

- Course Objectives** PHY360 is a course designed to deeply explore the phenomena associated with mechanical and electromagnetic vibrations and waves. While basic physical concepts (i.e. force, energy, and Maxwell's equations) are not new to students in this course, the language and tools we will develop throughout the course form a foundation upon which future explorations of physics and engineering are built.
- Lectures** Lectures are on Tuesday and Thursday, from 2:00-3:20pm Tue/Thu, in Room 104N.
- Office Hours** My office hours are tentatively scheduled on Thursdays, 11:30am to 12:00pm and 12:30-1pm, with additional time also via appointment (311 Physics Bldg, ext 3-2653, [jhubisz@syr.edu](mailto:jhubisz@syr.edu)). During office hours I will help clarify any questions regarding the material presented in the lectures, give guidance with problem sets and answer administrative questions. They will not be held the first week of classes, but will start the second week.
- Homeworks** Homeworks are the central part of the course, and they are vital for learning the material. They will be handed out on Tuesdays, and will be due the following Friday by 5pm in Raghav's mailbox (across from 201 Physics Building), meaning you have 1.5 weeks with each set, although there will be time overlap between sets. They will also be available on the course website: <https://jhubisz.expressions.syr.edu/phy360/>.
- Homework and reading assignments are the primary parts of this course, and should be taken extremely seriously. Solving and discussing these problems with your peers, the grader (Raghav Jha), and myself is the best way of learning this new material. The time spent in solving these problems is an investment that will pay off many dividends later.
- Also vital to the learning process is communication with your fellow students. **I very strongly encourage collaboration and discussion** amongst yourselves in completing homework assignments, **however all submitted work and final written answers must be your own**. Let me say it again - **Communication amongst yourselves is instrumental in accomplishing deep learning. Your peers are your most valuable resource.**
- Textbook** The main textbook for the course will be "Vibrations and Waves," by A.P. French. I have decided not to order textbooks from the bookstore because there is a very cheap version available on Amazon. Beware that this version has somewhat low-quality printing - last year they were readable, however, and sufficient to follow the reading and homework assignments. I want to give students the freedom to choose the option that appeals most to them.
- Exams** There will be two midterm exams, one final exam, and many quizzes throughout the semester. See the section on grading for the relative weights of these exams, and the schedule for when they will be held.
- Pre-Requisites** I expect you to be comfortable with the following concepts before beginning the course:
- Newton's mechanical laws
  - Work and Energy (and relation to Force)
  - Calculus I and II (i.e. MAT 295 and MAT 296 here at S.U.)
  - Maxwell's Laws of Electricity and Magnetism
  - Conservation laws (i.e. charge, momentum, energy, angular momentum, etc...)

The following concepts are exceedingly useful, and may be worth supplemental reading on your part, although all necessary tools from these areas will be developed during the course of the class, and presume no previous exposure:

- Linear algebra
- vector spaces
- partial differential equations

## Grading

The following rubric will be used to calculate your grade:

- Midterm Exams: 30 %
- Final Exam: 30 %
- Homework: 30 %
- Quizzes: 10 %

Grading will be performed by Raghav Jha. His contact info is [rgjha@syr.edu](mailto:rgjha@syr.edu). His Physics Clinic hours are held from 6-8pm on Wednesday Evenings. I encourage you to seek out Mr. Jha for help on homework and other aspects of the course particularly during these clinic hours. If you are unable to come to him during this time period, Raghav can make appointments, but please do your best to bring well posed questions to his clinic hours.

## Schedule

The schedule of exams is as follows:

- Mid-semester exams: In-class on Tuesday 10/4/2016 and Thursday 11/10.
- Final Exam: 12/16/2016 From 8-10am in Physics Building Room 104N (Same as where class is held) **TBA**.
- Quizzes: Typically one each week, mostly likely on Tuesdays at the beginning of class, but unannounced.

## Academic Integrity

Syracuse University's academic integrity policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The university policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same written work in more than one class without receiving written authorization in advance from both instructors. The presumptive penalty for a first instance of academic dishonesty by an undergraduate student is course failure, accompanied by a transcript notation indicating that the failure resulted from a violation of academic integrity policy. The presumptive penalty for a first instance of academic dishonesty by a graduate student is suspension or expulsion. SU students are required to read an online summary of the university's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. For more information and the complete policy, see <http://academicintegrity.syr.edu/academic-integrity-policy/>.

## Academic Accommodation

If you believe that you need academic adjustments (accommodations) for a disability, please contact the Office of Disability Services (ODS), visit the ODS website- <http://disabilityservices.syr.edu>, located in Room 309 of 804 University Avenue, or call (315) 443-4498 or TDD: (315) 443-1371 for an appointment to discuss your needs and the process for requesting academic adjustments. ODS is responsible for coordinating disability-related academic adjustments and will issue students with documented Disabilities Accommodation Authorization Letters, as appropriate. Since academic adjustments may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.

Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. My goal is to create learning environments that are useable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, I invite any student to meet with me to discuss additional strategies beyond academic adjustments that may be helpful to your success.

## **Religious Observation**

SU religious observances policy, found at [http://supolicies.syr.edu/emp\\_ben/religious\\_observance.htm](http://supolicies.syr.edu/emp_ben/religious_observance.htm), recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes and by the submission deadline for flexibly formatted classes.

The above is cut and pasted from SU Policy Statements. Please contact me to schedule any makeup material as soon as possible during the semester if the above applies to you in any way.