

Introduction to Physics I - Syllabus

Phys 001, Fall 2012

Instructor	Mari-Anne M. Rosario
Contact info	Galileo 108A, 925-631-4837, mrosario@stmarys-ca.edu
Office hours	M 12:30-1:30, Th 1:30-3:00, and by appointment
Text	Physics for Scientists and Engineers, 8th ed., by Serway and Jewett (Brooks and Cole, 2010)
Website	physics.stmarys-ca.edu has updated course information
Meetings	Lectures MWF 10:20-11:20am Th 10:10-11:10; Labs W, Th afternoons and evenings

Course description and goals

Physics 1 is the first course in a two-course sequence intended for students majoring in physics, engineering, chemistry or mathematics, and for students preparing for an engineering program. This course includes topics in Newtonian mechanics, vibrations and oscillations, waves and sound, and thermodynamics. *Concurrent enrollment in Physics 2 is required and Math 27 is a prerequisite.*¹ This course satisfies the *Scientific Learning Outcomes of the Mathematical and Scientific Understanding* learning goal.

This course is an opportunity to (1) gain an understanding of fundamental physical principles in Newtonian mechanics and thermodynamics, (2) use these principles to describe the world around us, and (3) develop problem solving and mathematical skills.

Evaluation

The final grade will be based on

Almost daily webassign assignments	10%
Weekly problem sets	15%
Three in-class exams	45%
Final exam	30%

The almost daily **web assign assignments** consist of one or two short exercises on topics we have not yet covered in class – you will have to read the book in advance of the lecture to do them. More involved **problems sets** will also be due weekly. Problems are an opportunity for you to evaluate your understanding and to develop problem solving and math skills. Take the time to understand what you are doing when working on problems, especially if you are working with other people.

Three in-class exams will be given. Exams will focus on recently covered material, but will assume an understanding of previously covered material. A **final exam** will be given during finals week. The final exam will be comprehensive, but will emphasize material from the latter part of the course. If your final exam score is greater than your lowest in-class exam score, your lowest in-class exam will be replaced by your final exam score.

Attendance, late assignments, makeup exams, and schedule

Attendance is not required, but it is highly recommended. You are responsible for all information given during lecture even if you are absent. This applies even if an absence is due to some acceptable reason. *Talk to me and your academic advisor if there are severe or extended circumstances that affect your performance in class.*

¹Math 13 may also be taken concurrently. However, you must pass Math 13 with a B or higher in order to meet the prerequisite for Physics 3 this Spring.

Assignments will be accepted up to a week late, but points will be deducted. This applies even if the lateness is due to some acceptable reason. Conflict or make-up exams will be given only you (1) provide an acceptable and documented excuse and (2) contact me before the exam. If you cannot satisfy both conditions, you cannot make up the exam.

The tentative schedule for this class:

week	topics and events	notes
1	Description of motion	
2	Labor day , Description of motion	Add/drop ends W
3	Description of motion	
4	Cause of motion	
5	Cause of motion, Exam 1 on Thu	
6	Cause of motion	
7	Work & energy	
8	Work & energy	
9	Momentum, Exam 2 on Th	
10	Rotations	PDFW deadline Fri
11	Rotations	
12	Oscillations, Waves	
13	Exam 3	Thanksgiving Break
14	Thermal Physics	
Finals	Final Exam is on Monday 11:30–1:30	

Grading

Present clear and complete solutions. A correct answer with no justification will earn no credit; an incorrect answer with correct justification will earn partial credit. Solutions should start with definitions of physical quantities (*e.g.* $\vec{v} \equiv \frac{d\vec{x}}{dt}$), physical principles (*e.g.* Newton's laws), or commonly used equations (*e.g.* kinematics equations). Your solution should be clear enough so that anyone in this class can understand what you did by just reading your work.

If you believe that there has been grading error, request a regrade. Resubmit the original, unaltered work within 1 week. Include a clear explanation of why (and what) I should consider regrading.

Academic honor code

This course operates under the premises of the SMC academic honor code. I expect that everyone will work to uphold high standards of integrity. You are encouraged to work on and discuss the assignments with others. Although your methods may be similar to your coworker's, **there is no acceptable reason for your work to look exactly like someone else's**. See the *Student Handbook* for further information on the honor code.

Student disability services

Reasonable and appropriate accommodations, that take into account the context of the course and its essential elements, for individuals with qualifying disabilities, are extended through the office of Student Disability Services. Students with disabilities are encouraged to contact the Student Disability Services Coordinator at (925) 631-4164 to set up a confidential appointment to discuss accommodation guidelines and available services. Additional information regarding the services available may be found at the following address on the Saint Marys website:

<http://www.stmarys-ca.edu/academics/academic-advising-and-achievement/student-disability-services.html>

Introduction to Physics I Laboratory - Syllabus

Phys 002, Fall 2012

Instructor	Mari-Anne M. Rosario
Contact info	Galileo 108A, mrosario@stmarys-ca.edu
Office hours	MTu 2-3:30 and by appointment
More info	physics.stmarys-ca.edu has updated course information
Required materials	Bound notebook, scientific calculator, a pen

Course description and goals

This course is the laboratory that accompanies Physics 1. Topics include Newtonian mechanics, vibrations and oscillations, waves and sound, and thermodynamics. *Concurrent enrollment in Physics 1 is required.* This course, taken with Physics 1, satisfies the *Scientific Learning Outcomes of the Mathematical and Scientific Understanding* learning goal.

This course introduces methods of experimentation in physics. This course is an opportunity to (1) enhance your understanding of the physical principles in Physics 1, (2) gain familiarity with measurement techniques and data analysis, and (3) develop scientific writing skills.

Evaluation

Each lab will be given a score based either (1) a lab notebook entry documenting your experiment, (2) a quiz on the calculations and analysis used in the experiment, or (3) a final task involving an active demonstration or verbal explanation on the measurement technique, calculations, or analysis used in the experiment.

The average lab score will determine the final grade. The lowest *non-zero* score will be dropped from the average. For example, if your scores are 10, 8, 10, 7, 0, and 8, your average would be 7.2.

Attendance is required

You can't do an experiment if you're not here. Missing a lab results in a score of zero. You may reschedule a lab if you (1) have an approved reason and (2) contact me within a reasonable amount of time — preferably within a day of missing the lab. If you cannot satisfy both conditions, you cannot reschedule the lab. Three unrescheduled labs will result in a D for the final grade.

Be on time. Repeated or severe lateness may count as an absence

Talk to me and your academic advisor if there are severe or extended circumstances that affect your attendance or performance in the class.

Grading and Academic honor code

If you believe that there has been an error in grading, request a regrade. The original, unaltered work must be resubmitted within one week, accompanied by a written explanation of what I should consider when regrading.

This course operates under the premises of the SMC academic honor code. It is expected that everyone will work to uphold high standards of integrity. Although you must work on and are

encouraged discuss the labs with your partner, lab notebooks are to be written individually. **There is no acceptable reason for your work to look exactly like someone else's.** See the *Student Handbook* for further information on the honor code.

Student disability services

Student Disability Services: Student Disability Services extends reasonable and appropriate accommodations that take into account the context of the course and its essential elements for individuals with qualifying disabilities. Students with disabilities are encouraged to contact the Student Disability Services Office at (925) 631-4358 to set up a confidential appointment to discuss accommodation, policies, guidelines and available services. Additional information regarding the services available may be found at the following address on the Saint Marys website: <http://www.stmarys-ca.edu/academics/academic-advising-and-achievement/student-disability-services.html>