PHY 20a: Modern Physics 1  
Fall 2015

Instructor: Aparna Baskaran, Room 306 (6-2866); E-mail: aparna@brandeis.edu

Meeting Time and Place: Room Gzang 124, Mon, Wed, Thurs, 12:00–12:50

Office Hours: 2-4pm, Thursday, or by appointment.

Required course work:
Homework will be posted on Latte and will be due in class, usually once a week. There will be two exams, an in-class midterm and a final exam.

Grading Procedure:
25% – Homework, 30% Midterm, 40% – Final, 5% – In class participation.

Course Description:
The title of this course is a misnomer and has been inherited for historical reasons. This course should rightly be called "Vibrations and Waves", because that is what we will be learning. The study of waves and oscillations might seem somewhat narrow and pedestrian, but the concepts that we will cover are basic to almost all areas of modern physics. Having a solid basis in these concepts will make study of quantum mechanics, electromagnetism, condensed matter physics, particle physics, astrophysics, general relativity, and even string theory possible at a later date. In addition, the study of waves and oscillations introduces many mathematical concepts important in physics, including ordinary differential equations, complex numbers, complex functions, linear algebra (matrices), multi-variable calculus, Fourier series, Fourier transforms, and partial differential equations. We will meet and get to know each of these as the course progresses.

Material for course:
The required texts for this course are


As the course progresses, lesson plans for the upcoming week, reading and homework will be added to LATTE and announced in-class.

Students with disabilities:
If you are a student with a documented disability on record at Brandeis University and wish to have reasonable accommodation made for you in this class, please see the Instructor at the start of the semester.

Academic Integrity:
You are expected to be familiar with and to follow the University's policies on academic integrity. Consistent with Brandeis University's honor code, your exams and assignments must be solely your work. Any violations will be considered plagiarism and will incur sanctions potentially including failure in the course and suspension from the University. Please see Chapter 4 of Brandeis University Rights and Responsibilities (http://www.brandeis.edu/studentlife/sdc/9r/).