

# LaGuardia Community College City University of New York

## SCP 231 General Physics I: Your Section will be Here

**Instructor Name:** Your instructors name here

**Instructor Contact Info:** **Instructor Extension**                      **Office:** **Instructor Office**  
**Email:** [Instructor Email](#)

WilyPlus URL: The website for your homework will live her

**Course Description:** This course is the first part of the introductory physics sequence for scientists and engineers. We explore Newton's Laws and the theory of classical mechanics using the language of calculus, this course has a prerequisite/co-requisite of MAT 202. A list of topics covered in this course includes: Measurement; units; one-dimensional motion; vector analysis; two- and three-dimensional motion; Newton's laws of dynamics; momentum and force; work and energy; conservation of energy; Newton's law of gravitation; center of mass; conservation of momentum; collisions; rotational motion; moment of inertia; oscillatory motion; hydrostatics; fluid flow; heat and temperature; laws of thermodynamics.

**Text:** D. Halliday, R. Resnick, and J. Walker, *Fundamentals of Physics*, 10th edition (extended), Wiley, ISBN 978-0-470-46908-8. Make sure it has the WileyPlus Code

**Calculators:** You are allowed to use scientific and graphing calculators for problems in this class including exams. The calculator cannot have an internet connection or have a purpose other than calculations: TI-89 is O.K. however phones and tables are not allowed during exams.

**Academic Integrity Policy:** Instructors of this course are required to implement the College Policy regarding cheating on examinations and quizzes. A complete statement of the policy is available at the student counseling services.

**Attendance Policy:** Attendance at all class sessions, lecture and laboratory, is essential for proper understanding and mastery of the course material. A student who is absent from more than one laboratory session seriously jeopardizes his/her grade for the course.

**Goals & Outcomes:** Students must complete and hand in all reports.

Note: Although laboratory counts only 10% of the grade, a student cannot receive a passing grade without completing all the requirements.

**Learning Objectives:**

On completion of the course, students should be able to:

Explain and understand basic physical concepts and principles such as position, velocity, acceleration, force, Newton’s Laws, and energy conservation.

Use quantitative methods to develop physical models of mechanical systems and solve problems based on these models using various mathematical techniques.

Obtain and analyze experimental data and learn to appropriately compare experimental results to theoretical predictions.

Understand the limitations of computerized instrumentation and sensors in data collection.

Communicate experimental results in lab write ups and discuss these results and their physical implications in a written report.

**Grading system:**

Examination 1.....	15%
Examination 2.....	15%
Examination 3.....	15%
Final Examination.....	25%
Laboratory.....	10%
Homework.....	20%

Letter grades will be determined by your instructor so you should ask them for details regarding what percentages are required for a specific letter grade.

The following experiments will be done in the laboratory and their will likely be additional labs.

**Homework:**

We will be using the online homework component of the text (Wiley+) to do homework in this class. You are required to obtain a registration code and register for Wiley+. You can order an eBook and code with access to all sorts of multimedia for about \$100 on Wiley’s website.

The homework will consist of solving problems at the end of the chapter in the text. Solving problems is a large part of learning physics and you will be assigned problems that challenge you to use many of the mathematics skill and critical thinking skills that you have developed throughout your education. The learning curve of getting used to online assignments is sometimes frustrating to students, I will provided below are some tips on how to effectively do the homework online and hopefully answer some questions in the process.

1. It is a good Idea to do all work on paper as if you were not doing it online and then simply type in your answer in the prompt. If there is a problem with the program and you have paper work I can check I can manually give you points.
2. You will be given 5 attempts to answer the question if after the third attempt you it is still not correct STOP this is probably a good point at which to email me or see me during my office hours so your professor can help you with the problem or we can discuss it during recitation.

### Schedule and Assignments

	<b>Topic</b>	<b>Reading</b>
1	Measurement	1.1 – 1.7
2	1-D Motion	2.1 – 2.10
3	Vectors	3.1 – 3.8
4	2- and 3-D Motion	4.1 – 4.9
5	Exam 1	
6	Force and Motion	5.1 – 5.9
7	Friction	6.1 – 6.4
8	Circular Motion	6.5
9	Work and Kinetic Energy	7.1 – 7.9
10	Potential Energy	8.1 – 8.8
11	Exam 2	
12	Center of Mass and Momentum	9.1 – 9.7
13	Collisions	9.8 – 9.12
14	Rotation	10.1 – 10.10
15	Angular Momentum	11.1 – 11.12
16	Static Equilibrium	12.1 – 12.7
17	Exam 3	
18	Gravitation	13.1 – 13.9
19	Fluids	14.1 – 14.10
20	Oscillations	15.1 – 15.9
21	Exam 4	
22	Heat and Temperature	18.1 – 18.12
23	Kinetic Theory of Gases	19.1 – 19.11
24	Thermodynamics	20.1 – 20.8

**FINAL EXAM will take place during the finals period and the specific date and time will be announced by your instructor.**

# SCP 231 Laboratory Guide

## Lab Schedule

Week	Experiment
1	Introduction-Lab Rules-Lab Report Guidance
2	Precision Measurement of Volume and Density
3	Picket Fence Free Fall
4	Vectors on a Force Table
5	Projectile Motion
6	Atwood's Machine
7	Measuring Static and Kinetic Friction
8	Elastic Collisions
9	Inelastic Collisions
10	Static Equilibrium
11	Simple Pendulum
12	Fluids Lab (under construction)

## Lab Rules:

Food and Drinks are prohibited in laboratory. You may put your drinks near the door or along the wall but they must be consumed OUTSIDE of the Lab Room. We will be working with electrical equipment and open circuits that can be hazardous if contacted with liquid.

In the event of an electrical fire unplug your circuit and devices and **INFORM YOUR INSTRUCTOR IMMEDIATELY!!**

Lab cleanliness is of great importance, you must put wires, plugs, and equipment back in the packaging they were given too you in. Failure to do this will result in a 10% deduction for the ENTIRE CLASS on the Lab Report so please take the time to clean up your mess.

The Lab component of this course requires you to be present and active in the lab. If you miss more than 2 Laboratory Sections you will lose all of your lab points and will have to repeat the lab portion of the course the next semester to get a grade in the course.

It may be possible to make up a lab but only at the discretion of your Lab Instructor. Lab Reports will be checked against attendance and if you are absent without an authorized make up you will receive a zero for the lab report. In other words you cannot simply copy data from someone and turn in a report if you miss a lab.

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