College Physics I (PHY2053)
Fall 2022

Lecture: MWF 2:30–3:20pm
Instructor: Dr. Patricia Stampe
Email: Patricia.Stampe@famu.edu
Office Hours: TBA
Virtual Office Hours Zoom ID:

Course Description and Expectations:

This course will cover kinematics, dynamics and thermodynamics. We will cover Chapters 1-17 of the Openstax textbook. The pace will be approximately one chapter per week, with a homework assignment on that chapter due the Tuesday of the following week.

This course will be run in a "flipped classroom" format. This means that students will be expected to complete online activities such as watching video lectures each day before the material is covered in class. Students also will find it greatly to their benefit to read the book before coming to class. The class period will typically consist of a brief Zoom lecture followed by active learning both individually and in groups to assist the students in gaining a better understanding of the course material. In addition, solved long answer problems with video explanations are available for each module, and are posted on Canvas.

Students are expected to attend every class meeting and should put in at least 3 hours studying outside of class for every hour in lecture. We all know that great athletes did not become great by magic overnight: they spend a lot of time practicing. The same thing is true for physics. LEARNING PHYSICS REQUIRES WORKING LOTS OF PROBLEMS.

Proper classroom behavior is expected, as disturbing the class will affect how you and other students learn. A netiquette guide outlining expectations for your behavior is included in the Course Overview section on Canvas.

Required Textbook;

- **Free online textbook**: http://openstaxcollege.org/textbooks/college-physics
  This book comes with a free student solutions manual. **Get it, it's all FREE!!**

Course Web site: http://famu.instructure.com Syllabus, lectures, Review Material, links

Online Homework: Pearson My-Lab and Mastering: **Register via Canvas or code available for purchase in FAMU bookstore.**

Technology Requirements: To view the online lectures, you will need to use Firefox browser on a laptop or desktop computer, not your phone. Some other free apps are required for this course, and are listed on the course Canvas site.

No extra credit will be given in this course as there are many opportunities of earning a good grade by class room effort.

Academic Learning Compact: www.famu.edu/DepartmentofPhysics/UserFiles/File/physics.pdf

Policy Statement on Non-Discrimination
It is the policy of Florida Agricultural and Mechanical University to assure that each member of the University community be permitted to work or attend classes in an environment free from any form of discrimination including race, religion, color, age, disability, sex, marital status, national origin, veteran status and sexual harassment as prohibited by state and federal statutes. This shall include applicants for admission to the University and employment.

Academic Honor Policy
The University 's Academic Honor Policy is located in the FANG Student Handbook, under the Student Code of Conduct-Regulation 2.012 section, beginning on page 55-56.

Students who are found to have cheated by copying, plagiarizing, or utilizing unauthorized sources or external help in any manner in completing any assignments or examinations for this course will receive a grade of zero on that assignment or exam. A second offense will result in a grade of "F" for the entire course.

ADA Compliance
To comply with the provisions of the Americans with Disabilities Act(ADA), please advise instructor of accommodations required to ensure participation in this course. Documentation of disability is required and should be submitted to the Center for Disability Access and Resources (CEDAR). For additional information please contact CEDAR at: cedar@famu.edu.

LEARNING OUTCOMES: After completion of this course…

Student Learning Outcome	**Bloom's Taxonomy**
1. Students will be able to discover relationships between the fundamental concepts of kinematics, dynamics, rotational motion, waves and thermodynamics and use these relationships to predict the behavior of a physical system.	Create/evaluate
2. Students will be able to apply trigonometry and algebra to solve physics problems involving mechanics, waves, and thermodynamics.	Analyze
3. Students will develop competency in problem solving techniques for application to a variety of fundamental physics problems.	create/evaluate
4. Students will deduce which tools available to them provide a framework for understanding a problem involving fundamental processes in dynamics, rotational motion, wave phenomena, and thermodynamics.	analyze/evaluate

Course Evaluation and Policies:

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Active Learning Assignments: (20%) These grades will be based on a mixture of online lectures and activities and in-class individual clicker problems and group exercises. These lectures are posted on the course Canvas site, and consist of a mix of video lectures and demonstrations, online interactive animations and quizzes. Students will receive a grade for each lecture based on their

performance on the embedded quizzes. After the due date, the lectures will still be accessible for review purposes, with solutions to the quiz questions. **I strongly suggest using the free Firefox browser to watch the lectures. Google Chrome and Safari often lose contact with the Canvas server, and your grade may not be recorded properly. Take a screenshot of the final slide with your score, so that you have it as a backup.**

To access the course materials, go to the main menu in Canvas and click on "Learning Modules". The material for the course is divided into one Modules for each chapter. Click on the appropriate Module, and you will see a list of material for that chapter, including required reading, the link to the homework assignment and additional solved practice problems. The additional problems are posted in three forms: 1) the problems alone for you to try by yourself, 2) my worked solutions to each problem in written form and 3) a video of me solving the problems, which goes through step by step explaining the process. In addition, a group of suggested end of chapter textbook problems and their solutions are available. After the online lecture due date, a review version of the lecture will appear with free navigation and solutions to the problems, so that you can review anything that gave you problems.

Each class's activities will be laid out in a Before Class/During Class/After Class arrangement in each module, so that you can see what you are expected to do before, during and after class each day. Typically there will be some form of points assigned to all these activities. This is not to punish you by assigning extra work, but to try to help you work with the material to get an early recognition of areas with which you need assistance. You will also benefit from this, as the active learning points offset the importance of the exams to your final grade.

Testing: (65%) Mid-terms (2 highest scores counted) (40%)
1 Comprehensive Final Exam (25%)

Tests will be given every four chapters. Only the top two scores will be counted. This means that there will be **NO** make-up tests under any conditions. Tests will be given online during the scheduled class period. If you are late for the test you will not be given any additional time. **Any indication of cheating will result in a score of zero for that test, and will be reported to Judicial Affairs.**

Homework: Weekly Online Homework (15%)
Homework will be assigned for each chapter (approximately weekly) and due the following week, on the Tuesday evening. Homework will be submitted via a web-based system. Homework is due at midnight Eastern Time on the due date shown below. See below for the details on how to access the system for homework submission.

This course makes use of the Mastering Physics homework service. It will require a $35 charge per student for its use. Mastering Physics can be accessed directly from the Canvas site for this course by clicking on "My Lab and Mastering" in the left hand menu, or simply by clicking on the first homework link. **There is a free two week sign up period of which I strongly encourage you to take advantage.**

You will see two optional assignments posted at the beginning of the term. These do not count for credit, but are for your own personal benefit. “Introduction to Mastering Physics” is a tutorial guide to how to answer questions in the correct format. “Mathematics Review” is a selection of tutorial problems to review some of the common math techniques we will need for the course.

After you complete the homework, an "Adaptive Follow-up" Assignment will pop up. This assignment is especially prepared for you by Mastering, based on topics it thinks you need extra help

with. If you scored 95% or higher on the homework, you will "exempt out" of the Adaptive Follow-up assignments. No points are taken off if you don't do these extra assignments, but they count for one point of extra credit toward your homework score, which can always come in handy. If you exempted out of the Adaptive Follow-up, the system will automatically give you the one point.

Be sure to start working on your homework as early as possible, not just in the last two hours before it is due. This will give you time to contact me for help, and will avoid last minute internet problems. Since the homework is available for over a week, last minute internet problems will not suffice for an excuse. If you have problems with the homework either talk to me after class or come to my office hours in person or on Zoom. I am only too happy to help you. There are also free Physics tutors available in The Science Center in Jones Hall Room 214 and online. Free online tutoring via Tutor.com is also available in the Canvas course menu.

Tentative Test Schedule: Term tests are during class times on Wednesdays. Any date changes will be announced in class.

Test 1 (Chapters 1-4) TBA
Test 2 (Chapters 5-8) TBA
Test 3 (Chapters 9-12) TBA
Final Exam (cumulative): TBA

Tentative Schedule: Dates may change due to unforeseen circumstances.

All deadlines are Midnight Eastern Time. The HW assignments are due weekly on Tuesdays.

Dates	Chapter
Week 1	1: Introduction
Week 2	2: Describing Motion: Kinematics in 1 Dimension
Week 3	3: Kinematics in Two Dimensions, Vectors
Week 4	4: Motion and Force; Dynamics
Week 5	5: Circular Motion; Gravitation
Week 6	6: Work and Energy
Week 7	7: Linear Momentum
Week 8	8: Rotational Motion
Week 9	9: Bodies in Equilibrium
Week 10	10: Fluids
Week 11	11: Vibrations and Waves
Week 12	12: Sound
Week 13	13: Temperature and Kinetic Theory
Week 13/14	14: Heat
Week 14	15: Thermodynamics