



PHYS-1402-101CL
College Physics II
Spring 2022
9:30 am to 12:20 pm,
Tuesday and Thursday

INSTRUCTOR INFORMATION:

Instructor: Dr. Suleyman Tari

E-mail: stari@com.edu

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

STUDENT HOURS AND LOCATION:

Monday: 2:00 pm - 5:30 Online Blackboard-Collaborate or in my office S325-21.

Tuesday: 1:30 pm -5:30 pm, Online Blackboard-Collaborate or my office S325-21

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 choice cumulative*).
- All exams will be given in classroom S302.
- Exams questions consist of problems that needs to be solved.
- A formula sheet will be provided in the exams.
- Midterm exams will last 2 hours, and 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 **Blackboard**.
- **Students must pass the lab in order 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 Blackboard (50%).
- You **cannot** get grade for the Lab HW if you do not perform 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 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	10+10+10
Attendance	6
Pre-Lecture Achieve	10
Homework Achieve	10
Quiz Achieve	10
Lab (in class) + Lab HW (Blackboard)	20
Final Exam	14
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, **prove 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.
- 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 maximum 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 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 Blackboard 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. 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		Lab 10

magnetic fields to the currents which produce them.		
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 OULINE:

Phys 1402-101CL College Physics II –Tentative Course Schedule

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

Changes on 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://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.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.* https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf

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 Holly Bankston at 409-933-8520 or hbankston@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Counseling Statement: Any student needing counseling services is requested to please contact Holly Bankston in the student success center at 409-933-8520 or hbankston@com.edu. Counseling services are available on campus in the student center for free and students can also email counseling@com.edu to set up their appointment. Appointments are strongly encouraged; however, some concerns may be addressed on a walk-in basis.

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 March 2. The last date to withdraw from the 16-week session is April 25. The last date to withdraw for the 2nd 8-week session is May 4.

F_N Grading: The F_N grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The F_N 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 F_N grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an F_N 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.

COVID-19 Statement: All students, faculty, and staff are expected to familiarize themselves with materials and information contained on the College of the Mainland's Coronavirus Information site at www.com.edu/coronavirus. Students are required to watch a training [video](#), complete the [self-screening](#), and acknowledge the safety guidance at: www.com.edu/selfscreen. In addition, students, faculty, and staff must perform a [self-screening](#) prior to each campus visit. Finally, students, faculty, or staff who have had symptoms of COVID-19, received a positive test for COVID-19, or have had close contact with an individual infected with COVID-19 must complete the [self-report tool](#).