

Physics 205: The Mechanical Universe
Gustavus Adolphus College Spring 2021

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Homework help, Q&A, and more: (aka Zoom office hours)
Monday 1:30-3:30, Thursday 9-10, and by appointment. **Drop by to talk about anything!**

Class Meetings: The class will meet on MWRF 12:30-1:20.
Students are expected to have read the text before coming to class.

Textbooks:

Physics for Scientists and Engineers (8th, 9th, or 10th Edition), by Serway and Jewett
(Note any edition from 8th-10th are nearly identical and should all be able to be used. Homework problems will be provided in Moodle and are from the 9th edition)
PHY-206 Laboratory Manual (for the lab course, PHY206)

Course website: Moodle

Zoom Meetings: <https://hellogustavus.zoom.us/j/9521400001> Meeting ID: 952 140 0001

Objectives:

Develop understanding in:

The action of forces (mechanics) and applications
Properties of oscillations and waves
Error analysis

Continue to develop:

Problem solving skills through group and individual work
Quantitative and empirical reasoning skills through conceptual questions

Give exposure to:

Computer and calculation skills and reasoning through relevant assignments
New mathematical tools and new applications of previous mathematical skills
Demonstrations of content learned

Successful completion of this course and lab with a C or better in each (*not C-*) is required for continuation in the major.

Course Policies and Evaluation

1. Textbook coverage and extra topics:

In general, we will cover all the material in assigned chapters. It is best to read the entire chapter before lecture to keep up with lectures. Due to the pace of this course, lectures may not

cover all the material in the reading. The purpose of the lectures will be to explain and clarify the book, to give examples, to practice, and to answer your questions. Occasionally, material in lectures will be in addition to what is in the textbook. You are responsible for **all** the material covered by **both** the text and lectures.

2. Calculus: Students in PHY205 are expected to have a solid background and have passed Calculus I with a C- or better, and also passed or be currently enrolled in Calculus II. Material from these courses will be used frequently in PHY205 including in homework **and exam** problems.

3. Homework: Problems sets will be assigned approximately every week and are due at the beginning of class on the assigned date. Written homework sets should be neat and organized. Legibility and thorough explanations of answers are required. Each student will submit their own assignment, but you are encouraged to discuss and work problems with each other, and your instructor. Copying of homework from any source, including using answers found from the internet, is considered a violation of the academic honor code.

4. Late Homework: Two homework assignments will be accepted up to 24 hours late without penalty. Subsequent late assignments will begin with a 50% penalty. An additional 25% penalty accrues every 24 hours thereafter. The only exception to this will be 1 1-hour grace period for a single assignment if you contact me immediately with technology issues during submission.

5. Attendance: Students are expected to attend all classes during the scheduled hours. Students are responsible for informing themselves of material and assignments covered during absences. Students must advise the instructor in writing during the first week of class of any scheduled athletic, music, or other college activities that will require their absence during the semester. Such written notice does not imply a waiver of course requirements or an agreement to reschedule exams.

6. Exams/Quizzes: There will be quizzes for roughly each unit, four one-hour exams, and a two-hour written final exam.

7. Missed Exams/Quizzes: Students are expected to arrange in writing with the instructor well in advance to take an exam/quiz at other than the announced time. Requests to reschedule exams/quizzes for non-emergency reasons will be declined. Missed exams for an unexcused absence will result in a score of zero.

8. Academic Honesty: You will abide by the academic honesty policy printed in the Academic Bulletin, the academic honor code, and abide by decisions of the joint student/faculty Honor Board. All violations of the honor code will be reported.

9. Incompletes: An incomplete will only be given if, after the last day to withdraw has passed, unforeseen circumstances beyond the student's control (usually restricted to illness or emergency) preclude completion of the **remaining** work for the course by the end of the

semester. Note that poor planning or having a lot of work to complete at the end of the term are not considered circumstances beyond a student's control. (College policy)

10. Disability: Gustavus Adolphus College is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or you think you may have a disability of any nature) and, as a result, need academic accommodation to participate in class, take tests or benefit from the College's services, then you should speak with the Disability Services staff for a confidential discussion of your needs and appropriate plans. Course requirements cannot be waived, but reasonable accommodations may be provided based on disability documentation and course outcomes. Accommodations cannot be made retroactively; therefore, to maximize your academic success at Gustavus, please contact the college's disability services as early as possible. **When accommodations are given, it is the student's responsibility to communicate in advance of deadlines and work with the professor to satisfy the accommodations each time they are utilized in this course.**

11. ESL/ELL

The Writing Center has staff with training in ESL/ELL instruction. In addition, students may bring their instructors documentation concerning their ELL status, and where it is appropriate, faculty may choose to allow such students more time to complete either in- or out-of-class assignments. For further information, contact the Academic Advising Office or your instructor.

12. Tutors: Tutoring for this course will be available at times announced in the departmental tutoring schedule.

13. Mentoring Program: Every student in the class will be assigned a peer mentor (upper class physics major). Your participation in the mentor program is required and will be counted in the participation grade of this course. Specifically, you are required to respond to, or contact, your mentor once each week and participate in the occasional mentor-led programs. Mentors will be keeping track of participation. You can contact your mentor in any way that works for you and your mentor.

13. Evaluation:

Hour exams 40% Homework 25% Final Exam 20%
Participation (clickers, group problems, mentoring) 15%

Course grades will be assigned using the following scale as a guide:

94-100 A	82-86 B	70-74 C
90-94 A-	78-82 B-	66-70 C-
86-90 B+	74-78 C+	0-66 F

Assignment of the final letter grades will also consider other factors including the instructor's subjective evaluation of the student's attendance, initiative, evidence of improvement, and the quality of independent work.

COVID Information:

It is the policy of Gustavus Adolphus College that all students must abide by rules and standards designed to protect the community. Refusal to comply with any COVID related rules will be handled through the student disciplinary sanction process and will be reported to the Office of Student Life.

- Upon the first and second offense, I will ask you to leave and you will not be invited back on that day. You will receive a score of zero for any daily class activity, including possible penalty in the final grade.
- Upon the third offense, I will ask you to leave and you will fail the class.

Masking

Correctly positioned face masks (covering both your nose and your mouth) must be worn in public spaces within buildings on campus at all times, including classrooms and labs.

Social Distancing

You should maintain a distance at least 6 feet apart from others. When facing other students (e.g., for discussion) a distance greater than 6 feet is desirable. Some seats and/or tables in buildings have been blocked off with tape to maintain 6-foot social distancing and to avoid exceeding the COVID-capacity of the room. Do not move furniture. Do not remove tape from chairs, tables, or floors. When moving around the room, as well as entering and exiting, please try to remain six feet from others, and keep your mask on.

Exiting and Entering Class

All students need to enter the classroom one at a time and proceed directly to assigned seats. When exiting the classroom, please wait until you are dismissed so that students may exit in a socially distanced way.

Please note that it may not be possible for faculty to remain in the classroom after class to answer questions from students. If the faculty member decides it is safe to do so, please remain in your seat as others are excused. Then you may ask your question while remaining in your seat.

Seating Chart

You must sit in your assigned seat every day throughout the semester. The seating chart will help minimize your exposure to the virus as well as provide for a contact tracing tool. If you have any concerns about the location of your assigned seat, please let me know.

Sanitizing Kit Guidelines and Expectations

Please sanitize your hands using your personal kit upon entering the classroom and before exiting. There is a station for refilling personal hand sanitizer bottles located in each hallway or floor of the academic buildings. There is no need to clean up your individual desk and table areas unless someone sneezes, coughs, or experiences some other event that warrants special attention. In that case, supplies such as paper towels and cleaning solution, can be acquired from the hallway station.

Food and Beverages

No food will be permitted in classrooms unless there is a medical accommodation. Beverages will be permitted in classrooms, but students may only remove face coverings briefly during the time when they are actually drinking, if necessary. **Overuse of the drinking privilege may be considered a violation of the masking policy.**

COVID-19 Exposure Guidelines

If another student who has been attending our class in-person, or your instructor, tests positive for COVID-19, any student who has spent 15 minutes or more in close contact (within 6 feet) with the COVID-positive individual will become part of a contact trace. It does not matter whether you and the COVID-positive individual were wearing masks. You and any others who were in close contact with the COVID-positive individual within 48 hours of their positive test or first symptoms of COVID, will be notified by a Gustavus staff person that they have been exposed to the virus and will be required to go into quarantine for a period of 14 days. The Gustavus staff person will assist you in understanding the next required steps to enter quarantine. Please note that if you avoid being within 6 feet of other students for more than 15 minutes, you have a better chance of avoiding being quarantined and becoming infected, according to the Minnesota Department of Health.