

Preparatory Physics Spring 2016

Section	PHYSD050.62 CRN: 22424
Instructor	Dr. Patrick Huet
Email	huetpatrick@fhda.edu
Office	S13
Office Hours	Wed. 4:30-5:30 PM
Lecture Hours	Mon & Wed, 5:30-7:20 PM
Lecture Room	S35
Textbook	James S. Walker, "Physics", 4th edition, Vol. 1, Addison-Wesley
Prerequisites	Advisory: MATH 43 and PHYS 10
Final Exam Date	Monday, December 12, 6:15-8:15 PM
Course Website:	Masteringphysics.com, courseID: MPHUET56898

Course Description:

This is an algebra-based course in Classical Mechanics.

Classical Mechanics addresses the most fundamental aspects of physical systems, namely, how physical systems are described in terms of space and time and how they respond to external influences.

The main objective of the course is for the student to develop a thorough understanding of the principles of Classical Mechanics and techniques to apply them to describe the world around us. To acquire such mastery is core to those who want to pursue a career in science or engineering or who simply wish to explore the most salient aspects of nature.

The foundation laws of Classical Mechanics were established 300 years ago and are Newton's Laws of Motion. Thus, we can equivalently state that the main objective is for the student to learn and understand Newton's Laws of Motion from a conceptual and practical viewpoint. This course will also help you develop the problem solving skills as a preparation for Physics 4A.

A tentative schedule with an outline of the topic covered each week is appended at the end of this syllabus.

Textbook and additional reading:

Our official textbook is *Physics* 4th edition, Vol. 1, by James S. Walker. Supplemental and optional reading material will be posted on the course website as the course progresses. The course website is masteringphysics.com and will also be used for homework, announcements and other documents sharing. A one-time registration is required (\$68.95). An access code can be purchased during online registration. It is noted that an online version of the textbook can be purchased with the access code registration time for a bundle price (\$115.95). This might be worthwhile if you prefer an etext version over a paper version of the textbook. Note also that your already purchased paper textbook may come with a prepaid access code.

Student Learning Outcomes:

Critically examine new, previously un-encountered problems, analyzing and evaluating their constituent parts, to construct and explain a logical solution utilizing, and based upon, the fundamental laws of mechanics.

Readings and Class Participation:

You are expected to be in class at the beginning of each lecture for the duration of the quarter. Attendance will be collected at the beginning of each lecture. If you miss three or more lectures, you will be dropped from the course. This course includes class discussions and collaborative activities. Lectures may provide supplemental information not found in the textbook that is critical for quizzes and exams. Part of your final grade will depend on your contributions in class. Make sure you do the assigned reading prior to the class, so that you are prepared to answer questions and participate effectively.

Homework and Quizzes:

Homework problems are assigned weekly from each chapter of the textbook and are completed online on masteringphysics.com. Grading is done automatically - Remember that you need to create an account to access this website. Once logged on, your calendar will show you the homework assignment as well as its due date. For material that depart from the textbook, additional assignments may be provided in the form of reading of science articles and question/problem sets or essay questions.

There will be a quiz on some Wednesdays the last 20 min. of the class. The questions on the quizzes will test your knowledge of the recent weeks' homework problems, lecture material, and textbook reading assignment. Therefore, it is to your advantage to attend every lecture and have **ALL** the homework completed timely. The quiz format may be work-out problems, multiple-choice, conceptual, or a combination of the three. The lowest quiz score will be replaced by the average of quiz scores. **NO MAKE-UP QUIZZES!** There will not be make-up quizzes. If you miss a quiz and you are not excused, then your score is a zero; if it is excused then the missed quiz grade will be the average of your other quiz grades. The lowest of your quiz grades will be given half the weight as the others.

Exams:

There will be two midterm exams set in class time (50 minutes) and a comprehensive final exam at the end of the course (see tentative schedule below.) Both will count toward your final score, and there will be no make-up tests. In order to do well on the exams, attend all classes, read the textbook, review the quizzes, and do the homework problems. To get credit for the answer on an exam, you must make it clear that you understand the reasoning that got you to the answer.

The lowest of your 2 midterms grades will be given 1/2 of the weight of the other midterm when calculating your midterm average.

Grading Policy:

A+	97-99%
A	93-96%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	65-76%
D	55-64%
F	0-54%

Class Participation & Attendance	6%
Homework	8%
Quizzes	16%
Midterm I	20%
Midterm II	20%
Final Exam	30%

Grading of homework, quizzes, presentation, and exams will emphasize conceptual understanding and critical thinking. Outstanding students' participation contributes to the final grade and is a critical factor in rounding off to the final grade (Extra credits). The calculated percentage will be rounded to the nearest whole number. The grading scale shown above is firm. Although unlikely, all tests and assignments may be curved, slightly. Being close to a grade does not entitle a student to that grade (89.4% is a "B+", 89.5 % is an A-).

Academic Integrity:

Students must adhere to the general principles of academic integrity. Plagiarism or other form of violation of academic integrity may result in a failed grade.

Disability Support Services:

Let your instructor know if you need any support in that regard.

Tentative Schedule:

PHYSD050.62 CRN: 22424 - FALL 2016 CALENDAR (12 Weeks)					
	M Date	MONDAY 5:30-7:20	WEDNESDAY 5:30-7:20		
1	26-Sep	26 CH 1: Introduction to Physics	28 Ch 1: Measurements, Significant figures, Estimation		
2	3-Oct	3 Ch 2: Kinematics Ch 3: Vectors in Physics	5 Ch 2: Kinematics in 1-D	8 Last date to ADD	9 Last date to DROP
3	10-Oct	10 Ch 2: Kinematics in 1-D	12 Ch 4: Kinematics in 2-D and 3-D		
4	17-Oct	17 REVIEW (6 lectures, 3 Quizzes)	19 FIRST MIDTERM		
5	24-Oct	24 Ch 5: Laws of Newton	26 Ch 5: Laws of Newton		
6	31-Oct	31 Ch 6: Applications of Newton's Laws	2 Ch 6: Applications of Newton's Laws		
7	7-Nov	7 Ch 6: Circular Motion	9 Ch 12: Gravity		
8	14-Nov	14 REVIEW (6 lectures, 3 Quizzes)	16 SECOND MIDTERM	18 Last date to W	
9	21-Nov	21 Ch 7: Work and Kinetic Energy	23 Ch 7: Work and Kinetic Energy		
10	28-Nov	28 Ch 8: Potential Energy and Conservation of Energy	30 Ch 8: Potential Energy and Conservation of Energy		
11	5-Dec	Ch 9: Linear Momentum and Center of Mass (Open Topic)	7 GENERAL REVIEW (5 lectures, 2 Quizzes)		
12	12-Dec	12 FINAL EXAM (6:15-8:15 p.m.)	14 No class	16 Class End	