

# Physics 253 - Section 05/06

## General Physics I Fall Semester 2012

- Room/Time:* Seaver Hall 101 – MWF 11:00 -11:50 am (lectures)  
Seaver Hall 117/119 – R 1:35 - 3:25 pm (both labs at the same time)
- Instructor:* Dr. Gabriele Varieschi  
*Office:* Seaver Hall - 110  
*Phone:* (310) 338-7632  
*E-mail:* [gvarieschi@lmu.edu](mailto:gvarieschi@lmu.edu)  
*Office hours:* M 3:00-5:00 pm; R 3:30-5:00 pm; and by appointment.  
*Web page:* <http://myweb.lmu.edu/gvarieschi/physics.html>
- Text:* Knight, Jones, Field - College Physics – A strategic approach – Pearson Addison Wesley; Second Edition  
**Also required: access to Mastering Physics (might come with the book if purchased through our bookstore; standalone Mastering Physics access should also be available at LMU bookstore)**  
**Or you can buy MP access online at:**  
<http://www.masteringphysics.com/>  
**click on: Register → Students**  
**Enter your access code, or buy one online (choose the Knight, Jones, Field - College Physics textbook)**  
**Set up your account in Mastering Physics and enroll in Course ID: MPVARIESCHI71201**  
**First Assignment → Introduction to Mastering Physics**
- Some useful ISBN #:* ISBN:0321815408 Textbook Hardcover  
ISBN:0321815114 Textbook Hardcover & Mastering Physics Passcode  
ISBN:0321636600 Electronic Textbook & Mastering Physics Passcode  
ISBN:0321696301 Mastering Physics Passcode
- Objectives and Topics:* Chapters 1-10 and Chapter 13 (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 four tests during the semester. Your lower test grade will be dropped, so only your three best tests are counted toward the final grade. There will be **no make-up tests** given; if you miss any one of the four tests, that one will automatically be your dropped test. Tests are closed-book, but you may bring in a sheet of equations.

*Test Dates:* TBA

*Final Exam:* Monday, Dec. 10, 11am-1pm.  
The final exam is cumulative and is equivalent to 2 tests.

*Homework:* Weekly homework assignments will be given through Mastering Physics. Solutions will be partially discussed in class and posted online.

*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 %	]	Three best tests
	Test 3	15 %	]	out of four (see above)
	Final Exam	30 %		

*Test Grading (approx.):* <50%=F; 50-54%=D; 55-69%=C range; 70-84=B range; >84=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 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" in the Undergraduate Bulletin 2011-2012.

*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 good semester. Good luck!