

Course, section, and term: General Physics with Calculus I with Lab (PHY2048.01, Fall 2022)

Instructor: Professor Erika G. Kisvarsanyi

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Office Hours: **M** 10:30am -1:15pm; **T** 3:15pm-5pm; **W** 10am-1:15pm, 4pm-5pm; **Th** 9:30am – 10:45am

Texts (required): 1) *University Physics 15th Edition, used for BOTH PHY2048 and PHY2049 (ISBN# 9780135216118 standard edition for course topics OR ISBN# 9780135159552 extended edition if you have an interest in quantum mechanics, atomic, molecular, and particle physics)* Young and Freedman, 2020; 2) *Physics Probeware Lab Manual Sixth Edition*, Cutnell & Johnson, 2004

Meeting Times: Lecture MW 2pm – 4pm in Room 2-121; Lab M 4:15pm – 6:15pm in 2-123

COURSE DESCRIPTION: PHY2048 is the first of a two-semester survey of calculus-based physics for engineering, computer science and physical science majors. Topics include kinematics, static and dynamic mechanics, energy and power, material properties, wave properties, and heat. The laboratory is an integral part of the course, contributes 20% to your overall course grade, and consists of selected experiments from the laboratory text in addition to simulations available for free at [PhET: Free online physics, chemistry, biology, earth science and math simulations \(colorado.edu\)](https://phet.colorado.edu/)

Prerequisite: MAC2311. **Corequisite:** MAC2312.

Minimum Technical Requirements

Students enrolled in this course must be able to:

- Access the internet
- Use all required features of Canvas
- Run HTML5 within a web browser for lab simulations
- Send, receive, and be able to work with Word or pdf document attachments by e-mail

Grading:

The Scale: A (90%-100%); B+ (87%-89.9%); B (80%-86.9%); C+ (77%-79.9%); C (70%-76.9%); D (60%-69.9%); F (Below 60%). This is the standard college-wide grading scale.

The Details:

Tests: There will be 3 tests covering multiple chapters each during the semester, but your low score on these tests will be dropped. The tests will take place during our scheduled class period (see the Calendar portion of this syllabus for exact dates). If you need help with the material, if you are struggling with the homework problems, you should try to come to office hours or seek help WELL BEFORE test day. You may leave when you are done with the test. One low score will be dropped.

Diagnostic Quizzes: Each chapter will be quizzed. These quizzes will be taken online using Canvas and should be used to diagnose what kinds of issues you may be having with the content of the chapter so that you may make adjustments or get help before the exams come around. These quizzes are NOT going to fully prepare you for exams. They are intended as a check on your early progress in beginning to understand the material. Exams will ultimately require MUCH MORE preparation, study, and hard work. An individual quiz score will not affect your overall grade very much, so you really should consider these as a way to diagnose your strengths and weaknesses in any given chapters' topics, to check on your early progress on any given topic, and/or to determine if your study habits are effective. Quizzes must be taken by the due date, they will not be re-opened! It is YOUR responsibility to be aware of when quizzes are due!!! Four low scores will be dropped.

Group Projects: There will be group projects done during class that will also contribute to your grade. This will be problem solving during class-time that should help you not only with learning and understanding the material, but also with the homework problems, the quizzes, and the exams. If you are attending class regularly, you should get a perfect score on this!

Labs: The labs contribute 20% to your overall course grade, and two low scores will be dropped. Ideally, you should be able to use the labs to expand or support your understanding of the course topics. Some of the labs will be done during class with a lab report handed in at the end of that class period, other labs will be based on Phet simulations, will be done outside of class time with completed lab handouts turned in via Canvas email.

Cumulative Final: This course has a cumulative final given during finals week that cannot be dropped. It will be taken during our scheduled final exam time, set by the registrar.

The Breakdown:

- 20% - Best of 3 Chapter tests
- 20% - Second best of 3 Chapter tests
- 5% - Quizzes (four lowest scores dropped)
- 15% - Group projects (you must be in class to earn this part of your grade)
- 20% - Labs (the Safety Video and Quiz lab may NOT be dropped)
- 20% - Cumulative Final Exam (Monday, December 5, 2pm – 4pm)

*****There is a price for dropping all of the low scores mentioned previously.*** *there will be no make-ups for tests, or group projects, late labs will not be accepted, quizzes will not be reopened after their due dates, and the grading scale is set in stone.* For example, if you miss Test 2 for any reason, that will be the test score that is dropped. If you miss one of the quizzes for any reason, it will be one of your four drops. You can miss up to two group works and not have it affect your grade. If you end up with a 79.9 at the end of the semester, I will not round up your grade to an 80%. (In extreme and rare cases, such as a major unexpected medical or legal emergency, making up SOME missed work beyond the drops MAY be allowed with a valid, excused absence provided there is legitimate medical or legal documentation of the event). It is your responsibility to speak with me about any situation in a timely fashion. Waiting until weeks after a critical absence is unacceptable.**

Important note about ALL quizzes and tests (including the final exam):

ONE (1, UNO, UN, EINS, EGY, ОДИН) HANDWRITTEN (YOUR handwriting), 8 ½ x 11 sheet of paper with notes, etc., may be used on quizzes and tests

Please turn off or silence your phones and any other device that could be disruptive to the class

Disclaimer:

Course policies and regulations are not open for discussion or negotiation. This syllabus has been constructed to be as complete as possible, however, I reserve the right to alter policies, procedures, and the syllabus as needed. Please utilize the Canvas website regularly as any changes to the syllabus will be posted there.

Dates of Interest:

Last day to drop a class and get a refund – Friday, August 19

Labor Day. No classes – Monday, September 5

Faculty Professional Development Day. No Day classes. – Tuesday, October 4

Last day to withdraw with a ‘W’ no refund – Tuesday, October 25

Veteran’s Day. No classes – Friday, November 11

Thanksgiving. No classes – Wednesday, November 23 through Sunday, November 27

Last day of class for PHY2048 – Wednesday, November 30

Final Exam for PHY2048 – Monday, December 5, time 2pm

College Policies

Academic Integrity – In order to preserve academic excellence and integrity, the College expects you to know, understand, and comply with the Code of Student Conduct, which prohibits academic dishonesty in any form, including, but not limited to, cheating and plagiarism. Cheating can be defined as: receiving or giving unauthorized assistance on a quiz, test, exam, paper, or project or unauthorized use of materials to complete such; collaborating with another person(s) without authorization on a quiz, test, exam, paper, or project; taking a quiz, test, or exam for someone else or allowing someone else to do the same for you. The grades you earn must be based upon your own work and must accurately reflect your own knowledge and skills. Cheating and/or plagiarism will not be tolerated and may result in an “FF” for the course as well as disciplinary action under the Code of Student Conduct. A student will be referred to an Academic Integrity Seminar. There will be a charge for this two-hour seminar, and attendance is required (see Student Handbook). Failure to attend the Academic Seminar may result in the assignment of a final course grade of “FF,” denoting course failure due to a violation of the college’s Academic Integrity policy.

Classroom Decorum – Students are expected at all times to show courteous and professional behavior. It is expected that all interactions, whether during class or labs, including email communication, remain professional and school-appropriate. Be aware that online interactions are not private. Disruptive and disrespectful behavior will not be tolerated and will result in withdrawal from the course and disciplinary action under the Code of Student Conduct (see Student Handbook).

Access Services for Students with Disabilities – If you have a disability, serious medical condition, a learning or psychological disorder and want to request accommodations, it is your responsibility to register with the Office of Access Services and to provide verifiable documentation to Access Services as soon as possible. If eligible, Access Services will provide you with a notification of approved accommodations to give to your instructors at the beginning of the semester. Faculty will comply with the accommodations approved by Access Services. For information visit the Access Services webpage at <http://www.cf.edu/departments/sa/ss/>, contact access@cf.edu or call 352-854-2322, ext. 1580 for an appointment.

Withdrawal – If you want to withdraw from this class, you must fill out the necessary forms and have them signed by the appropriate parties. If you just stop coming to class after the posted drop date, you may receive the grade of F. The college reserves the right to evaluate individual cases of non-attendance.

Students should be alerted to the fact that

- (1) withdrawals do not count in the CF GPA, but may not be viewed favorably at the university level or for financial aid
- (2) a withdrawal counts as an attempt under the forgiveness/withdrawal policy and the course repeat policy
- (3) there are increased costs to take the course on the third attempt
- (4) there may be a reason a withdrawal request may be denied.

Please see the College's withdrawal procedures.

CF STUDENT ASSISTANCE PROGRAM- The CF Student Assistance Program (SAP) is a confidential resource for assisting students who may have personal problems which could affect their school, work, or home lives. SAP provides early intervention and professional assessment and counseling to best meet the needs of the student. Services are free to all active CF students. The SAP is managed by BAY CARE LIFE MANAGEMENT, a health management organization. A student may call a toll free helpline during regular business hours Monday through Friday from 8:30AM-5:00PM. For crisis situations after hours, on weekends, or holidays a student may call the same number and the therapist on duty will be paged and will promptly respond to the call. For services a student may call the following toll free number: 1-800-878-5470

Suggested Exercises:

Physics cannot be learned by only listening to a lecture or watching someone else work problems. Physics is best learned by doing it – applying the principles covered in class to solve problems. This can be a difficult task to master, and can be developed only by practice. The following list of suggested homework exercises from your textbook has been included with this in mind. You should consider this list as a minimum set of exercises to work from each chapter to see if you are understanding the basic principles AND how to apply them. Keep in mind that although homework does not get formally graded, and is not part of the overall course grade, it is THE way to test the development of your understanding of the concepts you are learning about during class and how they apply to understanding and analyzing the natural world. Odd numbered exercises have answers in the back of your book. Although solutions will be available (posted on CANVAS), they ARE NOT A GOOD RESOURCE TO LEARN PHYSICS!!! They are being provided mainly so that you can check even numbered problems' answers. There are serious limitations as to what these solutions are really good for. We will discuss this in class! REMEMBER you are not just trying to memorize problems (there are FAR TOO MANY VARIATIONS AND APPLICATIONS using just a handful of concepts and the equations that illustrate them)!!!

This list may be modified as needed during the course of the semester.

“The purpose of homework problems is insight, not numbers. An equation is not something you plug numbers into to get other numbers; it tells a story.”

Chapter 1 – 2, 4, 7, 10, 24, 25, 27, 29, 30, 31, 34, 35, 38, 41, 43, 44, 45, 56, 58, 60

Chapter 2 – 1, 4, 7, 8, 9, 10, 13, 17, 21, 23, 25, 29, 31, 32, 35, 40, 42, 44, 45, 46, 49, 51

Chapter 3 – 1, 3, 7, 11, 12, 16, 17, 19, 20, 25, 28, 31, 35, 37, 41, 47, 50, 53, 56, 57, 61, 67

Chapter 4 – 1, 3, 6, 7, 12, 15, 16, 17, 21, 25, 26, 30, 32, 33, 35, 37, 39, 42

Chapter 5 – 1, 4, 7, 11, 15, 17, 18, 19, 20, 22, 23, 27, 30, 34, 41, 46, 48, 49, 50, 53, 67, 68, 72, 77, 90

Chapter 6 – 1, 2, 3, 4, 6, 8, 12, 15, 16, 18, 23, 25, 31, 32, 34, 37, 39, 41, 42, 44, 45, 47, 50, 53, 64, 66, 71, 79

Chapter 7 – 1, 5, 10, 11, 15, 19, 23, 24, 27, 29, 31, 33, 37, 39, 40, 41, 45, 51, 52, 54, 57

Chapter 8 – 1, 4, 7, 8, 10, 11, 14, 19, 24, 25, 28, 30, 32, 33, 38, 41, 42, 43, 47, 50, 54, 64, 71, 80

Chapter 9 – 2, 4, 9, 11, 13, 15, 22, 23, 24, 25, 26, 29, 30, 31, 35, 44, 45, 46, 47, 58, 60

Chapter 10 – 1, 2, 4, 6, 7, 9, 13, 15, 16, 25, 29, 31, 35, 36, 37, 42, 45, 47, 56, 58, 64

Chapter 11 – 1, 7, 9, 14, 15, 16, 19, 20, 23, 27, 28, 29, 30, 32, 35, 38, 43, 61

Chapter 12 – 2, 3, 5, 6, 10, 12, 17, 18, 19, 28, 29, 32, 39, 40, 45, 49, 50, 71, 74, 81

Chapter 13 – 5, 6, 11, 14, 18, 25, 28

Chapter 14 – 3, 4, 7, 9, 13, 14, 16, 17, 21, 25, 27, 29, 33, 35, 37, 43, 46, 47, 52, 56, 58

Chapter 15 – 2, 3, 4, 7, 8, 10, 15, 16, 19, 22, 27, 35, 37, 40, 41

Chapter 17 – 1, 5, 8, 11, 13, 14, 15, 21, 25, 29, 32, 33, 35, 43, 45, 52, 56, 58, 61, 63, 65, 67

There is no substitute for practice!!!

Disclaimer: The tentative schedule for the course follows. Due to unforeseen circumstances, it may be necessary for the course schedule to change. I will always strive to be fair and timely about any changes.

PHY2048 Schedule

Monday (Labs on Monday)	Wednesday
8/15 Course Overview/Chapter 1 <i>Week 1 Lab: Safety Video & Quiz lab, Lab Intro</i>	8/17 Chapter 2
8/22 Chapter 2/3 <i>Week 2 Lab: CJ01/02 (Cutnell Johnson, CJ, Lab Manual Activities 01 and 02)</i>	8/24 Chapter 3 Due by Friday 8/26 midnight Quizzes on Chs. 1/2
8/29 Chapter 3 <i>Week 3 Lab: Projectile Motion (Phet Simulation)</i>	8/31 Chapter 4/5 Due by Friday 9/2 midnight Quiz Ch. 3
9/5 No Class (Labor Day Holiday) <i>Week 4</i>	9/7 Chapter 5 Due Friday 9/9 midnight Quiz Ch. 4
9/12 Chapter 5 <i>Week 5 Lab: CJ 04A/CJ 04B</i>	9/14 Review for Test 1 Due Friday 9/16 midnight Quiz Ch. 5
9/19 Test 1 Chapters 1-5 <i>Week 6 No lab scheduled</i>	9/21 Chapter 6/7
9/26 Chapter 7 <i>Week 7 Lab: CJ 07</i>	9/28 Chapter 8 Due Friday 9/30 Quizzes on Chs. 6/7
10/3 Chapter 8 <i>Week 8 Lab: CJ 08</i>	10/5 Chapter 9 Due Friday 10/7 Quiz Ch. 8
10/10 Chapter 9 <i>Week 9 Lab: Collisions (Phet Simulation)</i>	10/12 Review for Test 2 Due Friday 10/14 Quiz Ch. 9
10/17 Test 2 Chapters 6-9 <i>Week 10 No lab scheduled</i>	10/19 Chapter 10
10/24 Chapter 10 <i>Week 11 Lab: CJ 11</i>	10/26 Chapter 11 Due Friday 10/28 Quiz Ch. 10
10/31 Chapter 11/12 <i>Week 12 Lab: Equilibrium (Phet Simulation)</i>	11/2 Chapter 12 Due Friday 11/4 Quiz Ch. 11
11/7 Chapter 13 <i>Week 13 Lab: Fluid Pressure (Phet Simulation)</i>	11/9 Review for Test 3 Due Friday 11/11 Quiz Ch. 12; Due SUNDAY 11/13 Quiz Ch. 13
11/14 Test 3 Chapters 10 - 13 <i>Week 14 No lab scheduled</i>	11/16 Chapter 14 Due SUNDAY 11/20 Quiz Ch. 14
11/21 Chapter 15 <i>Week 15 Lab: CJ12/CJ13</i>	11/23 No class, Thanksgiving holiday
11/28 Chapter 15 <i>Week 16 Lab: Chapter 17</i> Due WEDNESDAY 11/30 Quiz Ch. 15	11/30 Chapter 17 and Review for Final Exam Due Friday 12/2 Quiz Ch. 17
12/5 CUMULATIVE FINAL EXAM time 2pm	