

# GENERAL PHYSICS I (PHYS 2010)

COURSE SYLLABUS – SPRING 2014

Meeting 9:45 to 11:05, Tuesday and Thursday, in Brown 370

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Instructor:	Richard Ignace Department of Physics & Astronomy
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## Overview:

This is an algebra/trig-based course on first semester physics, dealing with topics of classical mechanics (kinematics and dynamics for linear and rotational motion) and thermodynamics. You will learn about the physical principles operating in this context. The lab component (a separate class) is more hands-on; this lecture component is more theory oriented in nature. Although math ability is important for the course, the main emphasis is on concepts, relationships connecting physical quantities, critical thinking, and using math chiefly as a tool for qualitative and quantitative processing of information and principles.

## ETSU Syllabus Attachment

A great deal of useful information can be found in the "Syllabus Attachement" provided by ETSU and found at:  
[www.etsu.edu/reg/academics/syllabus.aspx](http://www.etsu.edu/reg/academics/syllabus.aspx)

## Grading:

The course is for 3 credit hours. Scores will be assessed as follows:

- 20% – Homework Assignments
- 20% – 1st Exam
- 20% – 2nd Exam
- 20% – 3rd Exam
- 20% – Final Exam

### *Exam Notes –*

All exams will be closed book, closed notes, and multiple choice, and the final exam will be comprehensive. Scantrons will be provided for exams. A scientific calculator will be needed. Any make-up exams will be short answer questions and problems. Cheating will result in an automatic "F" for that exam.

### *Homework Notes –*

Homework will consist of take-home multiple choice questions. Students must purchase scantrons for this. If you do not work hard on the homework, you are not likely to perform well on the exams.

## Required Materials:

The text for the course is *College Physics* by Serway. This book covers all topics in basic undergraduate physics; however, General Physics I deals with those chapters pertinent to motion and thermodynamics in the first half of the book (chaps 1–12). Material on electricity, magnetism, and optics is covered in General Physics II. You will need a scientific calculator for this course.

## Schedule:

There are 17 weeks in the semester, including finals week and spring break. The following is a schedule of material that will be covered in the course. A given topic may overrun into the lecture following or begin in the lecture prior; to be safe, attend every lecture!

Week	Date	Topic	Chapter	Homework	Activity
1	01/16	Introduction	1		
2	01/21	Motion Concepts	2		
3	01/23	One-Dimensional Kinematics	2		
	01/28	One-Dimensional Kinematics	2	HW#1 Due	Activity #1
4	01/30	Vectors	3		
	02/04	Two-Dimensional Kinematics	3		
5	02/06	Two-Dimensional Kinematics	3		
	02/11	Relative Motion	3	HW#2 Due	Activity #2
6	02/13	<b>EXAM #1</b>			
	02/18	Newton's Laws	4		
7	02/20	Dynamics	4		
	02/25	Work and Kinetic Energy	5	HW#3 Due	
8	02/27	Gravitational Potential Energy	5		
	03/04	Spring Potential Energy	5		Activity #3
9	03/06	Momentum and Impulse	6	HW#4 Due	
	03/11	<b>Spring Break</b>			
10	03/13	<b>Spring Break</b>			
	03/18	Collisions	6	HW#5 Due	Activity #4
11	03/20	<b>EXAM #2</b>			
	03/25	Rotational Motion	7		
12	03/27	Centripetal Acceleration	7		
	04/01	Gravitation	7		
13	04/03	Rotational Dynamics	8	HW#6 Due	
	04/08	Fluids in Equilibrium	9		
14	04/10	Fluids on the Move	9	HW#7 Due	
	04/15	<b>EXAM #3</b>			
15	04/17	Thermal Physics	10		
	04/22	Heat	11		
16	04/24	Heat Transfer	11		Activity #5
	04/29	Thermodynamic Processes	12		
17	05/01	REVIEW FOR FINAL EXAM		HW#8 Due	Activity #6
	05/08	<b>FINAL EXAM (8:00a-10:00a)</b>			

**Students with Disabilities:** I need to hear from anyone who has a disability which may require some modification of seating, testing, or other class requirements so that appropriate arrangements may be made. Please see me after class or during my office hours.

**Complaint Procedures:** In the event of a “complaint”, the first step would be to speak with the Instructor. Alternatively one could speak with the Physics & Astronomy Chair in 277 Brown Hall.