Course Syllabus: General Physics I

College of Science, Mathematics & Engineering

PHYS 1144 Section X20 - CRN 20998
SPRING 2024 January 16th to May 6th

Contact Information

Instructor: Walid Shihabi
Office hours: Thursday 2:30 PM – 5:30 PM via email, zoom, or Google phone.
You may email me anytime at: walid.shihabi@msutexas.edu. I check my email multiple times a day (including weekends), and I suggest it is the best way to reach me. I respond to emails within 24 hours (48 hours during weekends). Zoom meeting requires 24 hours advance notice.
My Google phone number is 918-200-9135 (call it during my office hours only).

Course Description

This course is designed to introduce the student to the basic concepts of physics. We will cover everything from linear and rotational kinematics to Work and Energy.

Textbook & Instructional Materials

Knight, Jones, & Field, 4th Ed., College Physics: A Strategic Approach, by Pearson.
Required digital materials for this course are part of the Courseware Access and Affordability Program at MSU Texas. The course materials are available on the first day of class in D2L. The charges for this material have been posted to your student account at the Business Office. If you want to "opt out" of this program and the cost savings, you will receive the "opt-out" instructions in your my.msutexas.edu email on the second day of class. Your last day to "opt-out" is by the end of the second week. Please contact the MSU Bookstore if you have any questions about the opt-out process. The program saves 50% of the course materials cost. You pay around $75 in contrast to around $150.
Please note that if you opt out, you will not be able to submit most of the course assignments.
NOTE: The course materials are available in the Mastering Physics (MP) area inside our class page in D2L.

Student Handbook

Refer to: Student Handbook-2021-22

Academic Misconduct Policy & Procedures

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not belonging to the individual whose credit is

given). Additional guidelines on procedures in these matters may be found in the Office of Student Conduct. Office of Student Conduct
Academic honesty: https://msutexas.edu/student-life/_assets/files/handbook.pdf
In the lab and homework, cheating or plagiarism will not be tolerated. You may have group work to study. Completing lab reports, solving homework, or submitting an exam, however, must be your work in your own words.
Any case of cheating, collusion, and plagiarism will lead to a zero credit on the assignment and a possible "F" on the course based on your instructor's assessment.

Grading

Table 1: Percentage allocated to each assessment:

Assessment	Grade Percentage
Exams (2 at 10% each)	20%
Homework	33%
Discussion	7%
Labs	20%
Final Exam	20%

Table 2: percentage for final grade:

Grade	Percentage
A	90% and above
B	80% to 89.9%
C	70% to 79.9%
D	60% to 69.9%
F	Less than 60%

Homework

The homework for each chapter is composed of several Mastering Physics assignments and a discussion board post.
The Mastering Physics assignments for each chapter will be solved and submitted via the Mastering Physics (MP) website. The MP assignments include textbook-related exercises, video questions, simulation questions, and "dynamic study" modules. Each week, you need to go to the MP area in D2L and check the assignments due. MP assignments constitute 33% of the final grade.
ALL Mastering Physics assignments are mandatory except when (a) "Optional" or (b) "Extra Credit" are explicitly stated in the title of the assignment. Example: "Optional Introduction to mastering physics" OR "Extra Credit: Math review". Other than (a) and (b) stated earlier, all Mastering assignments are mandatory, this includes the dynamic study modules.

The discussion board posts

The discussion board posts constitute 7% of the final grade. Each chapter's discussion post should be posted in the pertinent chapter forum in D2L's Discussion board. The posts are due 12 hours prior to their pertinent Homework deadline. Example: If Chapter 1 homework is due on 1/22 at 11:59 PM, Chapter 1 discussion post is due on 1/22 at 11:59 am. The purpose of the discussion forum is to collaborate with your classmates in solving homework problems and to provide feedback to each other. I will be posting the ideal solution to the textbook part of each homework problem in the pertinent

Chapter content area of D2L post its due date.
You need to post on how you solved one of the problems in the homework assignment. Here is the guideline:
1) State the chapter number, item number and the full question's title clearly
Here are some examples:

a) "Chapter 2, item 4: problem 2.44"
b) "Chapter 1, item 1, Tutorial: Measurements in SI units"
c) "Chapter 7 item 2: Pre-lecture Video: Work and Kinetic Energy Work on a Block Sliding Up a Frictionless Incline".
d) " Chapter 7, item 5: Quantitative Pre-lecture Video: Work and Kinetic Energy"

This detailed title will allow your classmates and your instructor to know which question you selected. Furthermore, it makes it clear which question you are addressing so that your classmates will not select the same question.
Do NOT type something like: "~~Chapter 1 question 2~~". such title will cause you to lose 50% of the discussion grade.

2) Do not post the answer to the problem you selected, instead address in detail how you went about solving the problem. To explain further, state the quantities given in the problem (without stating the values), the unknowns, the equations used, and how you manipulated them to calculate the unknown(s). Make sure to address ALL the parts of the selected question a,b,c… and do not reveal answers. Note that the values vary with each attempt. Here is an example from a student (from a different class) on what I expect:
In the subject line: "Chapter 17, item 6, problem 17.5"
Chapter 17, item 6, problem 17.5: In part (a) we are given the magnitude and the sign of an electric charge, we are given an unknown charge, and we are given the distance between the two charges and the force between them. We are asked to calculate the magnitude of this unknown charge and its sign. I drew a schematic to visualize the problem and the distances given. I know that the unknown charge experiences an electric force in the downward direction, hence it has the same sign as the known charge (repulsion). I used Coulomb's law (equation ** on page ** in our textbook) to relate the unknown charge to the given electric force, the known charge and the separation distance. Then rearranged the equation to solve for the unknown charge. The answer seems to be reasonable comparing the charge given and the force between them".
In part (b) we are given the mass in grams of the unknown charge and we are asked to calculate the acceleration of the charge based on the given information in the previous part. We know that acceleration is force divided by mass. We have the mass from the information in part (a), so now we divide the force by the mass, after we convert the mass from grams to kg (by dividing by 1000) which will yield the acceleration magnitude in m/s^2. We know it is repulsion force so the acceleration will be directed away from the known charge.

NOTE the following in the example above:
a) No numerical values were included in the post; because values vary from one student to another and even from one attempt to another. Instead, the student addressed the quantities given and the quantities that need to be evaluated (the unknowns) e.g. "we are given the distance" "we are asked to find the charge".
b) The concepts and the equations that enabled the student to solve the problem were stated clearly e.g. notice lines 4 to 8 and lines 13 to 14 in the example above
c) The student stated the chapter number, item #, and question full title clearly in the subject line, and in the post message.
d) Notice that the student addresses ALL parts (a,b,..).of the question.

3) Make sure to address a question none of your classmates selected.

First, check your classmates' posts to make sure no one else posted about the problem you selected. If you are the first in the class to post, you will get to select any question you want 😊. If you are the last, most probably you left with one or two questions to choose from!
If all the problems are already addressed, then reply to two students' posts and discuss/correct/add to the way they solved the problems. Do NOT reply with something like: "I solved it the same way" !

Exams and Final Exam

Exams constitute 40% of the course grade. Three online exams are scheduled for this course. The exams are due on the dates listed below. You will have a four-day window to submit each exam. The final exam is cumulative.

Exam 1: Due Wednesday, February 14th.
Exam 2: Due on Tuesday, March 26th
Final Exam: Due on Saturday, May 4th

After you submit an exam to mastering physics, go to our course page on D2L, click the "Assessments" tab on the top, select "Assignments" from the scroll-down window, then submit your complete work on each problem in the exam to the pertinent folder in the "Assignments" area. Read the instructions there. For each problem to be graded, students' work should be submitted. No work, no credit.
Make sure to submit your exam work within 1 hour of submitting it on mastering physics.

Extra Credit

A few extra credit questions might be provided via the Mastering Physics website, as part of some of the homework assignments.

Late and Makeup Work

Regarding assignments (with the exception of midterm and final exams), late submissions will incur a 20% late penalty per day. Exams cannot be made up unless you have an excused absence for the entire exam window (not just the last couple of days). Illness counts only if you can provide a doctor's note for the entire exam window. Other than illness, planned absences should be discussed with the instructor at least two weeks beforehand so that make-up plans (if approved) may be arranged. Since the exam is online, you need to convince me why you cannot take the exam within its open window.
I am willing to discuss the following excuses: school-sponsored events, scheduled surgery set before the first day of class (documentation required – you do not need to disclose why), and funerals for immediate family only (documentation required).
NOTE that each exam has at least a 4-day window, an excuse absence must include the whole duration of the exam's window (not just the last couple of days).

Important Dates

Refer to: https://msutexas.edu/busoffice/wd-schedule.php

Desire-to-Learn (D2L) and Mastering Physics (MP)

Frequent use of D2L and Mastering Physics is a part of this course. Each student is expected to be

familiar with these systems as they provide primary sources of communication regarding expectations, examination materials, assignments, and general course information. You can log into D2L through the MSU Homepage. If you experience difficulties, please contact the technicians listed for the program and cc your instructor.
The mastering course code and how to register in mastering physics (MP) is in the "START HERE" area of D2L.

Attendance

While attendance is not directly factored into your grade, you must log into D2L regularly if you want to do well.
Expectations: Students should log into the D2L and go to the content area. Study the power points and the videos while reading the chapter in the textbook and its examples. Solve the "check your understanding" questions in the power points before checking the answers on the next slide.
After you complete the reading, go to mastering physics area in D2L and take the homework pertinent to that chapter. Make sure to post on the discussion board. Email me if you have questions.

Labs and Lab Attendance:

It is mandatory to enroll in the lab component of this course. You will not pass this course without enrolling in the lab. Check your enrollment schedule regarding the lab day and time.
Labs will begin the week of February 5th and will be completed entirely face-to-face.
Make sure to record your Lab instructor's name and email. You will be contacting your Lab instructor (NOT your class professor) for questions/issues concerning the lab. If you do not record your Lab instructor's name and email, it will be hard for me to tell you who is your Lab instructor. All lab assignments must be completed during the lab period unless otherwise noted. If you cannot attend your normal section at any time, contact your Lab instructor (not your class professor) to try to attend the other section of the same week. If this is not possible, you must make advanced arrangements with your Lab instructor to make up the lab you plan to miss.

Online Computer Requirements

Taking an online class requires you to have access to a computer (with Internet access) to complete and upload your assignments. It is your responsibility to have (or have access to) a working computer in this class. Assignments and tests are due on specific dates, and personal computer technical difficulties will not be considered a reason for the instructor to allow students extra time to submit assignments/ tests. Computers are available on campus in various areas of the buildings as well as the Academic Success Center. Your computer being down is not an excuse for missing a deadline! Our online classes can be accessed from any computer in the world that is connected to the internet. Contact your instructor immediately upon having computer trouble If you have technical difficulties in the course, there is also a student helpdesk available to you. The college cannot work directly on student computers due to both liability and resource limitations however they can help you get connected to our online services.

Instructor Class Policies

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructor. These guidelines for

online behavior and interaction are known as netiquette.
When communicating online, you should always:

- Treat instructor with respect, in email or in any other online communication
- Always use your professors' proper title: Dr. or Prof.
- Articulate your posts and emails, and make sure they are well-written and coherent
- Be concise and avoid slang as "wassup?" or abbreviations such as "u" instead of "you"
- Use standard fonts such as Times New Roman and use a size 12 or 14 pt. font
- Avoid using the caps lock feature AS IT CAN BE INTERPRETED AS YELLING
- Be cautious as the tone is sometimes lost in an email or discussion post and your message might be hostile or offensive.
- Be careful with personal information (both yours and others')
- Do not send confidential patient information via e-mail

When you send an email to your instructor, teaching assistant, or classmates, you should:

- Use a descriptive subject line that should include the course title. Keep in mind that your instructor is teaching several different courses.
- Sign your message with your name and return the e-mail address

When posting questions on the Discussion Board or via email, you should:

- Ask questions that are on topic and within the scope of the course material
- Be as brief as possible while still making a thorough question.
- Make sure to state what you know and specify the confusion point. Invest some time analyzing the problem in hand. I would like to see how you think. The more specific your question is, the clearer the answer you will get.
  Example of BAD question: " I have no idea how to solve problem 2" Example of good question: " I see that the speed and time values are given in problem 2, but I do not know what equation should I use to solve for the acceleration".

Change of Schedule

Refer to: https://msutexas.edu/busoffice/wd-schedule.php

Refund and Repayment Policy

A student who withdraws or is administratively withdrawn from Midwestern State University (MSU) may be eligible to receive a refund for all or a portion of the tuition, fees and room/board charges that were paid to MSU for the semester.
HOWEVER, if the student received financial aid (federal/state/institutional grants, loans and/or scholarships), all or a portion of the refund may be returned to the financial aid programs. As described below, two formulas (federal and state) exists in determining the amount of the refund. (Examples of each refund calculation will be made available upon request).

Services for Students with Disabilities

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make application for such assistance through Disability Support Services, located in the Clark Student Center, Room 168, (940) 397-
4140. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to Disability Support Services.

College Policies

Campus Carry Rules/Policies:
Refer to: Campus Carry Rules and Policies

Smoking/Tobacco Policy:

College policy strictly prohibits the use of tobacco products in any building owned or operated by WATC. Adult students may smoke only in the outside designated- smoking areas at each location.

Alcohol and Drug Policy:

To comply with the Drug Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibits the unlawful possession, use or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state and federal law for any offenses involving illicit drugs on University property or at University- sponsored activities.

Grade Appeal Process

Update as needed. Students who wish to appeal a grade should consult the Midwestern State University https://catalog.msutexas.edu/index.php

Notice

Changes in the course syllabus, procedure, assignments, and schedule may be made at the discretion of the instructor.

Course Schedule

Notice: Changes in this schedule may be made at the discretion of the instructor.

For the class part, each week there are several mastering physics assignments and a Discussion board (**Db**) post. Check the "Homework" and "Discussion board" sections in this syllabus for details. Mastering assignments are due at 11:59 PM while the Discussion board's post is due at 11:59 am. Regarding to the lab part, check the "Labs and Lab Attendance" section in this syllabus.
NOTE: the Mastering Physics assignments' due dates in the "Mastering Physics" area.

Chapter	Activities/Assignments/Exams	Due Date
Chapter 1	Instructor's power point, book Chapter 1, "check your understanding" questions, videos. Mastering Physics (MP) and Discussion board (Db) homework assignments.	Due Friday 1/19
Chapter 2	Instructor's power point, book Chapter 2, "check your understanding" questions, videos. Mastering Physics (MP) and Discussion board (Db) homework assignments.	Due Friday 1/26
Chapter 3	Instructor's power point, book Chapter 3, "check your understanding" questions, videos. Mastering Physics (MP) and Discussion board (Db) homework assignments.	Due Friday 2/2
Chapter 4	Instructor's power point, book Chapter 4, "check your understanding" questions, videos. Mastering Physics (MP) and Discussion board (Db) homework assignments.	Due Friday 2/9
Exam 1 preparation and review (chapters 1-4). Exam 1 is due Wednesday, February 14th online.		

Chapter 5	Instructor's power point, book Chapter 5, "check your understanding" questions, videos. Mastering Physics (MP) and Discussion board (Db) homework assignments.	Due Friday 2/23
Chapter 6	Instructor's power point, book Chapter 6,"check your understanding" questions, videos, MP & Db H.W.	Due Friday 3/1
Chapter 7	Instructor's power point, book Chapter 7, "check your understanding" questions, videos, MP & Db H.W.	Due Friday 3/8
Chapter 8	Instructor's power point, book Chapter 8, "check your understanding" questions, videos, MP & Db H.W.	Due Friday 3/22
Exam 2 preparation and review (chapters 5-8). Exam 2 is due Tuesday, March 26th online.		
Chapter 9	Instructor's power point, book Chapter 9, "check your understanding" questions, videos, MP & Db H.W.	Due Friday 4/5
Chapter 10	Instructor's power point, book Chapter 10, "check your understanding" questions, videos, MP & Db H.W.	Due Friday 4/12 or 4/19
Chapter 13	Instructor's power point, book Chapter 13, "check your understanding" questions, videos, MP & Db H.W.	Due Friday 4/26
Final Exam preparation (chapters 1-10 and 13 review). Final Exam is due online on Saturday, May 4th		

The Mastering and Discussion assignments have a 24-hour grace period. This is the reason the deadline for Mastering is set on Saturdays. <u>The Exams, however, have NO Grace period.</u>

Topics to be Covered:

Kinematics in One and Two or Three Dimensions
Dynamics and Newton's Laws of Motion
Friction and Circular Motion
Gravitation
Work and Energy
Conservation of Energy
Linear Momentum
Rotational Motion and Angular Momentum
Fluids

If time permits, we will also discuss:
Oscillations
Sound