

Course Meeting Schedule

Lecture: Tuesday, Thursday, 9:30 – 10:45 A.M.

Skirball Theatre

Instructor

Prof. Andre Adler

Office Hours: See NYU Classes

Office: Physics Department

726 Broadway, Room 832

Course Description

This course is an introduction to mechanics and sound. The course has lecture, laboratory, homework, and in-class participation components. Topics include position, velocity, acceleration, force, Newton's laws of motion, gravitation, work, energy, torque and mechanical waves. The course uses high school algebra, geometry and trigonometry, vectors, and some calculus. A calculus-based textbook is used for the course. Calculus will be present in lecture and homework, but more sparingly on exams. The algebra, vectors, geometry, and trig are absolutely essential. If some time has elapsed since your last math course, or you feel a lack of confidence in this area, you are strongly urged to study math intensively before we get too deeply into the physics course. Problem-solving in the course involves both quantitative and conceptual reasoning.

Required Materials

Textbook: *Fundamentals of Physics*, 11th edition, Halliday, Resnick and Walker, John Wiley & Sons.

The NYU Bookstore sells two items (either will do, but no need to purchase both)

- WileyPLUS with the loose leaf text: 9781119459170
- WileyPLUS Standalone: 9781119306955

In-class work: *Learning Catalytics*; go to learningcatalytics.com to purchase access.

Laboratory Experiment Descriptions can be found by going to

http://physics.nyu.edu/~physlab/Lab_Main/ and clicking on General Physics I.

3. *Laboratory Experiment Descriptions* can be found by going to http://physics.nyu.edu/~physlab/GenPhysI_PhysII/genphys1.html.

Exam Schedule, Assessment Weightings and Letter Grade

There will be three examinations during the semester and one cumulative final examination. All examinations are in multiple-choice format. Both quantitative and conceptual questions will appear on the examinations, as this reflects the content of the course. A formula sheet will be provided with the exam. You will need to bring a calculator to all exams. *Exam answer sheets must be filled out using a number 2 pencil.* Sharing calculators with other students during examinations is not allowed. You may not use a cell-phone, or any other communication device, during the exams.

Exams will be based on the homework, readings, and lectures. The best way to prepare for the exams is to review the WileyPlus assignments, Learning Catalytics class sessions, assigned readings, and Orion Adaptive Practice.

Assessment	Percentage	# Dropped
<i>Reading assignments (WileyPlus)</i>	8%	1 Lowest
<i>Learning Catalytics</i>	4%	6 Lowest
<i>Homework assignments – (WileyPlus)</i>	8%	1 Lowest
Lab	20%	1 Lowest
Exam 1: September 27, 2:00 – 3:50 pm	10%	
Exam 2: October 25, 2:00 – 3:50 pm	10%	No Exams Dropped
Exam 3: November 22, 2:00 – 3:50 pm	10%	
Final Exam (Cumulative)	30%	

No alternative examination dates (i.e. no make-up dates) will be offered.

Exam Replacement Policy The grade on the final exam will replace the lowest of the three scores earned on earlier exams, provided that your final exam score is higher (on a percentage basis). This policy only applies to exams taken, not missed exams.

Your total numerical score, calculated from the components listed above, correspond to the following letter grades:

If your total percent score is at least:	90	86	82	72	67	62	50	47	42	40	> 40
then you will receive a grade no lower than:	A	A-	B+	B	B-	C+	C	C-	D+	D	F

Note the following policies:

- There are no curves in this course. The scale is fixed.
- Lab grades will not be altered to fit a common average or standard deviation.
- Scores will be rounded at the end of the semester.

Laboratory Sessions

Laboratory sessions meet weekly in rooms 222 or 224 of Meyer Hall, located at 4 Washington Place. The list of experiments is on the last page. The laboratory grade will be based on an average over all labs, but the lowest lab grade will be dropped before the average is calculated.

Lab experiment descriptions must be read before attending each experiment. It is important to bring a calculator and your laboratory experiment description to the laboratory sessions. Your laboratory instructor will provide more information regarding the policy for handing in lab reports.

Make Up Laboratory Week

The week of October 21, is provided to give students with an excused absence (illness supported by documentation from health provider or religious observance) from one of the first 5 experiments, to make it up. Hence, no students will be excused from any of the first 5 experiments performed for the course.

Rather, students who missed one of the first 5 experiments of the course, and have medical documentation to explain their absence or missed due to a religious observance, are required to make-up the experiment the week of October 22.

Students who miss any experiment without a doctor's note or any reason deemed unacceptable, will receive a zero and not be permitted to make up the lab, due to space constraints.

Space for making up a lab is limited: each of the first 5 experiments will have the necessary equipment set up on two laboratory tables. For this reason, we cannot open up make-up laboratory week to all students who missed one of these experiments.

If you did not miss one of the first 5 labs, then you do not have to attend lab during make-up laboratory week.

WileyPlus Assignments

Each chapter has two assignments associated with it: a reading assignment and a homework assignment (meant to be done after the reading assignment). Access them by clicking on Assignment.

1. Reading Assignments – these are chosen to assess your reading of the text. The ideal situation is to do these assignments before lectures on the selected assignment.
2. Homework Assignments – these are mostly quantitative problems; are meant to be attempted after completing the reading assignment.
3. Orion Adaptive Practice – recommended, not required.

WileyPlus Resources

In our class WileyPlus course site, you will see this menu near the top of your screen:



1. Read, Study and Practice – going to this area of the WileyPlus site reveals access to the complete online version of the textbook and a variety of resources you can use. These include:
 - Orion (you can also select Orion in the main menu, shown above)
 - Simulations
 - Video Sample Problems
 - Animated Illustrations
 - Math Help Videos
 - Video Mini Lectures
 - Additional Sample Problems
 - Video Illustrations
 - Students Solutions Manual
 - MCAT Assignments.
2. Orion Adaptive Practice – an assessment of your proficiency at mastering course material; there is an Orion set of questions for each chapter. Beyond the homework and reading questions, Orion questions are a good source of material you can access to practice for course examinations.

Policies

A. Learning Catalytics Policies

1. The lowest 6 Learning Catalytics scores are dropped.
2. Policy 1 is in lieu of requests to be excused due to illness, wi-fi issues, travel issues, or any other reason that prevents you from participating.
3. Questions are scored both on participation (75%), and on correctness (25%).
4. Questions are chosen under the assumption you have read the assigned sections before attending class.

B. WileyPlus Policies

1. Grading Policy - see on WileyPlus for details.

C. Laboratory Policies

1. To get a grade, a lab report must be submitted. It's not enough to just do the experiment.
2. A lab report cannot be submitted for an experiment if you were absent from the lab session; in other words, you cannot take someone else's data and submit a lab report for an experiment you never did.
3. Any lab missed without a doctor's note or prior arrangement with the instructor counts as a zero.
4. You may not attend a laboratory section you are not registered for.
5. If you miss more than two lab experiments or fail to hand in more than two reports, your grade for the course will be an F or an I (assuming you are passing the other components of the course and that you provide medical documentation to explain your absence). To make up the lab requirement, you will have to complete the entire set of labs, not just the ones you missed. This can be done the next time the course is offered, space permitting.

D. Missed Midterm Exam Policy

1. If you are excused from one of the midterm exams, due to a documented medical or other reason, the other two exams and the final exam will count for more, and a letter grade assigned at the end of the semester. An incomplete will not be assigned. There are no make-up exams.
2. If you are ill and cannot appear, you must produce verifiable documentation from a physician, with physician's letterhead, that explaining that you were too ill to attend the examination. This note should be given to the professor **in person, not via email**.
3. Students who are absent from a test without documentation will receive a grade of zero on that test.
4. The exam replacement policy still applies for students who miss an exam and provide appropriate medical documentation.
5. Missing more than one of the midterm exams and have medical documentation then the contributions to your grade from the missed exams is added to the final exam, making it worth 50%. An incomplete will not be assigned.

E. Missed Final Exam Policy

1. If you miss the final exam due to illness and you provide acceptable documentation, your grade will be an incomplete (I).
2. You are then required to take the final examination the next time the course is given, on the date and at the time assigned for that semester.

3. If you miss an exam due to medical reasons, give your medical documentation to the professor in person. **Please do not send it to the professor via email. It will not get you excused from the exam.**

Optional Help

1. *Free physics review sessions by upper-level undergraduate physics majors* in the Physics Department, 726 Broadway. The sessions run Monday through Friday, at many different times during the day. Sessions begin the second week of class and a schedule will be posted to NYU Classes the first week of classes. The physics majors will be able to help you with the course concepts, readings and problems. This is a great place to go for help. You can go to as many sessions as you wish. Ideally, you should go on a weekly basis and prepare questions in advance.

2. *Free peer tutoring, Study Slams, group reviews, workshops, and more!!*

University Learning Center

www.nyu.edu/ulc

ULC@Academic Resource Center, 18 Washington Place, Lower Level

ULC@UHall, 110 East 14th Street, top of stairs by UHall Commons

Achieve Excellence!

Schedule of Class Topics

<i>Date</i>	<i>Lecture Topic</i>	<i>Ch.</i>	<i>Weekly Laboratory</i>
T Sep 3	Motion Along a Straight Line	2	No labs first week of class
R Sep 5	Motion Along a Straight Line	2	
T Sep 10	Vectors	3	1. Motion 1
R Sep 12	Motion in Two and Three Dimensions	4	
T Sep 17	Motion in Two and Three Dimensions	4	2. Motion 2
R Sep 19	Force and Motion - I	5	
T Sep 24	Force and Motion – I	5	3. Equilibrium of a Particle
R Sep 26	Force and Motion - II	6	
T Oct 1	Force and Motion - II	6	4. Newton's Second Law
R Oct 3	Kinetic Energy and Work	7	
T Oct 8	Kinetic Energy and Work	7	5. Work-Energy
R Oct 10	Potential Energy and Conservation of Energy	8	
T Oct 15	Legislative Day – Classes will meet according to a Monday schedule.		No Labs (all week)
R Oct 17	Potential Energy and Conservation of Energy	8	
T Oct 22	Center of Mass and Linear Momentum	9	Make Up Lab Week
R Oct 24	Center of Mass and Linear Momentum	9	
T Oct 29	Rotation	10	6. Conservation of Energy
R Oct 31	Rotation	10	
T Nov 5	Torque and Angular Momentum	11	7. Collisions in One Dimension
R Nov 7	Torque and Angular Momentum	11	
T Nov 12	Equilibrium and Elasticity	12	8. Ballistic Pendulum
R Nov 14	Gravitation	13	
T Nov 19	Gravitation	13	No Labs (all week)
R Nov 21	Fluids	14	
T Nov 26	Fluids	14	9. Centripetal Force
R Nov 28	No Class – Thanksgiving Recess		
T Dec 3	Oscillations	15	10. The Human Arm
R Dec 5	Oscillations	15	
T Dec 10	Waves – I	16	11. Oscillations of a String
R Dec 12	Waves – I	16	