

**PHY125: Classical Physics A (3 credits)**

**Fall 2023**

**PHY125** is the first course of a three-part sequence on calculus-based physics intended for physical-sciences or engineering majors. PHY125 focuses on the mechanics of point particles and simple oscillators, and emphasizes motion in one and two dimensions and the concepts of momentum and energy. Formal in-person instruction consists of three lecture hours and one recitation hour per week. Calculus is used concurrently with its development in MAT 125. The other two courses in the sequence are PHY126 and PHY127, which, together, cover fluids, waves and thermodynamics, electricity, magnetism, and optics.

- Objectives** At the end of PHY125, the students will
- understand the main ideas and physics laws in Mechanics as evidenced by their answers to conceptual questions often related to real-world situations;
  - solve complex and diverse Mechanics problems by:
    - recognizing the physical laws relevant to the problem,
    - applying the relevant laws to the problem,
    - using mathematical and computational techniques including Calculus, and
    - evaluating the limitations of their solutions.

**Instructor** Prof. Emilio Mendez  
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**Textbook** Physics for Scientists & Engineers, 5<sup>th</sup> edition  
Douglas C. Giancoli, Pearson Prentice Hall  
PHY125 will cover chapters 1 to 12  
The book can be purchased together with the Student Access Code for logging on to MasteringPhysics, where students will complete homework assignments.

**Lectures** Mon., Wed., Fri. 8 am – 8:55 am Mendez Melville Lib E4320  
First day of class: August 28  
Last day of class: December 11  
No classes on September 4 (Labor Day);  
October 9, 10 (Fall Break);  
November 22, 24 (Thanksgiving Break).

**Recitations** Rec. 01: Mon. 11:00 am - 11:53 am Mendez Social/Behav N436  
Rec. 02: Tue. 4:00 pm - 4:55 pm Mendez Melville Lib W4530  
Start the week of September 4

**Office Hours** Monday and Friday: 9:15 am to 10:45 am Physics B142

- Equipment & Software** Internet-connected computer/laptop for homework  
 Pearson's Mastering Physics license for weekly homework
- Brightspace** Used for course announcements, distribution of lecture material, and weekly homework assignments
- Homework** Weekly problem assignments from Pearson's MasteringPhysics (via Brightspace)
- Evaluations** Weekly quizzes during recitation hours.  
 Two mid-term exams during lecture time (on or around 10/6 and 11/10)  
 Final exam on 12/20, from 8 am to 10:45 am

- Grades** **Course Numerical Grade**  
 10% Homework; 15% Quizzes  
 40% Midterm Exams (20% each); 35% Final Exam  
 5% Dynamic Study Modules (extra credit)

**Course Letter Grade**

- $100 \geq A \geq 90$     $89 \geq A^- \geq 85$   
 $84 \geq B^+ \geq 80$     $79 \geq B \geq 75$     $74 \geq B^- \geq 70$   
 $69 \geq C^+ \geq 65$     $64 \geq C \geq 55$     $54 \geq C^- \geq 50$   
 $49 \geq D \geq 45$     $44 \geq F \geq 0$

**NOTE: Exams and assignments will NOT be graded on a curve. The final letter grade will be determined by individual performance only (as per the table above), not by a class curve.**

- Study Tips** (Adapted from Giancoli, *How to Study*)  
 Before class, read textbook sections to be covered in class; get familiar with vocabulary and notation. Do extra-credit Dynamic Study Module.  
 Attend all classes, both lectures and recitations. Participate in class discussions and exercises.  
 After class, read textbook material covered in class, paying attention to main concepts, details and worked-out examples. Do homework problems corresponding to material covered that day in class.

**Academic Integrity**

Each student is accountable for all submitted work. Representing another person's work as your own is wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic integrity website at [http://www.stonybrook.edu/commcms/academic\\_integrity/index.html](http://www.stonybrook.edu/commcms/academic_integrity/index.html) .

### **Americans with Disabilities Act**

If you have a physical, psychiatric/emotional, medical or learning disability that may impact on your ability to carry out assigned course work, you should contact the staff in the Disability Support Services office [DSS], ECC (Educational Communications Center) Building, Room 128, (631)632- 6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

<https://web.stonybrook.edu/newfaculty/StudentResources/Pages/DisabilitySupportServices.aspx>

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the website

<http://www.sunysb.edu/ehs/fire/disabilities.shtml> .

### **Critical Incident Management**

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn.

Until/unless the latest COVID guidance is explicitly amended by SBU, during Fall 2021 "disruptive behavior" will include refusal to wear a mask during classes. For the latest COVID guidance, please refer to: <https://www.stonybrook.edu/commcms/strongertogether/latest.php>

### **Religious Observances**

The academic calendar has no religious holidays. See the List of Religious and Other Holidays and other relevant links at

[http://www.stonybrook.edu/commcms/provost/faculty/handbook/employment/list\\_of\\_religious\\_and\\_university\\_holidays#view-s2018](http://www.stonybrook.edu/commcms/provost/faculty/handbook/employment/list_of_religious_and_university_holidays#view-s2018)

Students will be expected to notify the lecture- and/or recitation-instructor(s) by email, in advance, of their intention to be absent for any religious observance during the Fall 2020 semester. They can discuss with their instructor(s) before then how they will be able to secure the work covered.