Syllabus (draft, subject to change)

REGISTRATION INSTRUCTIONS:

When you register for this class please:

- Enroll in the untimed placeholder **for section**. Submit your preferences on my.harvard at any time before registration closes. You'll be added to a section by September 3.
- Enroll in the untimed placeholder **for lab**. Then do the following:
  - self-enroll in this Canvas page. (The lab serves multiple courses, which is why there is a separate page).
  - Choose your lab section by navigating to People --> Groups and adding yourself to your desired section time. Unlike general enrollment, lab sections are capped at 18 students and fill up fairly quickly.

If you have any questions about (or issues with) sectioning, please reach out to Anna at aklales@g.harvard.edu. We're looking forward to seeing you in class this fall!

Is Physics 15a the right course for me?

You may be deciding among the various introductory physics courses offered. Here's a brief description of each:

- PS 2 - Introductory mechanics with an emphasis on applications in the life sciences. Serves mainly life sciences and pre-medical students. Does not count toward a concentration in physics.
- PS12a - Introductory mechanics with an emphasis on numerical skills. Does not cover special relativity and is not as problem solving heavy as 15a. This course does count toward a concentration in physics. Serves mainly physical sciences and engineering students.
- Physics 15a - This class! Introductory mechanics and special relativity. Serves mainly physical sciences and physics concentrators. Counts toward the physics concentration. This course is more in depth and probably has more difficult problems than an average high school course, but covers similar topics (with the addition of special relativity). Problems are more difficult than those in PS12a.
- Physics 16 - A mechanics course designed for those with a solid background in physics. Covers many new and advanced topics. Problems are more difficult than 15a.
- Physics 19 - Covers a wide set of foundational topics for theoretical physics. It is intended to give a broad picture of later courses in the physics concentration.

The main point of 15a and 16 is to learn mechanics and solve interesting problems simply because physics is cool. The main point of Phys 19 is to provide a comprehensive grounding in the concepts and mathematical tools of theoretical physics.

You should skim through any material for the three classes that is available on the course websites, and see which class looks most suitable for you. There is no clear-cut criterion for deciding, but a major consideration is that of time. Phys 15a and 19 will take a substantial amount of time, but Phys 16 will take more.

If you think there is a reasonable chance (say, greater than 10%) that you will take Phys 16, then you should start out there. In the event that you wish to switch to Phys 15a or 19, we promise to make the transition a hassle-free one. (Homework credit will be transferred. Just be sure to do either one of the homework sets in its entirety during the week that you switch.) Furthermore, if you are someone who is thinking of taking Phys 16, then the first few Phys 15a and 19 lectures will probably be mainly review, so you have little to lose by trying out Phys 16.