

COURSE OUTLINE

PHY222 – Physics B LAB



CRN: 37438	Mondays 10 am – 11:50 am	Credit: 1	Modality: on campus, T15
Instructor: Glenda Denicoló (PhD)		E-mail: denicog@sunysuffolk.edu	
Websites: most course materials are in D2L			
Instructor office hours: The instructor's schedule is also available in D2L-Brightspace.		Online hour (via e-mail, not on campus): Mondays 6pm-7pm	
		In office (T-218): Tuesdays 10am-11:50am	
		In office (T-218): Wednesdays 10am-11:50am	
		In office (T-218): Thursdays 1:30pm-2pm	

CATALOG DESCRIPTION

Laboratory experiments that reinforce concepts taught in PHY220. Topics include experiments illustrating fluid mechanics, oscillations, waves, thermodynamics and optics. (2 hr laboratory) 1 cr hr. Corequisite: PHY 220.

Note: Fulfills SUNY General Education Requirement for Natural Sciences.

COURSE LEARNING OUTCOMES

Upon completion of this course, students will be able to:

- A. Demonstrate on an experimental basis the concepts taught in PHY220.
- B. Use various laboratory instruments including computer-based data acquisition.
- C. Interpret and manipulate graphical data including curve fitting.
- D. Apply critical thinking skills in analyzing practical problems; take necessary data and formulate solutions.
- E. Write a coherent laboratory report, including error analysis.
- F. Read, understand and communicate effectively the reasoning contained in a scientific text.
- G. Evaluate and discuss physics-related ethical, social or sustainability issues using scientific knowledge and reasoning.

GRADE POLICY

Lab activity	Points
(11-2) Lab Reports	80%
Lab Final Test	7%
End-of-semester presentation (several steps)	13%

- Attendance is based on the completion of the experiment AND submission of the required lab report.
- Students who are not present on the day of the experiment cannot submit a report and will receive zero.
- All experiments will be performed in groups of preferably 3 or less. Data acquisition must be performed as teamwork, everyone must participate, and all are equally responsible for the quality of the data.
- Once data acquisition is completed and the groups had a chance to review & discuss the experiment during the lab, the remaining activities MUST BE COMPLETED INDIVIDUALLY.

LAB REPORTS

All lab reports should be printed in paper and delivered printed to the instructor (unless otherwise explicitly declared in class). Students have exactly ONE WEEK after the experiment to turn in a required lab report (some exceptions may apply due to holidays; please refer to schedule in this document). Lab report work must be completed INDIVIDUALLY. Lab reports turned in 1 day late will be penalized with a 20% reduction in grade. Anything after that will receive a zero. There will be NO LAB MAKE-UP. However, at the end of the semester, TWO reports with the lowest grades will be dropped from the final grade calculation.

There will be NO curving of the grades in this course. Your final grade is non-negotiable. This is the letter grade breakdown that will be used throughout the semester (notice that this is already more generous than the college's breakdown):

89.5 ≤ A ≤ 100

84.5 ≤ B+ ≤ 89.4

79.5 ≤ B ≤ 84.4

74.5 ≤ C+ ≤ 79.4

69.5 ≤ C ≤ 74.4

64.5 ≤ D+ ≤ 69.4

59.5 ≤ D ≤ 64.4

F ≤ 59.4

Important Note:

At the end of the course, once all the grades are in, a 69.1 for example, translates into a D+ and never to a C. Students must understand what it means when we say "YOUR FINAL GRADE IS NOT NEGOTIABLE". It means the grade breakdown shown IS FIRM. A difference of even 0.1 point in your final grade is NOT NEGOTIABLE. You have been warned about this since the first day of class, so you must prepare accordingly. At the end of the course, no other activity will be given in order to change your final grade: at the end of the course, after your last test, the conversation is OVER.

According to the Family Educational Rights and Privacy Act (FERPA), grades will never be discussed by e-mail or phone, only in person or video conference.

STUDENT PRESENTATIONS

End-of-semester presentation	Points
Submission of topic by deadline (form in D2L)	0 to 2
Write-up (another form in D2L)	0 to 3
Oral presentation with slides (grading rubric available)	0 to 5
Attendance to presentations and completion of evaluation form	0 to 3

Students will choose a physics-related topic from an initial selection of papers provided by the instructor or using the links and resources available in D2L. Topics should be related to physics, **with preferred focus on ethical, social and environmental sustainability issues**. Topic submission is done as a form in D2L and must be completed by the deadline available in the class schedule. Late submission implies in reduction of possible points. Instructor will reply to each student about their topic choice in the following week. After that, each student will prepare a **10-min oral and visual (powerpoint slides) presentation**. Template slides will be provided in a shared google drive visible to all students. **NO videos will be accepted** in the presentations. The oral presentation will be graded according to the **5-point rubric available in D2L**. A writing assignment is also required, with instructions available in D2L. Slides and writing assignment are due before the oral presentation on a specific date (see schedule).

E-MAIL COMMUNICATION WITH THE INSTRUCTOR

E-mail is the preferred means of communication with your instructor. The instructor will reply to your question/request within 24 hours (except for weekends and holidays). If your instructor does not reply within 24 hours it is because you did NOT succeed in sending the message, and it is YOUR RESPONSIBILITY to check whether you typed the correct e-mail address or any other simple mistake as such.

- In-person classes: **in case of emergency, you are allowed to submit one lab report by e-mail before the deadline (only once!) but a printed paper copy of your work should ALWAYS be provided to the instructor in the following class.**

Notice that in the case of an emergency, the instructor may also try to get in touch with you via e-mail. The instructor will always write an e-mail to your official college e-mail address (ending in @sunysuffolk.edu). This is the e-mail address you should be always reading.

WITHDRAWAL POLICY

This instructor will NOT grant “W” after the cutoff date to any student, unless a very well justified case comes up, with documentation proving this extreme case. **The “W” cutoff date for Spring 2024: Thursday, April 4.** Only students who submit a [course withdrawal form](#) on or before this date are guaranteed a grade of “W”. Please note that this means if you stop attending class without officially withdrawing in the time period provided, you will very likely be given an F by your instructor. It is common courtesy to communicate to your instructor the fact that you are leaving the course. If you have a failing (F) average after the mid-semester cutoff, you will be given an F rather than a W as your final grade, even if you stop attending class. **The instructor has no means to give you a W at the end of the semester (option not available in the school system).** Thus a **W must be an ACTION STARTED BY THE STUDENT BEFORE THE END OF THE SEMESTER.**

COLLEGE POLICIES

Testing Positive for COVID-19

If you test positive for COVID-19, as per current CDC recommendations, you should isolate from others and stay home for 5 days. After you have completed your 5 days of isolation, upon your return to campus, you should continue to wear a well-fitting mask for the next 5 days.

Attendance Policy

Regular attendance is considered essential for academic success. Students are expected to attend every class session, no matter the modality, of each course for which they are registered. Excessive absences may have a negative impact on a student’s academic performance and/or eligibility for financial aid.

Each instructor must provide an attendance policy in the course syllabus, allowing for a minimum of one week’s worth of absences including absences due to illness or other unforeseen circumstances. For example, if a class meets twice a week in a 15-week term, a student must be entitled to at least two absences. The equivalent of one week may differ depending on the length of the term.

The College defines attendance in online courses as regular participation in course-related activities, which may include, but is not limited to: contributing to online discussion, engaging in virtual live instruction (when applicable), submitting an assignment, taking a quiz or exam, viewing and/or completing a tutorial, or communicating with a faculty member regarding course content. Logging into an online class is not sufficient, by itself, to demonstrate attendance or participation by the student.

Students absent from a class for any reason are responsible for any missed work and any other relevant requirements stated in the course syllabus. In the event that a student is absent, it is always recommended that the student contact the instructor to discuss missed work and class content.

Federal financial aid regulations require the College to report a student’s last date of attendance for each course; in most cases faculty will be asked to confirm this date. Consequently, faculty must take attendance at each class meeting.

In accordance with New York State Education Law, Section 224-a, any student who is unable, because of religious beliefs, to register or attend classes on a particular day or days will be excused from any examination, study, or work requirements [scheduled on that day]. It is the responsibility of the faculty to make available [to the student] an equivalent opportunity to make up any examination, study, or work requirements within a reasonable amount of time of the religious observance. It is the responsibility of students to notify their professor at least one week prior to the religious observance, via their College email accounts or otherwise in writing, of their intention to be absent from class.

Service for Students with Disabilities

PLEASE SELF-IDENTIFY TO THE INSTRUCTOR AT THE START OF THE SEMESTER, DO NOT WAIT.

Suffolk County Community College provides reasonable accommodations to registered students with disabilities who have self-identified and been approved by the Office of Disability Services. Once approved for reasonable accommodations, such students will be provided with an Accommodation Letter, describing the specific accommodations. Students must present this letter to each of their professors before accommodations can be provided. Students are encouraged to email this letter to their faculty member.

Students who have, or think they may have, a disability are invited to contact Disability Services for a confidential consultation. Students are encouraged to contact the office by email this semester.

Disability Services Contact Information - Ammerman Campus: Call the Disability Services Office at 631-451-4045 or email the Office at disabilityA@sunysuffolk.edu

Diversity

In alignment with our institutional mission and strong support of diversity, equity and inclusion, Suffolk County Community College reaffirms its commitment to providing access to higher education and a welcome environment to all students. No matter your age, race, ethnicity, national origin, gender identity or expression, sexual orientation, family status, U.S. citizenship status, religion, socio-economic status, political ideology, military-connected status, or intellectual or physical ability - you belong here. Therefore, in this class, we will maintain an atmosphere of mutual respect, civil discourse and cross-cultural communication.

The college prohibits discrimination and harassment and you can read more at:

www.sunysuffolk.edu/nondiscrimination.

SCCC Cares

At Suffolk, we are **CREATING AWARENESS** and **READINESS** to **END STIGMA** about mental health issues and we know that the past year has presented unprecedented challenges to our mental health and wellness. Please know that if you need support related to your psychological, emotional, or social well-being, there are resources available to you through Mental Health & Wellness Services. To learn more about MHWS or for other wellness related resources, visit MHWS on the SCCC website under the Experience Student Life tab.

If you would like to connect with a MHWS counselor at SCCC, for **free and confidential** counseling, email us at mentalhealth@sunysuffolk.edu. You can also reach out to one of us directly:

Ammerman Campus – Sarah Boles (451-4530/boless@sunysuffolk.edu) or Evan Haun (451-4060/haune@sunysuffolk.edu).

ACADEMIC INTEGRITY

I do not tolerate dishonesty.

If I'm sure, I'll give a failing grade. If it's serious, I'll report it. If it's bad enough, you could be expelled. Examples of dishonesty include plagiarizing, falsifying data, copying another's work without acknowledgement, or receiving help from someone on a quiz or exam. See the SCCC Academic Integrity and Plagiarism Guide (see excerpt below). **Any work you represent as your own must be your own work.**

NEVER COPY.

Lab reports must be the result of your individual work. Students cannot share their final work. There is a fine line between working collaboratively, and just copying from one another. Be careful.

Suffolk County Community College provides students with the opportunity to demonstrate their knowledge by submitting coursework that is uniquely theirs and giving proper attribution to the work of others. Participating honestly in the SCCC academic community ensures that students can take pride in their education and their contributions to scholarship. Without academic integrity, students gain unfair advantage over others and prevent their own intellectual progress. As a student in this class, you are expected to uphold the SCCC core value of Integrity and understand the Special Procedures for Academic Dishonesty in the relevant sections of the [SCCC Student Code of Conduct](#).

The Code prohibits academic misconduct, which includes any action that results in students giving or receiving unauthorized assistance in an academic exercise, or receiving credit for work that is not their own. Academic exercise includes all forms of work submitted for credit. Academic misconduct includes, but is not limited to, the following behaviors: cheating on exams; plagiarizing - using another person's work or ideas without crediting them; complicity - helping a student, or being helped, to engage in academic misconduct; multiple submissions - submitting the same work for credit in more than one course without the instructor's permission; falsification and forgery - inventing information or falsifying the identity of a student.

Information about the Student Code of Conduct, plagiarism and the citation process is in the [Academic Integrity and Plagiarism Guide](#).

Cell phones, online browsing and communication tools in general are not allowed during any test.

Grading rubric for 10 min oral presentations (5 points max).

	Inadequate (0)	Needs improvement (+0.5)	Meets or exceeds expectations (+1)
Reason for choice of topic	Not mentioned.	Not stated clearly, vague.	Stated clearly, explicitly, with brief explanation of context.
Understanding of topic/background knowledge	Insufficient details to support ideas.	Some understanding but does not make connection among ideas.	Moves beyond surface level understanding.
Argumentation, critical thought, use of examples	Little or no evidence of critical, careful thought or analysis and/or insight. Few or no examples, or mostly irrelevant/unrelated.	Some arguments have adequate support. Some evidence of critical, careful thought and analysis and/or insight. Some examples, though general.	Advances arguments with sound and abundant evidence. Evidence of critical, careful thought and analysis and/or insight. Relevant supporting examples.
Conclusion	Not mentioned.	Presents concluding remarks not related to topic.	Presents concluding remarks related to the topic.
Overall presentation: organization and flow of thought	Inadequate organization. Difficult to follow. No format.	Partially organized. Inconsistent, not always easy to follow. Rambling format.	Well organized/structured. Easy to follow. Professional format.

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Monday 10 am – 11:50 am, T-15

Course materials including lab instructions are available in D2L.

Date	Lab	Experiment/Activity	
Jan 22	0	Introduction to the lab: error propagation, graphs, lab reports, Excel exercise, end-of-semester presentation instructions & resources	Choose a physics-related topic for end-of-semester 10 min oral presentation. Initial ideas available in D2L. Preferred focus: ethical, social or environmental sustainability issues.
Jan 29	1	Buoyant Force Graduated cylinder, spring scale, string, weight, caliper, ruler	
Feb 5	2	Viscosity Graduated cylinder, oil, sphere, stopwatch, micrometer	
Feb 12	3	Simple Pendulum Computer, photogate, poles to hang weight, string, protractor	
Feb 26	4	Simple Harmonic Motion – Springs Computer, motion detector, 2 springs, weight, digital scale	
Mar 4	5	Damped Oscillations on Air Track 2 springs, glider, balloon, tape, digital scale, ruler, cell phone	Deadline to submit topic in D2L.
Mar 11	6	Standing Waves on a String Setup with poles, pulley and string, weights, hanger, digital scale	Research and prepare the oral presentations. Rehearse! Prepare 5 slides as visual aid for presentation. A writing assignment is also required (instructions in D2L).
Mar 18	7	Speed of Sound in Air – using resonance tube ~ 1-m-long cylinder, beaker for water, paper towels, cell phone	
April 1	8	Geometric Optics Light source, converging lenses, projection screen, ruler, meter stick	
April 8	9	Interference and Diffraction of Light Green/red laser pointers, holder, diff. grating, metric tape, ruler	
April 15	10	Mechanical Equivalent of Heat Copper calorimeter and apparatus, cold water, thermometer, digital scale	
April 22		Lab Final Test	Deadline: group 1 students must complete slides in shared google drive & submit write-up.
April 29		Group 1: Individual student oral presentations on physics-related topic	Deadline for group 2
May 6		Group 2: Individual student oral presentations on physics-related topic	Deadline for group 3
May 13		Group 3: Individual student oral presentations on physics-related topic	