

## Physics 215 Fall 2019: Course Syllabus

### Why is the syllabus so long?

Yes, I know this is long, but it has all the information you need for the course in one easy-to-search place. Please read it just once (Please!). If you don't, there's a good chance you'll send me an email asking about something that is clearly answered here, and then I'll spend time answering those emails instead of helping you with real physics problems.

### Time/place:

Lecture: Tu/Th 11:00am-12:20pm, Physics 208

Recitation: TBD

### Instructors

Professor Lisa Manning

- email: [mmanning@syr.edu](mailto:mmanning@syr.edu) (Please read the email policy first.)
- office: Physics 229B (in the soft matter suite near Phys 208)
- office hours: W 9-10am, 3:30-4:30pm
- pronouns: she/her
- [Professor Manning's website](#)

Teaching Assistant: Nouman Butt

- email: [ntbutt@syr.edu](mailto:ntbutt@syr.edu)

### Required Materials

**The textbook.** Good news: your textbook for this class is available for free online, in web view and PDF format! You can also purchase a print version, if you prefer, via the campus bookstore or from OpenStax on Amazon.com.

You can use whichever formats you want. Web view is recommended -- the responsive design works seamlessly on any device. If you buy on Amazon, make sure you use the link on your book page on openstax.org so you get the official OpenStax print version. (Simple printouts sold by third parties on Amazon are not verifiable and not as high-quality.)

University Physics Volume 1 from OpenStax, ISBN 1938168275,  
[www.openstax.org/details/university-physics-volume-1](http://www.openstax.org/details/university-physics-volume-1)

### Description and Learning Objectives

This course is primarily about the motion of objects and the forces that govern this motion. Examples include "free fall", collisions between objects (such as cars), rolling, and sound waves. These ideas provide a foundation for all of modern physics as well as engineering and natural sciences.

A list of specific topics covered and the reading schedule can be found under the "[schedule](#)" tab above.

This course has several rather broad goals. They include that you

- develop a good understanding of a few important concepts in physics
- learn to apply these concepts to familiar and unfamiliar situations
- gain the ability to reason qualitatively and quantitatively about physics

## **Expectations**

We want this class to be engaging and useful to you. We are implementing several new things (including small group work in class, online discussion forums, and self-assessment assignments) to help you get more out of this class. We need your help to make these things work. We expect you to:

- attend lecture every day
- spend about two to three hours working outside of class for every hour in class -- That's about 6-9 hours a week.
- complete the assigned reading before every class

Also, here is a list of things to make sure you do the first week of class:

- take the pre-assessment survey on the blackboard website
- Sign up for the SAGE self-assessment

## **Pre- and Co-requisites**

Working knowledge of high school level algebra and trigonometry is required. Calculus will also be used. Calculus is covered in the co-requisite course (MAT 285 or MAT 295). The math department runs Math Clinic in Carnegie (hours are posted on the door) if you need assistance with math.

Students are required to enroll in the laboratory course PHY 221 (see below). Your grade in PHY 215 may be withheld if you don't co-register for the laboratory. Prof. Sampere E-mail: [smsamper@syr.edu](mailto:smsamper@syr.edu) ) is in charge of the PHY221 course.

## **Grading**

Your course grade will be determined as follows:

- Class participation (in-class attendance and small group work, recitation attendance and participation) -15%
- Assignments (HW and SAGE) - 20%
- 3 midterm exams (lowest one dropped) - 40%
- 1 final (comprehensive) - 25%
- extra credit opportunities provided throughout the semester

Grades will be kept and updated on the course blackboard page. **You are responsible** for checking the grades as they appear and making sure that they are correct. Contact your TA immediately if you think that one of the entered grades is incorrect, because we can not guarantee that will be able to change them if we aren't notified immediately. If you would like to contest a grade on a HW or exam, please fill out the [Re-grading form](#).

The grading scale is as follows:

A 100-94%  
 A- 93-90%  
 B+ 89-87%  
 B 86-84%  
 B- 83-80%  
 C+ 79-77%  
 C 77%-74%  
 C- 73-70%  
 D+ 69-67%  
 D 67%-60%  
 F Below 60%

## Recitations

There are two one-hour recitation sections each week in which you will work in teams with a teaching assistant to learn and practice problem solving skills. Attendance is required.

## Assignments

There are two types of assignments due for this class, which together make up 20% of your grade. All assignments and due dates will be listed on the assignments calendar.

- HW assignments (18%)
- SAGE assignments (2%)

Homework assignments are **due to your TA at the beginning of your second recitation section each week**. This problem set will be graded by hand in a manner similar to your exam. Solutions to homework problems will be provided at the course web site. The two lowest HW grades will be dropped.

**SAGE is a weekly "self-assessment"** quiz (due on Friday each week) that helps you compare your work in the class to that of other students and lets you know if you're doing enough work in the class to succeed. It also allows you to give feedback to the instructor about what is useful and interesting and what is not. Your SAGE grade is participation only -- **your grade will not depend on your responses**, so be honest with yourself.

## Exams

There will be three eighty-minute midterm exams during the semester. Each exam will focus on material from the three or four weeks prior to the week of the exam but may include earlier material as well. **The lowest midterm score for each student will be dropped.** In addition, there will be a two-hour final. The final exam will be comprehensive. All exams will be closed book. **There will be NO makeup exams.** Students who do not take the final or who miss more than one of the other exams will *not* be given a passing grade. Dates for the exams are:

Midterm 1: Tuesday, Sept 24  
 Midterm 2: Thursday Oct 24  
 Midterm 3: Thursday, Nov 21<sup>st</sup>  
 (all midterms are during regular class times)

Final exam: Thursday, Dec 12 3-5pm

-- no accommodations will be made for students who book travel that conflict with these dates.

## Tentative schedule

Below is a tentative schedule for topics to be covered in the course, associated chapters in your OpenStax textbook. This is subject to change; please see the course website for an updated schedule as the course proceeds.

Week	First lecture	reading	Second lecture	reading
1	1-1: Review and Units	1.1-1.7	1-2: 1D motion	3.1-3.4
2	2-1: More Motion and vectors	3.5, 2.1-2.2	2-2: Vectors	2.1-2.3
3	3-1: Projectile motion	4.1-4.3	3-2: Circular motion	4.4
4	4-1: relative motion	4.5	4-2: Forces	5.1-5.3
5	<b>Midterm 1: Tuesday Sept 24</b>		5-2: Forces, weight	5.4-5.5
6	6-1: Friction, Drag	6.2, 6.4	6-2: Newton's 3rd law	5.5, 6.1
7	7-1: Newton's laws in 2D	6.1,6.3	7-2: momentum and collisions	9.1-9.4
8	8-1: Work and kinetic Energy	7.1-7.3	8-2: Work and Power	7.3-7.4

9	9-1: Potential energy	8.1-8.5	9-2: <b>Midterm 2, Thursday Oct 24</b>	
10	10-1: Rotation	10.1-10.3	10-2: Extended objects	9.6, 10.4-10.5
11	11-1: Torque	10.6-10.8	11-1: Angular momentum	11.1-11.3
12	12-1: Equilibrium and statics	12.1-12.2	12-2: Newtonian gravity	13.1-13.5
13	13-1: Oscillations	15.1-15.6	13-2: <b>Midterm 3, Thursday Nov 21<sup>st</sup></b>	
14	Thanksgiving break			
15	15-1: Waves	16.1-16.6	15-2: Sound	17.1-17.8
16		Final exam:	<b>Thu, Dec 12, 3:00pm - 5:00pm</b>	

### **Email Policy:**

All emails sent to the instructors (Professors or TA) should be respectful and professional. They must include "Physics 215" in the subject line, and should include a salutation ("Dear Professor"), a closing ("Best" or "Sincerely") and your full name. (This is just common sense for all professional communications!)

The instructors will make an effort to respond to emails within a reasonable timeframe, usually 24 hours. However, emails that require action about events or assignments due in less than 24 hours will not receive a response.

**If you send an email about something that is specifically stated here on the syllabus, you will receive an email directing you to this paragraph of the syllabus.**

### **Disability-Related Accommodations:**

If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), <http://disabilityservices.syr.edu>, located in Room 309 of 804 University Avenue, or call (315) 443-4498, TDD: (315) 443-1371 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented Disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.

Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. My goal is to create learning environments that are useable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, I invite any student to meet with me to discuss additional strategies beyond accommodations that may be helpful to your success.

## **Academic Integrity Policy:**

For homework assignments, you can (and are encouraged to) work with other students in the class, but you cannot directly copy answers from them. If I identify homework with exactly the same answers including formatting and errors, that is a violation of academic integrity.

It is a violation of the academic code to seek or give assistance during the exams. The instructor is the only person you can communicate with during the tests. Please do not make any changes or marks to the graded exams, if you want to preserve a right to appeal grading mistakes.

Syracuse University's academic integrity policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The university policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same written work in more than one class without receiving written authorization in advance from both instructors. The presumptive penalty for a first instance of academic dishonesty by an undergraduate student is course failure, accompanied by a transcript notation indicating that the failure resulted from a violation of academic integrity policy. The presumptive penalty for a first instance of academic dishonesty by a graduate student is suspension or expulsion. SU students are required to read an online summary of the university's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. For more information and the complete policy, see the [Academic Integrity Policy](#).

## **Religious observances policy:**

SU religious observances notification and policy, found at <http://hendricks.syr.edu/spiritual-life/index.html>, recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes and by the submission deadline for flexibly formatted classes.

For fall and spring semesters, an online notification process is available for students in My Slice / StudentServices / Enrollment / MyReligiousObservances / Add a Notification.

## **Ally Statement:**

I have participated in the safer spaces training program through the LGBT center at Syracuse University. Please let me know if you use a different name than the one that shows up on my roster, and also let me know the pronouns that you use. I strive to use gender-neutral language in

the classroom (e.g. your classmate, singular they), but I have old habits and I am not always successful. Feel free to correct me if I make a mistake.

### **Physics Clinic:**

Physics Clinic is operated in room 104S of the Physics Building. Hours are posted on the door and [on-line](#). The clinic is staffed by graduate Teaching Assistants who can help you with this course. Preferably come to the clinic when one of the TAs assigned to this class holds his hours. However, this is not a requirement and you can drop in at any time for help.

### **Laboratory Course PHY221:**

You must co-register for the laboratory course PHY221 (1 credit hour) unless you passed it previously or your program does not require it. Your grade in PHY211 may be withheld if you don't co-register for the laboratory. PHY221 will provide you with hands-on experience with the physical phenomena discussed in this course (PHY211) and introduce you to the measurement process. The PHY221 course is graded separately. Prof. Sampere E-mail: [smsamper@syr.edu](mailto:smsamper@syr.edu)) is in charge of the PHY221 course.