Physics110

Algebra-based Introductory Physics I - Syllabus

Course Information
Physics 110, Section 02: 3 hours lecture, 2 hours lab and 1 hour recitation, 4.5 Credits
In Person, Web-Enhanced
Tuesday 7 PM -8:15 PM, Thursday 7 PM - 8:15 PM and 8:30 PM - 9:15 PM
Hunter North Room 510
Additional information on Blackboard.

Contact Information
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Course Materials
Required texts: Physics: Principles with Applications 7th Edition, Douglas C. Giancoli, **ISBN-13:** 978-0321625922
Required manual: Physics Lab Manual, Department of Physics and Astronomy
Lecture notes: PDF format on Blackboard
Instructional technologies: Blackboard, Weekly homework assignments via MasteringPhysics
Materials on reserve in the library: Principles with Applications 7th Edition, Douglas C. Giancoli.

Course Description
Physics 110 is the first semester of a two semester introductory physics course without calculus and this course is appropriate for pre-professional students (pre-med, physical therapy etc) and some majors (Biology, Chemistry, etc.) Kinematics, dynamics, Newton's laws of motion and gravitation, momentum and energy conservation, rotational motion, circular motion, vibrational motion, the laws of thermodynamics, and kinetic theory of matter will be covered.
Pre-requisites: MATH 12400, or 12500, or 12550, or 15000, or 15500. Algebra, geometry, and trigonometry are prerequisites of PHY 110. Students with a poor mathematical background (especially algebra and geometry) do NOT do well in this course. If you do not have the necessary mathematics background, it is recommended so obtain it before proceeding with PHYS110.
Teaching philosophy & approach: Fundamental physical principles are introduced and the concepts are further developed and reinforced through examples, applications and problem solving.

Learning Outcomes:

- Learn the fundamental laws of physics pertaining to mechanics, fluids, vibrations and waves, and heat.
- Apply these laws to various physical systems via problem solving.
- Perform experiments, collaborate with a lab partner, collect data, error/statistical analysis of data, write a lab report.
- Develop the skill of casting word problems into mathematically and solve them.

Grading Method & Scale
There are three midterms with the lowest midterm dropped, and a final exam. The grading is bellow.

Highest midterm of 1, 2 and 3	25%
Second highest midterm of 1, 2 and 3	15%
Online homework (Best 10 of 12 homework set)	10%
Lab: Mandatory (Cannot get a grade for the course without it)	15%
Comprehensive Final exam is mandatory (Cannot get a grade for the course without it)	35%
Total	100%

The exam questions are multiple choice types!

Homework

- 12 Home works assigned 10 best will be counted to your homework grade.
- The Home work sets have a due date! Make sure you complete the homework before the due date.
- Late Work Grade will be decreased by 20% for each day late (after 5 days it goes down to zero.)

Laboratories

1.The lab is 15% of the total grade. The lab grade will be based on the average of 10 best lab reports. If a student completes less than 10 experiments, the missing scores are counted as zero in the average.
2.If a student is repeating the course and has completed the lab in a preceding semester, it is not necessary to repeat the lab: the lab average from the preceding semester will be used in determining the course grade.

Attendance

In addition to the lecture important information regarding exams, quizzes, homework etc is communicated during class.

Credit/No Credit Grading Option

You may choose to be graded in this course on a Credit/No Credit basis. Before selecting this option, check with your departmental adviser and be aware that many colleges, professional schools, and employers may

look with disfavor on Credit/No Credit grades and may even convert Credit to C and No Credit to F for their purposes, as described in the Hunter Catalog.

Course Calendar & Content

Week	Chapter	Sections omitted	Homework
1	2: Kinematics in 1-D	2-8	8, 11, 16, 19, 21, 30, 31, 32, 36, 46, 48, 53,
2	3: Kinematics in 2-D, Vectors	3-7	5, 9, 10, 12, 13, 21, 23, 31, 32, 36, 48, 56, 5
3	4: Dynamics: Newton's Laws		7, 9, 11, 16, 23, 24, 27, 34, 42, 47, 50, 65,
		Midterm Exam I Chapters 2, 3 and 4	
4	5: Circular Motion	5-4	7, 8, 9, 12, 15, 17, 22, 31, 32, 50, 52, 56, 68
5	6: Work and Energy		19, 22, 24, 25, 29, 39, 40, 41, 44, 48, 69, 90
6	7: Linear Momentum	7.7, 7.8-7.10	10, 11, 18, 21, 29, 31, 35, 39, 42, 52, 77, 78
		Midterm Exam II Chapters 5, 6 and 7	

7	8: Rotational Motion	8.9	14, 20, 22, 23, 27, 29, 35, 39, 46 58, 69, 72
8	9: Static Equilibrium	9.4-9.7	1, 12, 13, 14, 18, 19, 27, 29, 30
9	10: Fluids	10.11-10.14	13, 14, 18, 25, 26, 35, 40, 50
		Midterm Exam II Chapters 8, 9 and 10	
10	11:Oscillations and Waves	11.5 - 11.6, 11.13 - 11.15	5, 8, 20, 22, 23, 25, 30, 40, 42, 52, 55
11	13: Temperature and kinetic theory	13.10 -13.13	2, 7, 17, 20, 25, 27, 31, 37, 53, 54
12	14: Heat		2, 6, 12, 13, 14, 17, 28, 30, 34, 38, 47
13	15: Thermodynamics	15.3, 15.6 - 15.9 - 15.11	1, 4, 6, 7, 8, 10, 13, 25, 30, 39, 41
		Cumulative Final Exam	

Hunter College Policy on Academic Integrity

"Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures."

ADA Policy (AccessABILITY)

"In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212) 772- 4857 or (212) 650-3230."

Hunter College Policy on Sexual Misconduct

"In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.
a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).
b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link: http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf

Syllabus Change Policy

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. Students are expected to find out about changes to the syllabus via Blackboard, class attendance or email.