

STEM Department (Science, Technology, Engineering & Mathematics)

PHY 109 Course Outline

<u>Course Title</u> :	General Physics I (PHY 109) Spring 2022		
Instructor:	Dr. Eric Sutter		
Location of Office:	Burroughs 104 <u>Campus Phone</u> : 687-5035		
E-mail Address:	<pre>suttere@sunyulster.edu (see additional policy #2)</pre>		
<u>Office Hours</u> :	Monday & Wednesday 12:00 – 1:00 PM Tuesday & Thursday 1:15 – 2:15 PM You may also make an appointment.		
<u>Lecture</u> :	Monday, Wednesday, Friday 10:55 – 11:50 AM in Burroughs 120		
Recitation and Laboratory	: Monday (L01) 1:15 – 5:00 PM		
	In the event that I am quarantined, the course will be remote for the duration of the quarantine and then will return to the classroom.		
	In the event that a student is quarantined, I will work out a schedule to meet with the student during office hours to make up missed classroom time and assignments and/or tests once the student can return to campus.		
<u>Textbook</u> :	<u>Fundamentals of Physics</u> , Halliday, Resnick, and Walker, 10th Edition (ISBN: 978-1-118-23071-8)		
<u>Required Materials</u> :	A scientific calculator is required. Webassign access (Class Key: sunyulster 6643 3805)		
<u>Prerequisite</u> :	Calculus I (MAT 170)		

Student Learning Outcomes:

Important Student Learning Outcomes for this course which will be assessed include the following:

- 1. Students will understand the special case of motion with constant acceleration and be able to use equations to solve problems involving one-dimensional motion and two-dimensional motion.
- 2. Students will understand how Newton's Second Law applies to an object subject to forces and be able to analyze situations in which an object moves with a specified acceleration under the influence of one or more forces so they can determine the magnitude and direction of the net force, or of one of the forces that makes up the net force, such as motion up or down with constant acceleration.
- **3.** Students will understand the concept of mechanical energy and be able to recognize and solve problems that call for the application of the conservation of mechanical energy.
- **4.** Students will understand linear momentum conservation and be able to apply the principle of linear momentum conservation to problems of one-dimensional elastic and inelastic collisions.
- 5. Students will understand angular momentum conservation and be able to analyze problems in which the moment of inertia of an object is changed as it rotates freely about a fixed axis.

Course Content:

Topics	Sections in Textbook
Measurement	1.1-3
Motion along a Straight Line	2.1-6
Vectors	3.1-2
Motion in Two and Three Dimensions	4.1-5
Exam 1 – Friday, March 4	
Force and Motion – I	5.1-3
Gravitation	13.1-3
Force and Motion – II	6.1, 6.3, 13.6-7
Kinetic Energy and Work	3.3, 7.1-6
Exam 2 – Friday, April 1	
Potential Energy and Conservation of Energy	8.1-2, 8.4-5
Center of Mass and Linear Momentum	9.1-7
Rotation	10.1-8
Exam 3 – Friday, April 29	

Rolling, Torque, and Angular Momentum	11.4-8
Equilibrium and Elasticity	12.1-3
Oscillations	15.1-2, 15.4

Final Exam (comprehensive) – Monday, May 16 at 10:50 am

Grading Policies:

- **Exams:** Each of the three exams scheduled during the semester is worth 10% of your grade. All exams will be counted. The final exam is comprehensive and counts for 20% of your final grade. If for an unavoidable **legitimate** reason you cannot take an exam at the scheduled time (serious illness or accident, death in the family, etc.), you will be allowed to take a makeup exam at a mutually convenient time.
- **Laboratory:** Each week includes three hours of laboratory work keyed to the topic from the previous week. The laboratory will count for 25% of your final grade. **You have one week to hand in laboratory assignments. Laboratory assignments will be accepted if they are less than one week late with a deduction of 1 point out of 10.** The lowest laboratory grade is dropped. Laboratory assignments will be graded out of 10 points.
- Homework: Homework counts for 25% of your grade. For every chapter covered you will be assigned questions and problems from the textbook. Homework assignments are to be done on WebAssign. Solutions to homework will be posted on Blackboard. I will not give credit for homework submitted after the due date. Students are required to check the WebAssign answer key for their homework assignment and to report to the instructor any grading mistakes within a week of an assignment's due date. The lowest homework grade is dropped.

Summary of Grading:

Three exams	10% each
Final Exam	20%
Homework	25%
Laboratory	25%
TOTAL	100%

<u>Grade Scale</u>: Final grades are assigned according to the department grade scale.

93 – 100: A	80 – 82: B-	67 – 69: D+
90 – 92: A-	77 – 79: C+	63 – 66: D
87 – 89: B+	73 – 76: C	60 – 62: D-
83 – 86: B	70 – 72: C-	0-59: F

Additional Policies:

1. If you miss a class, **you are responsible** for the material presented and for any assignment given.

2. For this course, all e-mail communication with students will occur though the use of the <u>my.sunyulster.edu</u> portal. Students are required to use this means of contact with their instructor for all course related items (grades, making appointments, absences, etc.). This use of portal e-mail for faculty- student communication complies with Federal law (FERPA).

3. In order to maintain a good learning environment, rude or disruptive behavior will not be tolerated. You will be asked to leave the class or laboratory if your conduct is deemed inappropriate and you will receive a zero for that day's work.

4. Please take the initiative to inform me of any special needs and/or problems you are encountering. An early alert can make a positive difference.

Academic Honesty:

Cheating and plagiarism of any kind is not tolerated and will be severely punished in accordance with UCCC policy as outlined in the current College catalog. All work on assignments and exams must be your own. Plagiarism includes two or more people writing word-for word answers on an assignment while working together. If you're unsure of what constitutes cheating or plagiarism, or have knowledge of someone else's cheating or plagiarism, please see me privately.

Bibliography:

Young, D. & Stadler, S. Physics. (2014) NY: Wiley.

Halliday, D., Resnick, R. & Krane, K. S. Physics. (2001) NY: Wiley.

Hecht, E. Physics: Algebra/Trig. (2002) NY: Brooks Cole.