

Department of Physics and Astronomy

Syllabus for PHY 252 Modern Physics Laboratory I, Sections L01-04

Fall 2025

Course Description: PHY 252: Modern Physics Laboratory
Students perform some of the pivotal experiments of the 20th century.
It is recommended that students take the lecture component, PHY 251,
concurrently.
Two hours of laboratory per week. This course has an associated fee. Please see
www.stonybrook.edu/coursefees for more information.

Pre or corequisite: *Pre- or Corequisite:* PHY 251

Credits: 1 credit

Student Learning Objectives:
Students will learn to perform experiments, analyze data, evaluate
experimental uncertainties and engage in scientific writing in various aspects of
modern physics.

Stony Brook Curriculum Learning Objectives:
Associated with a lecture course which has the objective STEM+

Course Meeting Time: Various. See PHY 252 Website
<http://phylabs1.physics.sunysb.edu/introlabs/Fall2025/PHY252.html>

Course Instructor: Richard S. Lefferts
Contact: richard.lefferts@stonybrook.edu
Office: A-112 of Physics Building
Office Hours: TBD in Physics Help Room, Online Meeting or by Appointment

Lab Section Instructors: Teaching assistants, most often graduate students in Physics and Astronomy
For a list with contact information, See course website at
<http://phylabs1.physics.sunysb.edu/introlabs/Fall2025/PHY252.html>

Required Textbooks and Materials:
ALL course materials are available online at
<http://phylabs1.physics.sunysb.edu/introlabs/Fall2025/PHY252.html>

Recommended Readings:
Students will be doing experiments related to topics in PHY 251. Textbooks and
lecture notes from that course will provide important background material.



Course Structure: Students will attend class once per week for the duration of the semester. Attendance is required; accommodations will be made for excused absences only. Students will work with a partner to perform an experiment involving concepts of modern physics. Students will then submit their own, **individual** report on the experiment.

Assignments and Assessment:

Students will perform 8 experiments and create a report for each lab. These reports will be scored by the graduate teaching assistants. At the end of the semester, the course instructor will consider these scores, taking into account variation among TA graders, to treat all lab sections with a common grade scale.

New for Fall 2025: There will also be 8 lab quizzes and 1 curve-fitting assignment. Total points will be $8 \times 20 = 160$ for quizzes, $1 \times 40 = 40$ for curve-fitting and $8 \times 100 = 800$ for lab reports, making 1000 points maximum.

Details on the lab report format are available on the PHY 252 website <http://phylabs1.physics.sunysb.edu/introlabs/Fall2025/PHY252.html>

Details on requirements for each specific lab report will be provided by the teaching assistant in their introduction to the experiment on lab day and via Brightspace <https://mycourses.stonybrook.edu/d2l/login>

Grade Determination: Scores will be scaled to have (approximately) a common mean and spread by factors determined for each teaching assistant/grader. Then a Grading Scale with Grade Thresholds will be applied. This is reviewed and adjusted every semester; in Spring 2025 the ranges were as follows (the value listed is the threshold score as a percentage).
>92.5 A; >89 A-; >84 B+; >75 B; >72 B-; >68 C+; >62 C; >48 D+; >40 D; else F

Communication: Brightspace <https://mycourses.stonybrook.edu/d2l/login>
Announcements from the teaching assistant
Support materials for experiments (videos, notes)
Submission of lab reports
Receipt of graded reports and record of scores

PHY 252 Website
<http://phylabs1.physics.sunysb.edu/introlabs/Fall2025/PHY252.html>

Course Schedule
Manuals (instructions) for laboratory experiments
Guidelines for reports, text on uncertainty & error
Links to plotting tool, tutorials

SBU Google Apps

E-mail: This course will only use University e-mail for official business
Zoom, Slack: (Possible) teaching assistant office hours

Technical Requirements:

This course uses Brightspace for the facilitation of communications between faculty and students, submission of assignments, and posting of grades. The Brightspace course site can be accessed at

<https://mycourses.stonybrook.edu/d2l/login> .

If you are unsure of your NetID , visit <https://it.stonybrook.edu/help/kb/finding-your-netid-and-password> more information.

You are responsible for having a reliable computer and Internet connection throughout the term.

Attendance and Late Work Policy:

Attendance to PHY 252 is mandatory. Students who miss a class for an excused reason can perform the experiment during "Make-up" days or by special arrangement with the course instructor.

Lab reports were due 1 week after the scheduled lab class. Late reports are worth 10% less each day until 5 days past due, after which they will receive 0%. Details on attendance, the class schedule including Make-up dates and Late Work policy are available on the course website.

Course and University Policies

Student Accessibility Support Center Statement

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Student Accessibility Support Center, 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. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Student Accessibility Support Center. For procedures and information go to the following website:
<http://www.stonybrook.edu/ehs/fire/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 Technology & Management, 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

https://www.stonybrook.edu/commcms/academic_integrity/

Important Note: Any form of academic dishonesty, including cheating and plagiarism, will be reported to the Academic Judiciary.

Statement on use of Generative AI:

Using artificial intelligence tools is a natural part of modern academic work.

Submitting AI generated content as one's own, without citation, however, is unacceptable and will be regarded as a form of plagiarism, subject to the University Academic Integrity Policy.

https://www.stonybrook.edu/commcms/academic_integrity/

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 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.

Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Understand When You May Drop This Course :

It is the student's responsibility to understand when they need to consider disenrolling from a course. Refer to the Stony Brook Academic Schedule for dates and deadlines for registration:

https://www.stonybrook.edu/commcms/registrar/calendars/academic_calendars

Incomplete Policy:

Under emergency/special circumstances, students may petition for an incomplete grade. Circumstances must be documented and significant enough to merit an Incomplete. If you need to request an incomplete for this course, contact the instructor for approval as far in advance as possible.

Course Materials and Copyright Statement:

Course material accessed from Brightspace, SB Connect, SB Capture or a Stony Brook Course website is for the exclusive use of students who are currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law, as well as a violation of Stony Brook's Academic Integrity.



Stony Brook University

Communications Guidelines:

The course instructor and lab section instructors will conduct themselves according to the standards in the Stony Brook University Faculty Handbook
<https://www.stonybrook.edu/commcms/provost/faculty/handbook/>

Students will conduct themselves according to the standards in the Stony Brook University Code of Student Responsibility
<https://www.stonybrook.edu/commcms/studentaffairs/ucs/conduct.php>

SUMMARY

Consult **Brightspace** Frequently

<https://mycourses.stonybrook.edu/d2l/login>

Consult the Course Webpage Frequently

<http://phylabs1.physics.sunysb.edu/>

Welcome to PHY 252!