

**Instructor:**

**Dr. Howard L. Richards**  
**Phone: 304-696-6466**  
**Office Hours:**

	Monday	Tuesday	Wednesday	Thursday	Friday
08:00	PHY 201		PHY 201		PHY 201
08:30					
09:00	Office Hours				
09:30					
10:00					
10:30	Out of Office				
11:00					
11:30	Lunch				
12:00	PHY 201	Office Hours	PHY 201	Office Hours	PHY 201
12:30	FYS 100		FYS 100		FYS 100
01:00					
01:30					
02:00	Office Hours				
02:30					
03:00					
03:30	PHY 101L	PS 101L			
04:00					
04:30					

**Textbook:**

*College Physics*, by Eugenia Etkina, Michael Gentile, Rutgers University, and Alan Van Heuvelen, Addison-Wesley, 2014.

**Recommended:**

- *College Physics*. OpenStax College. 21 June 2012. Download for free at <http://cnx.org/content/col11406/latest/>.
- *Light and Matter*, by Benjamin Crowell. 2017. Download for free at <http://www.lightandmatter.com/lm/>.

**Catalog Description:**

**201 College Physics 1. 3 hrs. I, II, S.**

First half of an introduction to physics for life-science students, using algebra and vectors by triangles: force, energy, particle dynamics, rotation, fluids, waves, thermal phenomena. 3 hrs. lec. (PR: (MTH 127 and MTH 122), or (MTH 130 & MTH 122), or MTH 132, or (MTH 140 and MTH 122), or MTH 229 or (ACT 27 or higher and an additional math course either taken before or concurrently, such as MTH 127, MTH 130, MTh 140, MTH 229, or MTh 132); CR: PHY 202)

### General Description:

This course is the first half of a one-year introductory course in physics that uses algebra and trigonometry but not calculus. It is designed for students having their main interest in Biology, (Pre)Medicine, Architecture, Technology, or the Earth and Environmental Sciences. At the end of this course the student should be able to apply sound reasoning skills and the principles and formulae of physics to solve simple problems in mechanics, including vibrations, waves and sound and problems involving kinetic theory and thermodynamics. Priority will be given to the earlier chapters, which are essential to any understanding of later material.

**Grades:**

<b>F &lt; 60 ≤ D &lt; 70 ≤ C &lt; 80 ≤ B &lt; 90 ≤ A</b>	<b>Max score 100 in homework.</b>
<b>25% Exam 1</b>	<b>25% Exam 2</b>
<b>5% Highest Exam Grade</b>	<b>30% Final Exam</b>
<b>10% Online Homework</b>	<b>5% Presentations</b>

**Students making a score of less than  $\frac{1}{2}$  the class average on the final exam will fail the class. For example, if the class average is 80, you must make at least a 40 on the final to pass.**

**Course Learning Objectives:**

Students will ...	Practiced by	Assessed by
Identify the equations and principles needed to solve problems in mechanics and thermal physics.	Classroom Discussions, Homework	Exams
Use graphs, sketches, and/or diagrams as aids in conceptualizing physics problems and explaining their answers.		
Formulate and clearly communicate valid strategies for solving word problems in mechanics and thermal physics.		
Use basic algebra and trigonometry to calculate physical quantities.		
Apply to physics problems the basic operations of vector algebra.		

## Exams:

Each hour exam will cover the material presented since the last hour exam, but note that mastery of earlier concepts and methods may be necessary to complete later problems. The final exam is comprehensive. Exams will include a mix of problems which must be solved in detail – showing the steps is important – and multiple-choice questions that will test the student's ability to set up problems and demonstrate qualitative understanding.

### **Final Exam is Required:**

**From the *Undergraduate Catalog*: “Students are required to take all regular examinations. If a student attends a course throughout the semester and is absent from the final examination without permission, the instructor counts the examination as zero and reports the final grade of *F*. If the absence is the result of illness or some other valid reason beyond a student's control, the instructor reports a grade of *I*. In all cases, the student must verify the reason for the absence.”**

### **Homework:**

Homework is online at [www.masteringphysics.com](http://www.masteringphysics.com). Some textbooks may come with a key for access to masteringphysics included, but if you do not have such a key, you can purchase access through the web site. The course ID is **PHY201MURICHARDSFALL17**.

**Problems with the technology of the website should be directed to the attention of customer support.** Only problems with the physics should be addressed to the instructor, either during office hours or (since any difficulty you have is probably shared by several other students) during class time.

### **Presentations:**

Students must use the problem-solving sheet, which can be found on the MUOnline page for this course, for all presentations, each of which will show the solution in detail of one problem. Each student will be assigned one problem to present over the course of the term. The same problem-solving sheet will also be used for some exam problems.

The problem-solving sheet is used for two reasons.

- It will promote good problem-solving habits.
- It will help students earn partial credit for difficult problems.

Problem assignments and instructions are on MUOnline under “Course Content”. Solutions must be posted to the blog **before the instructor makes the answer key available**.

### **Academic Dishonesty:**

“Academic Dishonesty is something that will not be tolerated as these actions are fundamentally opposed to ‘assuring the integrity of the curriculum through the maintenance of rigorous standards and high expectations for student learning and performance’ as described in Marshall University’s Statement of Philosophy.” Cheating and other forms of academic dishonesty will bring serious sanctions, including possible expulsion, as described in the *Undergraduate Catalog*.

**Cheating on an exam or quiz will result in being reported to the Dean of Students and, at minimum, either (a) having all suspect work marked wrong or (b) having the course grade reduced by one letter grade, whichever is the heavier penalty.**

You may work together on homework, but do not just copy someone else's answers. Not only is this dishonest, it will make you more likely to do badly on the next test.

### **Policy for Students with Disabilities:**

Marshall University is committed to equal opportunity in education for all students, including those with physical, learning and psychological disabilities. University policy states that it is the responsibility of students with disabilities to contact the Office of Disabled Student Services (DSS) in Prichard Hall 117, phone 304 696-2271, to provide documentation of their disabilities. Following this, the DSS Coordinator will send a letter to each of the student's instructors outlining the academic accommodation he/she will need to ensure equality in classroom experiences, outside assignment, testing and grading. The instructor and student will meet to discuss how the accommodation(s) requested will be provided. For more information, please visit <http://www.marshall.edu/disabled> or contact the Disabled Student Services Office.

### **Students with Medical Conditions:**

In addition to the above, students with medical conditions, temporary or permanent, that may require special attention (for example, epilepsy) or accommodation are encouraged to inform the instructor as soon as possible.

**Your privacy will be respected.**

### **University Policies:**

By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to [www.marshall.edu/academic-affairs](http://www.marshall.edu/academic-affairs) and clicking on "Marshall University Policies." Or, you can access the policies directly by going to [http://www.marshall.edu/academic-affairs/?page\\_id=802](http://www.marshall.edu/academic-affairs/?page_id=802).

- Academic Dishonesty
- Excused Absence Policy for Undergraduates
- Computing Services Acceptable Use
- Inclement Weather
- Dead Week
- Students with Disabilities
- Academic Forgiveness
- Academic Probation and Suspension
- Academic Rights and Responsibilities of Students
- Affirmative Action
- Sexual Harassment

### **Classroom Behavior:**

**Disorderly conduct that interferes with the normal classroom atmosphere will not be tolerated.** The classroom instructor is the judge of such behavior and may instruct a disorderly student to leave the room with an unexcused absence. More serious misconduct may result in a complaint to the Office of Judicial Affairs. "Official University action will be taken when a student's or student group's behavior violates community standards, interferes either with the University's educational purpose, or with its duty to protect and preserve individual health, welfare, and property. When the behavior is aggravated or presents a continuing danger to the University community, accused students are subject to separation from the institution."

Food and drink are permitted only within reason, and if necessary, this privilege may be revoked. Regardless, **it is never permissible to leave a mess, whether crumbs or empty bottles**, nor to distract the students around you. You are a grown-up, so act like one and be considerate.

Along the same lines, **all cell phones must be turned off or set to vibrate only** before the beginning of class. Any student who takes a call must leave the classroom to do so. Phone calls may not be placed or received during quizzes or tests. No devices may be used to play games or watch videos unrelated to classroom discussions.

You may not use your phone as a calculator during tests, not any other tablet or device capable of sending or receiving text, emails, video, or phone messages. You can get a very good scientific calculator (e.g., Casio *fx-300ES PLUS*) for less than \$20; I recommend choosing one with two-line display (so you can check for typos in your input) and at least 3 memory locations (usually named A, B, C, ...) in which you can store intermediate results to avoid rounding error. Of course, if some other department required you to buy an unnecessarily expensive graphing calculator, you can use that, too.

Please **do ask questions** if you do not understand a concept, derivation, or calculation. Do not be embarrassed to ask; if you have a question, others probably have the same question! Let me know if I am going too fast or too slow. Private chats with other students, on the other hand, must be kept to an absolute minimum during class time; they are very distracting.

**Schedule (hour exam dates are subject to change):**

Mon, Aug 21, 17	First day of classes.
	<b>90% Solar Eclipse</b>
Fri, Aug 25, 17	Last day to add a class.
Mon, Aug 28, 17	"W" withdrawal period begins.
Mon, Sep 4, 17	University Closed – Labor Day.
Mon, Sep 25, 17	Test 1 Presentations.
<b>Mon, Oct 2, 17</b>	<b>Test 1.</b>
Fri, Oct 27, 17	<b>Last day to drop an individual course.</b>
Mon, Nov 6, 17	Test 2 Presentations.
<b>Mon, Nov 13, 17</b>	<b>Test 2.</b>
Nov 20 – Nov 25	<b>Thanksgiving Break.</b>
Dec 4 – Dec 8	Semana de los muertos. Remaining presentations.
Fri, Dec 8, 17	<b>Last day to completely withdraw from all classes.</b>
<b>Mon, Dec 12, 16</b>	<b>8 am Section: Final Exam 8:00 – 10:00.</b>
Wed, Dec 14, 16	<b>Last MasteringPhysics homework due 11:59 pm.</b>
<b>Fri, Dec 16, 16</b>	<b>Noon Section: Final Exam 10:15 – 12:15.</b>

