

PHY 277 Fall 2026 Syllabus

PHY 277, Computing for Physics and Astronomy is an introduction to computing on UNIX/Linux computers. It covers the fundamentals of using UNIX/Linux to write computer programs for numerical algorithms to solve computational physics and astronomy problems. Assignments are carried out in a high-level compiled programming language such as modern Fortran or C++ and require extensive use of SINC site computers outside the classroom. There are two sections that meet Monday, Wednesday and Friday in Math/Physics S-235 (section PHY 277.01 meets at 8:25 am and section PHY 277.02 meets at 11:00 am). The lectures are not recorded. The course requires students to log into the milan.seawulf.stonybrook.edu computing cluster to complete assignments. Students will require access to a portable computer or tablet that can provide web access. If a student is using a tablet for the course it is highly recommended that it have an full keyboard.

There is no textbook for this course. The course material will be in the form of notes that are available on Brightspace.

Two common 80 minute midterm exams will be given on Wednesday, September 23rd, and Tuesday, November 3rd. The final exam will be given on Thursday, December 10th from 2:15 pm to 5:00 pm. The registrar's policy is that students are responsible for avoiding exam conflicts, and exceptions will not be granted in this course.

Instructors

- Prof. Clark McGrew <Clark.McGrew@stonybrook.edu>
 - Office hours will be between the sections on Monday and Wednesday
- Teaching Assistants: Contact will be handled by email and Brightspace discussions
 - <Yaunos.Hashem@stonybrook.edu>
 - <Pallav.Pant@stonybrook.edu>

Brightspace

Most of the course administration will be done via Brightspace.

Please make sure that you have access to your Stony Brook Brightspace account before the first day of class, and that the email address listed in your Brightspace account is one that you monitor.

Brightspace will be used to administer in-class quizzes, so please make sure that you bring a laptop, or tablet that can be used to enter answers. The quizzes and exams will be proctored, and answers entered outside of the exam session will be treated as cheating.

Course Schedule

The schedule available on Brightspace shows when assignments are due. If adjustments are necessary during the semester due to unforeseen circumstances (e.g. weather) the class calendar will be updated.

Firsts for this Semester:

- First lecture: **8/24/2025**
- First *in-class assignment* for credit: **8/24/2025 (the first day of class)**
- First *Homework* for class due (submitted online): **8/26/2025**

Format of Course

Class Lectures will provide an introduction to the material, and will be conducted as a mix between a lecture and a laboratory session. You will be expected to connect to the class server during class and to complete work during class time. For this reason, every student will need access to a device which can connect to the campus system using a terminal program and ssh. The lectures will consist of a combination of slides and computing tutorials. When practical, material will be posted on Brightspace.

Required: A laptop/tablet or similar device will be needed during both lectures and laboratory work to access quizzes and other materials. While I hope that it will not be necessary for the class to use, your device should be able to use the lock down browser. The class room has about 30 terminals available on a first-come/first-serve basis, but you may find it preferable to use your own machine during class. The terminals are not available outside of class time. If you do not have your own computer, the university has a loaner program for students.

Required: Access to SBU computers to work on homework problems that require access to the campus seawulf computer system using your net id and DUO two-factor-authentication. You will need to connect to this system using ssh and a terminal program.

Homework

Homework Problems: Homework problems will be through Brightspace, and will require access to the campus computing cluster. Accounts for enrolled students will be created before the first day of class. If you join the class less than a week before classes start, a support ticket will be filed with DOIT requesting and account. You can expect a 48 hour delay before the account is created. Since this class is cumulative, late enrolling students will have one week from the time their accounts are created to complete previously assigned work.

Exams and Quizzes

Two midterm exams and a **final exam** will be given. See the dates at the top of the syllabus. You must make sure there are no conflicts in your schedule – we will only grant makeup exams

for exceptional University sanctioned conflicts. The registrar's policy is that students are responsible for avoiding exam conflicts, and exceptions to the University policy will not be granted in this course. To pass the course, you must have a score for at least one of the two midterms and the final exam. If you cannot take a midterm due to exceptional circumstances, discuss this with the instructor as soon as possible. For University approved absences (illness, University travel, etc) the weights of the other parts of the course changed accordingly, but, absent exceptional circumstances, a make-up exam will not be administered. If you miss the final, or more than one midterm, with a valid excuse, you will receive an Incomplete in the course and you must contact the instructors to schedule an exam as promptly as possible after the end of the semester. Taking at least two exams is required to pass the course.

Quizzes will be given during class. As noted above, you will need a laptop, tablet or similar device to enter the answers into a Brightspace answer sheet, and the questions will be discussed within the class. Three quiz grades will be dropped without an excuse (including quizzes missed for medical, and other absences). If you miss more than three quizzes you will need to provide valid reasons for all missed quiz for the additional quizzes to be exempted from your grade.

Grades

The final grade for PHY132.90 and PHY134.L90 will be based on the following.

- 40% Homework
- 15% Each for the two midterms
- 30% Final Exam

Notes:

- No homework, or exam scores will be dropped.
- Up to 5% of extra credit will be available based on completing in class quizzes.
- Make-up quizzes are not offered since they are part of a class activity.

The course is graded on an absolute scale:

- 90% : Guaranteed to be an "A"
- 75% : Guaranteed to be a "B" or better
- 60% : Guaranteed to be a "C" or better

Because the grading of the lab and preparation of the exams involve the subjective selection of material, the instructor reserves the right to reduce the required grade requirements. The grade requirements will not be raised.

Standard University Policies

A. Student Accessibility Support Services (SASC)

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. If you have never worked with them, you will find that they are extremely helpful. 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/> and search Fire Safety and Evacuation and Disabilities.

B. Academic Integrity

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 at https://www.stonybrook.edu/commcms/academic_integrity/index.html

C. 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. Students not following University policies during class will be deemed to be “disruptive” (e.g. if the University chooses to require certain public health policies, the policies must be followed).

D. Student Participation in University-Sponsored Activities

Students may have to miss class as a result of their participation in an event or activity sponsored by the University. This course will operate in compliance with the University policy set forth at catalog.stonybrook.edu. In particular, you should notify us in advance, but definitely before the final date of the ‘add/drop’ period, of your intention to miss any class, exams, or labs that will arise due to such activities. At that time, we can discuss how you will be able to secure the work covered.

E. Religious Holidays

This course will operate in compliance with the University’s policy regarding religious holidays, set forth at catalog.stonybrook.edu. In particular, you should notify us in advance, but definitely

before the final date of the 'add/drop' period, of your intention to be out for religious observance. At that time, we can discuss how you will be able to secure the work covered.

Some Important Tips for Success

- Show up to class. This course is a hybrid lecture and experiential laboratory.
- Be familiar with your computer (laptop, tablet, &c). Make sure it is charged before class starts. There are a few power outlets available in the classroom, but not enough for the entire class.
- Make absolutely sure that your devices are charged before the exams. I have very little control over where the exams are given, and, in the past, the course has been assigned to rooms without any power for a charger.
- Keep up to date with the material. The class is cumulative.
- University guidelines state: "Students are expected to be 'on task' for 40-45 clock hours per credit, per semester. 'On task' pertains to all instructional activities (exams, homework, lectures, discussions, etc.)." That works out to about nine hours per week for this three-credit course. If you do not have a lot of experience working on a linux system or writing programs, you can expect that the time spent on the course will be toward the high end of the recommended range.
- Do the work yourself! This course aims to teach you what you need to know to evaluate the output of AI, so ***don't use an LLM*** (gemini, claude, openIA, etc), Chegg, Google, Bing, Course Hero, etc. to do the homework. It may be a quick way to finish the assignment, but it won't help your understanding, give you practice solving problems, and it very much will not help you to retain the concepts. Most of the exam and quiz problems are going to ask you to enter "code" that to solve short problems. During the exams, you will need to enter this code by hand without the benefit of an tools to check the syntax, or the ability to test it's functionality. If you have not gotten practice writing programs before the exams, this will be very difficult. If you have completed the assignments, you will be prepared and the exams (should) feel easy.
- Most of the course administration will be done via Brightspace. Please make sure that you have access to your Stony Brook Brightspace account, that this course is listed there, and that the email address listed in your Brightspace account is one that you monitor. The course calendar, and lots of other useful information is available in Brightspace