



PHYS-2426-101CL
University Physics II
Fall 2023
1:30 pm to 4:20 pm,
Tuesdays and Thursdays

INSTRUCTOR INFORMATION:

Instructor: Dr. Suleyman Tari

E-mail: stari@com.edu

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

STUDENT HOURS AND LOCATION:

Monday, Wednesday: 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:

- “Physics for Scientist and Engineers”, 6th edition, published by Macmillan Learning, Paul A. Tipler.
- The “**Physics I Lab Manual**” can be purchased from the College Book Store.
- **Achieve** Learning Access code for the University physics e book and online resources.
- You have **automatic access** to the book and **Achieve** online resources when you register for the class.

COURSE DESCRIPTION:

- University Physics II (PHYS-2426) covers principles of sound and light, electricity and magnetism, some relativity and quantum physics. Prerequisite: MATH-2414 and PHYS-2425.or approval of the instructor.
- The laboratory is an integrated component of the course whose function is to aid the student in achieving an understanding of physics.
- University Physics satisfies the physics requirements for physics majors and engineering 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 or (Desire to Learn) D2L**.
- 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 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 **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 **prove 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 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 and completing lab manual in classroom (**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 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.

Attendance is 5% of your total grade.

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.

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 the 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. Written report includes discussion of circuits and measurements.
4. Solve problems involving the interrelationship 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		Electrostatics Module

charges through the application of Coulomb's Law.		
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 2426-101CL University Physics II –Tentative Course Schedule

Week	Date	Physics for Scientists and Engineers, 6 ed, chapters covered	Laboratories at S302 Thursdays
1	Aug	28 Introduction and Review of vectors. 30 Ch 14. Oscillations	No lab but lecture
2	Sep	4 No Class, Labor Day 6 Ch 15. Waves and sound Lab 1	Lab 1. Periodic Motion
3		11 Ch 21. The Electric Field I: Disc. Charge Dist. 13 Ch 22. The Electric Field II: Cont. Charge Dist.	- No lab but lecture
4		18 Ch 22. The Electric Field II: Gauss Law 20 Lab 3	- Lab 3. Batteries, Bulbs & Cur.
5		25 Ch 23. Electric Potential 27 Lab 4	- Lab 4. Electric Potential
6		2 Oct	2 Exam 1: Ch 14, 15, 21, 22, 23 included. 4 Lab 5
7	Oct	9 Ch 24. Capacitance: Stored electrical energy 11 Lab 6	- Lab 6. Voltage in Simple DC Cir.
8		16 Ch 25. Electric Current and DC Circuits 18 Lab 7	- Lab 7. Kirchhoff's Circuit Laws
9		23 Ch 26. The Magnetic Field: Mag force, torque 25 Lab 8	Lab 8. Capacitors and RC Cir.
10	Nov	30 Ch 27. Sources of the Magnetic Field 1 Ch 28. Magnetic Induction: Flux, emf, Lenz law	- No LAB, but Lecture
11		6 Exam 2: Ch 24, 25, 26, 27, 28 included. 8 Lab 9	- Lab 9. Inductors and RL Cir.
12		13 Ch 29. Alternating-Current Circuits 15 Ch 30. Maxwell's Eq. and EM Waves	- No LAB, but Lecture
13		20 Ch 31. Properties of Light: reflection, refraction 22 Ch 32. Optical Images: mirrors, lenses	- No LAB, but Lecture
14		27 Ch 33. Interference and Diffraction: 29 Lab 11	- Lab 11. Rays of Light
15		Dec	4 Review 6 Exam 3: Ch 29, 30, 31, 32, 33 included
16	11 Final Exam, all chapters included. 13		

Changes on 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 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 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 October 11. The last date to withdraw from the 16-week session is November 28. The last date to withdraw for the 2nd 8-week session is December 7.

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.