

Physics 253 - Section 01

General Physics I Fall Semester 2021

- Room/Time:* (SECT 01) Lectures: **Pereira Hall 121 – MWF 9:30 - 10:30am** (50-minute lectures)
Lab Sections: **Seaver Hall 114/117 – R 8:00 - 9:30am**
- Instructor:* Dr. Gabriele Varieschi
Office: Seaver Hall - 110
Phone: (310) 338-7632 (can leave a message)
E-mail: gvarieschi@lmu.edu (I will reply by the next day)
Office hours: MW 4:00 - 5:00pm, **Zoom office hours** at: <https://lmu.zoom.us/my/gvarieschi.fall2021>
Other times available by appointment.
- Course Webpage:* <https://brightspace.lmu.edu/d2l/home/152116> (for all course materials)
Personal Webpage: <http://gvarieschi.lmu.build>
- Textbook:* College Physics – P. Urone and R. Hinrichs – Openstax
Free textbook and free student guides available for download at:
<https://openstax.org/details/books/college-physics>
- Objectives and Topics:* Chapters 1-11 (tentatively). Physics, measurement and units. Motion in one dimension: velocity and acceleration. Vectors and components. Projectile motion and circular motion. Newton's laws and applications. Free body diagrams. Rotational motion and angular variables. Static equilibrium. Newton's law of universal gravitation. Linear momentum and collisions. Kinetic and potential energy: conservation of energy. Fluids. Laboratory experiments pertaining to mechanics. Algebra based course for biology and chemistry students.
- Prerequisite or concurrent enrollment:* *Math 112 or 122 or 131.*
- Learning Outcomes:* Understand the phenomenology of mechanics. Understand the concepts of kinematics: position, velocity, acceleration and the related use of vectors. Conceptually understand the idea of force and the three fundamental laws of mechanics. Be able to solve problems of increasing complexity involving different forces and master the technique of free body diagrams. Understand the theoretical framework of conservation principles (such as conservation of energy and linear momentum). Understand more advanced applications of rotational dynamics, statics and fluids. This course serves as a prerequisite for PHYS 254.
- Tests:* There will be **three tests** during the semester. **They will all count toward your final grade, so please try not to miss any of them.** There will be **no make-up tests** given. Tests are closed-book, but you may bring in a sheet of equations.
- Test Dates:* TBA
- Final Exam:* **SECTION 01: Wednesday, December 15, 8:00am – 10:00am**
The final exam is cumulative and is equivalent to 2 tests.
- Homework:* Weekly homework will be assigned and graded (in part – one or two problems per assignment). Solutions will be discussed in class and posted online. Homework assignments are due at the beginning of class, on the due date. Late homework will receive partial credit.

Laboratory: The laboratory is an integral part of this course. The experiments will complement the topics of the lectures. The laboratory will count for 15% of your final grade. Missing 2 or more lab sessions will result in a failing grade for the course. See lab schedule below for more information.

DOWNLOAD LAB MATERIALS AT:
<https://brightspace.lmu.edu/d2l/home/152116>

<i>Grading:</i>	Laboratory	15 %
	Homework/Participation	10 %
	Test 1	15 %
	Test 2	15 %
	Test 3	15 %
	Final Exam	30 %

Test Grading (approx.): 0-50%=F; 50-55%=D; 55-60%=C-; 60-65%=C; 65-70%=C+; 70-75%=B-; 75-80%=B; 80-85%=B+; 85-90%=A-; 90-100%=A.

Academic Honesty: Academic dishonesty will be treated as an extremely serious matter with severe consequences that can range from receiving no credit for assignments/tests, failing the class, to expulsion. It is never permissible to turn in any work that has not been authored by the student, such as work that has been copied from another student or copied from a source (including Internet) without properly acknowledging the source. It is your responsibility to make sure that your work meets the standard set forth in the “[Academic Honesty Policy](#)”.

Special Accomodations: Students with special needs who require reasonable modifications, special assistance, or accommodations in this course should promptly direct their request to the Disability Support Services (DSS) Office. Any student who currently has a documented disability (ADHD, Autism Spectrum Disorder, Learning, Physical, or Psychiatric) needing academic accommodations should contact the DSS Office (Daum Hall 2nd floor, 310-338-4216) as early in the semester as possible. All discussions will remain confidential. Please visit <http://www.lmu.edu/dss> for additional information.

Syllabus changes: If necessary, this syllabus and its contents are subject to revision; students are responsible for any changes or modifications announced in class.

Have a nice semester. Good luck!

**Phys 253 - Laboratory Schedule
General Physics I
Fall 2021**

Lab Instructor	Section	Day	Time	Rooms
Dr. G. Varieschi	01	Thu	8:00 - 9:30 am	S114
Dr. G. Varieschi	03	Thu	10:00 - 11:30 am	S117

	<i>Aug 30</i>	<i>M</i>	<i>Classes begin</i>
	<i>Sep 06</i>	<i>M</i>	<i>University Holiday –Labor Day</i>
1.	Sep 09	Thu	Motion
2.	Sep 16	Thu	Free Fall
3.	Sep 23	Thu	Projectile Motion
4.	Sep 30	Thu	Newton’s 2nd Law
5.	Oct 07	Thu	Newton’s 2nd Law - 2 Bodies
	<i>Oct 14</i>	<i>Thu</i>	<i>No Lab</i>
	<i>Oct 15</i>	<i>F</i>	<i>No Classes – Autumn Day</i>
6.	Oct 21	Thu	Friction
7.	Oct 28	Thu	Conservation of energy
8.	Nov 04	Thu	Energy – nonconservative forces
9.	Nov 11	Thu	Momentum
10.	Nov 18	Thu	Static Equilibrium
	<i>Nov 24 – Nov 26</i>	<i>W-F</i>	<i>No Classes – Thanksgiving Holidays</i>
11.	Dec 02	Thu	Rotation
	<i>Dec 09</i>	<i>Thu</i>	<i>No Lab</i>
	<i>Dec 13 – Dec 17</i>	<i>M-F</i>	<i>Final Examinations</i>

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