PHY 303/573: Mechanics
Spring 2026 Syllabus

Instructor: Jennifer Cano

1 Instructor and TAs

Instructor: Jennifer Cano
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Office hours: Mon 12:30-1:30pm, Tues 2-3pm.

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2 Lectures

Lectures will be held in-person Mondays and Wednesdays from 11-12:20 in Frey 301.

3 Blackboard

The course administration will be done mainly via Brightspace, i.e., homework assignments will be posted and submitted on Brightspace, grades will be posted on Brightspace, and course announcements will be posted on Brightspace.

4 Course description

PHY 303/573 is a rigorous introduction to classical mechanics, from the Newtonian to the Lagrangian and Hamiltonian formulations. It requires students to have a working command of algebra and calculus. You should expect to spend a significant amount of time reading the textbook and solving the homework problems.

Prerequisites: PHY 251 and PHY 277; MAT 303 or MAT 305 or AMS 361 or MAT 308.

5 Textbook and topics

The primary textbook for the class is "Introduction to Classical Mechanics" by David Morin. This book has many problems with worked solutions. We will work out some of those problems in class. You are encouraged to review the others on your own – try it first without looking at the solution! Problem-solving will be imperative for success in this class.

There are many other references in print and online. You may find it useful to consult other textbooks for complementary perspectives.

6 Homework and grading

Homework will be assigned and submitted weekly on Brightspace. The homework may be challenging. You should expect to spend several days studying the theory and working on the problems.

Homework submission deadlines will be strict. However, to accommodate for unforeseen events, the lowest homework score will be dropped from the final grade calculation. Discussing the homework with your classmates is encouraged, but your submissions must be entirely your own work. For full credit, show the details of the derivations, not just the end results. Copying blocks of text or equations from online sources or from others is prohibited.

There will be two midterms. The final exam will take place during the assigned final exam period. The intended grading scheme is as follows: homework 20%, midterms 25% each, final 30%.

Letter grades for the course will be assigned on a curve, which will be determined at the end of the semester.

7 University Policies

Student Accessibility Support Center (SASC) Statement: If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to the following website: `https://ehs.stonybrook.edu//programs/fire-safety/emergency-evacuation/evacuation-guide-disabilities` and search Fire Safety and Evacuation and Disabilities.

Academic Integrity Statement: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Professions, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at `http://www.stonybrook.edu/commcms/academic_integrity/index.html`.

Critical Incident Management Statement: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of

Student Conduct and Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.