



PHYS-1401-101CL
College Physics I
Spring 2024
2:00 pm to 4:50 pm,
Mondays and Wednesdays

INSTRUCTOR INFORMATION:

Instructor: Dr. Suleyman Tari

E-mail: stari@com.edu

Phone: 409-933-8816 (office) / 773-368-3921 (cell)

STUDENT HOURS AND LOCATION:

Mon, Wed: 5:00 pm - 6:30 pm in my office S325-21

Tuesday: 11:00 am - 12:30 pm in my office S325-21

Thursday: 10:00 am - 1:00 pm **virtual**

REQUIRED TEXTBOOK/MATERIALS:

- College Physics, 3rd ed., published by Macmillan Learning, Roger A. Freedman.
- The "**Physics I Lab Manual**" can be purchased from the College Book Store.
- Sapling Learning Access code for the College physics e book and online resources can be purchased from college bookstore or online. See the link in D2L.

COURSE DESCRIPTION:

- College Physics I (PHYS 1401) is a non-calculus approach to the principles of mechanics and heat.
- Prerequisite: MATH 1314 and MATH 1316 or MATH 2312/2412 with a grade of "C" or better. Prior physics strongly recommended. This is an academic transfer course.
- The laboratory is an integrated component of this course whose function is to aid the student in achieving an understanding of physics.
- The purpose of the College Physics sequence of courses (PHYS 1401/1402) is to satisfy the general science requirements for the baccalaureate degree for non-science majors, and to satisfy the physics requirements for pre-professional students seeking the baccalaureate degree.

COURSE REQUIREMENTS:

Exams

- There will be **three midterm** exams (*written non-cumulative*) and **a final exam** (*multiple choice cumulative*).
- Midterm exams will be given in classroom S302, and a final exam will be **online using Achieve**, in classroom.
- Exams questions consist of problems that need to be solved.
- A formula sheet will be provided in the exams.
- Midterm exams will last 2 hours, and the final exam will last 3 hours.
- There are **NO make-up exams (except emergencies, proof must be provided)** so please make every effort not to miss a test.

Laboratory

This course consists of both a lecture and laboratory grade component. Students must earn 70% or better in the laboratory component to successfully pass the course. Earning less than 70% in the laboratory component will result in an F for the course regardless of the lecture grade. Passing the laboratory component and failing the lecture component will not guarantee a passing grade for the course. Deviations from this policy will be at the sole discretion of the instructor.

- Students are required to perform lab work in classroom at COM campus and complete the "Lab Homework" online using **D2L**.
- **Students must pass the lab to pass the course.**
- There is no make-up lab because of scheduling problems unless in case of emergencies (**prove must be submitted**).
- If you miss **only one lab** (with a valid excuse, i.e., emergence, sickness **proof must be submitted**), that lab will be dropped as the lowest grade.
- If you miss a lab for the second time (no excuse accepted), you will have a grade of **zero** for that lab.
- If you miss a lab for the third time you may **fail** the class.
- Lab grading is:
 - Performing the lab in classroom and completed lab manual (**50 %**).

- Complete Lab HW on D2L (50%).
- You **cannot** get a grade for the Lab HW if you do not perform in the lab in class.

Pre-Lecture Assignment (Online Achieve)

- Before each chapter, there will be a pre-lecture assignment. Pre-lecture assignment consists of lecture videos, and Bridge questions.
- Pre-lecture assignments must be completed before class time. **There is no extension for pre-lecture assignments.**

Homework Assignment (Online Achieve)

- After each chapter, there will be a Homework consisting of 5 to 10 questions.
- Homework will consist of conceptual questions and problems where you need to use some math to solve.
- Homework has deadlines and must be completed in time.
- Homework does not have a time limit; however, it must be completed before the due date.

Quiz (Online Achieve)

- After each chapter, there will be a Quiz consisting of about 5 questions.
- Each quiz consists of questions where you need to use some math to solve.
- Quizzes are **timed**, please complete the quiz once you start doing it.
- Quizzes must be completed before the due date.

Methods of Instruction: In person at COM campus.

- Pre-Lectures, visual presentations of specific course objectives, demonstrations of various physics concepts in class when appropriate, and laboratory experiments.
- Class notes will be on **D2L**.
- Pre-Lecture, Homework, and Quizzes will be done using **Achieve**
- Lab homework will be done using **D2L**.

DETERMINATION OF COURSE GRADE/DETAILED GRADING FORMULA:

The details of how each item will be added to your final grade total are shown in the following chart.

Type of Assessment	% of the FINAL grade
Three Midterm Exams	10+10+10
Attendance	5
Pre-Lecture <i>Achieve</i>	10
Homework <i>Achieve</i>	10
Quiz <i>Achieve</i>	10
Lab (in class) + Lab HW (D2L)	20
Final Exam	15
Total	100

Percentage	Letter Grade
90 – 100%	A
80 – 89%	B
70 – 79%	C
60 – 69%	D
0 – 59%	F

LATE WORK, MAKE-UP, AND EXTRA-CREDIT POLICY:

Late work and make-up policy

- All assignments must be completed before the due date. Extension for any assignment may be granted in case of emergencies **prove must be submitted**.
- Make up for exams and laboratories may be granted in case of emergencies, **proof must be submitted**.

Extra Credit

Class activity: You may get extra credit (point) answering and/or solving questions during the class.

- %5 of extra points earned from class activity will be added to your final grade.
- The maximum extra credit can be earned in one semester from class activity is 5% (5 points) out of 100 points.
- If you earn more than 100 points in a semester you still get a maximum of 5 points.

Instructor evaluation:

- You may get up to **50 points** extra credit as an “instructor evaluation” during the class to be added to the **class activity (towards 100 points)** mentioned above. This will be based on class participation, class interaction, being

on time in class etc. Please do not expect this credit, not everyone will get this credit. Please do not ask the professor to receive this credit at the end of the semester.

ATTENDANCE POLICY:

Lecture:

You are expected to attend all the lectures.
Missing lectures may affect your all over class performance.
Please let your professor know whether you will be missing the class.

You can attend the class when you can make it in case you are late without disturbing the class.

Laboratories:

Given the hands-on nature of the laboratory, participation in this portion of the course is crucial. A student must successfully complete 75% (9 out of 12 labs) of all laboratory assignments to pass the laboratory portion. Failure to complete 75% of the laboratory assignments may result in a failing laboratory grade and a failing grade for the course. Documented excused absences (i.e., death in the family or a documented illness) will be handled on a case-by-case bases and at the discretion of the instructor.

COMMUNICATING WITH YOUR INSTRUCTOR: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means. (Faculty may add additional statement requiring monitoring and communication expectations via D2L or other LMS)

STUDENT LEARNER OUTCOMES:

Upon successful completion of this course, students will successfully demonstrate mastery of the Student Learner Outcomes listed below.

THECB Assessment Information

Student Learner Outcome	Core Objective	Assessment Instrument
1. Demonstrate techniques to set up and perform experiments, collect data from those experiments, and formulate conclusions from an experiment.		Lab 3.
2. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.	Written Communication Skills. Develop, interpret, and express ideas through written communication.	Lab 5. Take, record, and write experimental results of measurements of distance and height using ballistic pendulum apparatus.
3. Determine the components of linear motion (displacement, velocity, and acceleration), and especially motion under conditions of constant acceleration.		Lab 2.
4. Apply Newton's laws to physical problems including gravity.		Lab 6.
5. Solve problems using principles of energy.	Empirical and Quantitative Skills. Manipulate and analyze observable facts, evidence, or numerical data and arrive at an informed conclusion.	Lab 7. Make observations of carts on tracks and bobs on springs and collect data using motion and force sensors. Use the collected data to draw conclusions about the relationships between potential energy and kinetic energy.

6. Describe the components of a wave and relate those components to mechanical vibrations, sound, and decibel level.		Wave Module
7. Use principles of impulse and linear momentum to solve problems.		Lab 9
8. Solve problems in rotational kinematics and dynamics, including the determination of the location of the center of mass and center of rotation for rigid bodies in motion.		Rotation Module
9. Solve problems involving rotational and linear motion.		Motion Module
10. Demonstrate an understanding of equilibrium, including the different types of equilibrium.	Critical Thinking Skills. Students will demonstrate creative thinking, innovation, and the ability to analyze, evaluate, and synthesize information.	Lab 4. Set up states of equilibrium on the force table by creating representations of force vectors, including the invention of a state of equilibrium. Analyze and evaluate the vector components and sums and synthesize the information in a written document.
11. Discuss simple harmonic motion and its application to quantitative problems or qualitative questions.		Lab 8
12. Solve problems using the principles of heat and thermodynamics.		Lab 12
13. Solve basic fluid mechanics problems.		Fluids Module
14. Demonstrate the ability to work effectively with others to support and accomplish a shared goal, while recognizing and respecting different viewpoints.	Teamwork.	Lab 1. Working in teams students will devise methods of moving their bodies in ways needed to create prescribed motion graphs.

ACADEMIC DISHONESTY:

- College of the Mainland is committed to a high standard of academic integrity. In becoming a part of the academic community, students are responsible for honesty and independent effort. Incidents of academic and scholastic dishonesty (including cheating, plagiarism, and collusion) will be dealt with in a manner consistent with College Policy and the Student Handbook.
- Violations may result in a penalty. The maximum penalty will be a grade of "F" for the course. Violations may also be reported to the Judicial Coordinator as instances of *Inappropriate Behavior*. Please see the section on Privileges and Obligations in the Student Handbook for a more complete discussion of *Inappropriate Behavior*, and of your rights and responsibilities.
- There are many situations where you will be required to submit written work to earn points. It is important that the work you submit be your own. You cannot copy the work of another, or have your work copied by another. Doing so will be considered a violation of Academic Honesty.

- The work that you submit must be a product of your own mind. When completing assignments, for example, you are encouraged to collaborate with others to try to come to an understanding. But when you set pen to paper to write your answer, what you write must be a product of your own mind. When identical, or nearly identical, writings are submitted by students, it will lead me to suspect that work was copied. You could then be in violation of the standards of academic honesty, as described above.

STUDENT CONCERNS:

If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact the department chairperson, Professor Sheena Abernathy, either in person, by telephone at 409-933-8330, or by email at sabernathy@com.edu

COURSE OUTLINE:

Phys 1401-101CL College Physics I –Tentative Course Schedule

Week		Date	College Physics I, 3 rd ed., A. Freedman. Chapters covered	Laboratories at S302 Wednesdays
1	Jan	15	No Class-MLK Day	
		17	Introduction and math review	NO Lab, but Lecture
2		22	Ch 1: Introduction to Physics	-
		24	Ch 2: Motion in 1 Dimension: position, velocity, constant acceleration, graphical representations	NO Lab, but Lecture
3		29	Ch 2: Motion in 1 Dimension: graphical representations	-
		31	Lab 1	Lab 1. Introduction to Motion
4	Feb	5	Ch 3: Motion in 2 and 3 Dimensions: vectors	-
		7	Lab 2	Lab 2. Changing Motion
5		12	Ch 3: Motion in 2 and 3 Dimensions: projectile motion, circular motion	-
		14	Lab 3	Lab 3. Freefall
6		19	Exam 1: Ch 1, 2, 3 included.	-
		21	Lab 4	Lab 4. Vectors
7		26	Ch 4: Forces and Motion I: Newton's Laws, gravitational, normal, tension, frictions forces	-
		28	Ch 5: Forces and Motion II: Applications of Newton's laws to circular motion	NO Lab, but Lecture
8	March	4	Ch 6: Work and Energy: Work, potential and kinetic energy, mechanical energy	-
		6	Lab 6	Lab 6. Force and motion
9		11	No Class- Spring Break	
		13	No Class- Spring Break	
10		18	Ch 6: Work and Energy: conservation of energy	-
		20	Lab 7	Lab 7. Work and Energy
11		25	Exam 2: Ch 4,5,6 included.	-
		27	Lab 8	Lab 8. Conservation of Energy
12	April	1	Ch 8: Momentum: Collisions, conservation of momentum, center of mass.	-
		3	Lab 9	Lab 9. Momentum and Impulse
13		8	Ch 9: Rotational Motion: Kinematics, torque, moment of inertia	-
		10	Lab 5	Lab 5. Ballistic pendulum
14		15	Ch 9: Rotational Motion: Newton's law for rotation, Angular momentum	-
		17	Ch 11: Fluids: Density and Pascal, Archimedes, Bernoulli principles	NO Lab, but Lecture
15		22	Ch 14: Thermodynamics I: Temperature and heat, specific heat, calorimetry, thermal expansion	-
		24	Ch 15: Thermodynamics II: Laws of Thermodynamics, 1 st law, 2 nd law, entropy.	NO Lab, but Lecture
16	April May	29	Lab 10	Lab 10. Ideal Gas Law
		1	Exam 3: Ch 8, 9, 11,14, 15 included	
17		6	Final Exam	

Changes to this syllabus could be made at the discretion of the instructor and will be announced **in class** and **on D2L**.

Institutional Policies and Guidelines

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook https://www.com.edu/student-services/docs/Student_Handbook_2023-2024_v2.pdf. *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodations is requested to contact Kimberly Lachney at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is February 28. The last date to withdraw from the 16-week session is April 22. The last date to withdraw for the 2nd 8-week session is May 1. The last date to withdraw for spring mini session is May 29.

FN Grading: The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

Resources to Help with Stress:

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here <https://www.com.edu/community-resource-center/>. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.