

# Physics 253 - Section 03

## General Physics I Fall Semester 2017

*Room/Time:* SECT 03: Seaver Hall 101 – TR 11:20 am -12:50 pm (lecture time: 11:20 am -12:35 pm)  
Seaver Hall 114/117 – W 2:20 - 3:50 pm (labs)

*Instructor:* Dr. Gabriele Varieschi  
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*Office hours:* MW 10:00-11:30 am; and by appointment.  
*Web page:* <http://myweb.lmu.edu/gvarieschi/physics.html>

*Text:* 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 towards 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:* **SECT 03: Tuesday, December 12, 11am-1pm.**  
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 for detailed information.

**DOWNLOAD LAB MATERIALS AT:**  
<http://myweb.lmu.edu/gvarieschi/physics.html>

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

*Grading (approximate):* <50%=F; 50-55%=D; 55-70%=C range; 70-85=B range; >85=A range.

*Academic Honesty:* Academic dishonesty will be treated as an extremely serious matter, with serious consequences that can range from receiving no credit for assignments/tests to expulsion. It is never permissible to turn in any 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 of academic honesty set forth in the “LMU Honor Code and Process” which appears in the *LMU Bulletin* (see <http://bulletin.lmu.edu/> )

*Americans with Disabilities Act:*

Students with special needs as addressed by the Americans with Disabilities Act who need reasonable modifications, special assistance, or accommodations in this course should promptly direct their request to the Disability Support Services Office. Any student who currently has a documented disability (physical, learning, or psychological) needing academic accommodations should contact the Disability Services Office (Daum Hall Room 224, 310-338-4535) as early in the semester as possible. All discussions will remain confidential. Please visit <http://academics.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!