

Department of Physics and Astronomy

Syllabus for PHY 122 Lab, in-person laboratory portion of Physics for Life Sciences II

Spring 2023

Course Description: PHY 122: Physics for the Life Sciences II
Second part of an introduction to physics with applications to biology, primarily for students majoring in biological sciences or pre-clinical programs. Topics include electromagnetism, optics, acoustics, and radiation phenomena. Strong algebra skills and knowledge of the ideas of calculus are required. Three lecture hours and two laboratory hours per week. PHY 122 may not be taken for credit in addition to PHY 127, 132, or 142. This course has been designated as a High Demand/Controlled Access (HD/CA) course. Students registering for HD/CA courses for the first time will have priority to do so. This course has an associated fee. Please see www.stonybrook.edu/coursefees for more information.

Pre or corequisite: Prerequisite: C or higher in PHY 121
Corequisite: CHE 132 or CHE 152
Lab is 25% of 4 credit course

Student Learning Objectives: Students will learn to perform experiments, analyze data, evaluate experimental uncertainties and engage in scientific communication in the disciplines of electromagnetism, optics and modern physics.

Stony Brook Curriculum Learning Objectives:
Associated with lecture courses which have the objective
Studying the Natural World (SNW)

Course Meeting Time: Various. See PHY 122 Website
<http://phylabs2.physics.sunysb.edu/introlabs/Spring2023/PHY122.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
Contact: See course website at
<http://phylabs2.physics.sunysb.edu/introlabs/Spring2023/PHY122.html>

Required Textbooks and Materials:
ALL course materials are available online at
<http://phylabs2.physics.sunysb.edu/introlabs/Spring2023/PHY122.html>



Recommended Readings:

Students will be doing experiments related to topics in the introductory physics course PHY 122. Textbooks and lecture notes from this 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 introductory physics. Students will then submit their own, **individual** report on the experiment.

Assignments and Assessment:

Students will perform 10 experiments and create a report for each lab. These reports will be graded by the graduate teaching assistants. At the end of the semester, these scores will be combined with pre-lab quizzes to create a lab score for each student. The lab course instructor will take into account variation among TA graders to treat different lab sections with a common scale. These scores are then used by the course instructor of PHY 122 to create the overall course grade. See the syllabus for the PHY 122 course for details.

Details on the lab report format are available on the PHY 122 website <http://phylabs1.physics.sunysb.edu/introlabs/Spring2023/PHY122.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 at <https://mycourses.stonybrook.edu/d2l/login>

Communication:

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

PHY 122 Lab Website

<http://phylabs2.physics.sunysb.edu/introlabs/Spring2023/PHY122.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
Google Sheets: This course makes extensive use of spreadsheets for data recording and analysis.
Meet, 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 133 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 up to 50% credit until 24 hours 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.

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 dis-enrolling 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.

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://phylabs2.physics.sunysb.edu/>

Welcome to PHY 122 Lab!