



PHYS-1402-101C3
College Physics II
Spring 2025
2:00 pm to 4:50 pm
Monday and Wednesday

INSTRUCTOR INFORMATION:

Instructor: Dr. Suleyman Tari

E-mail: stari@com.edu

Phone: 409-933-8109 (office) / 773-368-3921 (cell)

STUDENT HOURS AND LOCATION:

Mon, Wed: 5:00 pm - 6:15 pm in my office S325-21

Tuesday: 5:00 pm - 6:00 pm in my office S325-21

Thursday: 5:00 pm - 9:00 pm **virtual (by appointment)**

REQUIRED TEXTBOOK/MATERIALS:

- College Physics, 3rd ed., published by Macmillan Learning, Roger A. Freedman.
- The "**Physics II Lab Manual**" can be purchased from 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 Blackboard.

COURSE DESCRIPTION:

- College Physics II (PHYS 1402) covers principles of sound and light, electricity and magnetism, relativity, and quantum physics. Prerequisite: PHYS 1401. The level of rigor of this course is lower than that of the University Physics sequence (PHYS 2425/2426). Many of the laws are presented without formal mathematical proof.
- The instructor will teach and demonstrate the plausibility of the laws, and their mathematical application. The laboratory is an integrated component of the 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. Successful completion of this sequence should provide the student with a sufficient understanding of physics to be able to handle the physics-related requirements of the life-science fields.

COURSE REQUIREMENTS:

Exams

- There will be **three midterm** exams (*written non-cumulative*) and **a final exam** (*multiple cumulative choice*).
- All exams will be given in classroom S302.
- Exams questions consist of problems that need to be solved.
- A formula sheet will be provided for the exams.
- Midterm exams will last 2 hours, and final exams 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 a 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 **Blackboard**.
- **Students must pass the lab to pass the course.**
- There is no make-up lab because of scheduling problems unless in case of emergencies (**proof must be submitted**).
- If you do not perform the lab in person, you will not get a grade for the Lab HW unless I approve of your absence. If I approve your absence, you will get only lab HW portion which is 50% of total grade.
- Lab grading is:
 - Performing the lab and completing lab manual in classroom **(50 %)**

- Complete Lab HW on Blackboard (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 the 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 3-5 questions.
- Quizzes will consist of conceptual questions and problems 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:

- 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 **Blackboard**.
- Pre-Lecture, Homework, and Quizzes will be done using **Achieve Online**.
- Lab homework will be done using **Blackboard**.

DETERMINATION OF COURSE GRADE/DETAILED GRADING FORMULA:

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

Type of Assessment	% of the FINAL grade
Three Midterm Exams	15+15+15
Pre-Lecture Achieve	10
Homework Achieve	10
Lab (in class) + Lab HW (Brightspace)	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 due dates.
- Extension for any assignment may be granted in case of emergencies; **proof must be submitted.**
- Make up for exams and laboratories may be granted in case of emergencies, **prove 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 that 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 allover 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 part 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 statements 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.

Student Learner Outcome	Maps to Core Objective	Assessed via this Assignment
1. Develop techniques to set up and perform experiments, collect data from those experiments, and formulate conclusions from an experiment.		Lab 2
2. Demonstrate the collection, analysis, and reporting of data using the scientific method.	Critical Thinking Skills. Students will demonstrate creative thinking, innovation, and the ability to analyze, evaluate, and synthesize information.	Lab 4. Locations where electric potential has specified values are determined and recorded. Data is analyzed to determine relationship between position and potential, results are reported in writing.
3. 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 3. Electric circuits are built and current measured. Drawings of circuits and results of measurements are recorded in laboratory notebooks. The written report includes discussion of circuits and measurements.
4. Solve problems involving the inter-relationship of fundamental charged particles, and electrical forces, fields, and currents.		Electric Force Module
5. Apply Kirchhoff's Rules to analysis of circuits with potential sources, capacitance, inductance, and resistance, including parallel and series capacitance and resistance.	Empirical and Quantitative Skills. Manipulate and analyze observable facts, evidence, or numerical data and arrive at an informed conclusion.	Lab 7. Circuits are created and voltage and current measured. Kirchhoff's Rules are used to calculate the values of voltage. Results are compared to measured values.
6. Solve problems in the electrostatic interaction of point charges through the application of Coulomb's Law.		Electrostatics Module
7. Solve problems involving the effects of magnetic fields on moving charges or currents, and the relationship of magnetic fields to the currents which produce them.		Lab 10

8. Use Faraday's and Lenz's laws to determine electromotive forces and solve problems involving electromagnetic induction.		Electromagnetism Module
9. Solve problems applying the principles of reflection, refraction, diffraction, interference, and superposition of waves.		Lab 12.
10. Solve practical problems involving optics, lenses, mirrors, and optical instruments.		Lab 11
11. Articulate the principles of reflection, refraction, diffraction, interference, and superposition of waves.		Lab 12
12. Describe the characteristics of light and the electromagnetic spectrum.		Electromagnetic Spectrum Module
13. Teamwork. Demonstrate the ability to work effectively with others to support and accomplish a shared goal, while recognizing and respecting different viewpoints.	Teamwork	Lab 1. Teams will devise methods of moving bobs on springs in ways needed to create prescribed motion and force 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 1402-101C3 College Physics II –Tentative Course Schedule

Week	Month	Date	Lecture Topics	Laboratories on Wednesdays Room S302
1	Jan	13	Ch 12. Oscillations	No Lab, but Lecture
		15	Ch 13. Waves	
2		20	NO Class MLK Day	Lab 1. Periodic Motion.
	22	Lab1		
3		27	Ch 16. Electrostatics I: Electric Charge, Forces, Fields	-
		29	Lab2	Lab 2. Standing Waves
4	Feb	3	Ch 17. Electrostatics II: Electric Pot. and Energy	-
		5	Lab3	Lab 3. Batteries, Bulbs and Cur.
5		10	Ch 17. Electrostatics II: Electric Pot. and Energy	-
		12	Review for Exam 1	Lab 4. Electric Potential
6		17	Exam 1: Ch 12, 13, 16, 17 included.	-
		19	Lab5	Lab 5. Current in Simple DC Cir.
7		24	Ch 18. Electric Charges in Motion	-
		26	Lab6	Lab 6. Voltage in Simple DC Cir.
8	March	3	Ch 19. Magnetism	-
		5	Lab7	Lab 7. Kirchoff's Circuit Laws
9		10	NO Class Spring Break	
		12	NO Class Spring Break	
10		17	Ch 20. Electromagnetic Induction	-
		19	Lab8	Lab 8. Capacitors and RC Circuits
11		24	Ch 21. Alternating-Current Circuits	-
		26	Lab9	Lab 9. Inductors and RL Circuits
12	March April	31	Exam 2: Ch 18, 19, 20, 21 included, in class	-
		2	Lab10	Lab 10. Magnetic Force
13		7	Ch 22. Electromagnetic Waves	-
		9	Ch 23. Wave Properties of Light	No LAB, but Lecture
14		14	Ch 24. Geometrical Optics	-
		16	Lab11	Lab 11. Rays of Light
15		21	Ch 26. Quantum Physics	-
		23	Ch 26. Atomic Structure	No LAB
16		28	Lab12	Lab 12. Waves of Light
		30	Exam 3: Ch 22, 23, 24, 25, 26 included	
17	May	5	Final Exam, all chapters	

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

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_2024-2025_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 with 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 accommodation is requested to contact: Kimberly Lachney, Student Accessibility Services Coordinator
Phone: 409-933-8919
Email: AccessibilityServices@com.edu
Location: COM Doyle Family Administration Building, 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 26. The last date to withdraw from the 16-week session is April 21. The last date to withdraw for the 2nd 8-week session is April 30.

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.

Nondiscrimination Statement:

The College District prohibits discrimination, including harassment, against any individual on the basis of race, color, religion, national origin, age, veteran status, disability, sex, sexual orientation, gender (including gender identity and gender expression), or any other basis prohibited by law. Retaliation against anyone involved in the complaint process is a violation of College District policy.