU \(Links to an external site.\)](#)

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, page 17, ARTICLE VI - ACADEMIC INTEGRITY: 6. Option B)

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.

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.

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.