

Department of Physics

Changes to Undergraduate Colloquium

Upper class students are unhappy with the six semesters (in the sophomore, junior, and senior years) of Undergraduate Colloquium that are presently required. Reflecting this opinion, the Student Advisory Council to the Department of Physics has suggested a “survey course” that would introduce students early on to the sub-fields of physics. In addition, a relatively small number of physics majors take the upper level “applications” courses such as Solid State Physics, Nuclear and Particle Physics, and Optics. When asked why, the response is frequently that they don't know what they are about and why they should be taking them!

In response, the Physics Undergraduate Program Committee proposed, and the faculty of the Department has agreed to, a change in the Undergraduate Colloquium that involves distinctive Undergraduate Colloquium courses for sophomores and for juniors and seniors.

- For sophomores, require a modified, two-semester course 33-201 and 33-202 (two units each), that surveys the field of physics. This new course is described in more detail below.
- For juniors and seniors, require two additional semesters, 33-301 and 33-302 (1 unit each) of Undergraduate Colloquium. The scheduling flexibility should allow all students to do this (in contrast to the present system of waivers).
- While there is a reduction by two semesters in the Colloquium requirement, there is no change in the total number of units needed for BA and BS degrees.

33-201/202 - Sophomore Colloquium

2 units per course; both are required for BS/BA degrees

Course Description: These courses are designed to give students an overview of the field of physics and to help them make knowledgeable choices in both their academic and professional careers. Several of the sub-fields of Physics are discussed in order to give students an understanding of the types of activities, from research to industrial applications, in each. Over the two semesters, we typically discuss six subfields in some detail, with the goal of providing a minimal literacy in the relevant concepts and terminology. The course consists of one classroom lecture per week plus roughly one hour per week of reading and/or problem solving.

Typical topics will include:

1. Introductory overview of sub-fields with some historical context
2. Astronomy/Astrophysics
3. Condensed Matter and Biological Physics
4. Nuclear & Particle Physics
5. Optics and Atomic and Molecular Physics
6. Plasma Physics