

Charge to the new senior lecturer in Biochemistry and Biophysics

1. The new senior lecturer will conceive and implement a vision for a new laboratory course in biochemistry and biophysics to be taken by first-year undergraduates at Yale College. The Yale first-year class includes students from private prep schools who have benefited from every possible advantage, students who are the first in their families to attend college and may have little previous science background, as well as many students from identity groups under-represented in science. It is essential that a new lab course fosters the success and belonging for all these students.
2. Each year, the entering class at Yale college has ~440 students interested in studying the biological sciences, most of whom are premedical students, and about 20-40 of whom will major in Molecular Biophysics and Biochemistry. All ~440 of these students take a series of four six-week Biology lecture modules called BIOL 101-104, which they start in either in the Fall or Spring of their first year. The first module is BIOL 101 Biochemistry and Biophysics. In the six weeks of this course, students are introduced to the structures and functions of proteins and nucleic acids, thermodynamics, enzyme catalysis, and molecular biology.

The new lab course would be designed for first year students to take concurrently or after the six-week BIOL 101 lecture course. The lab course should complement the content of BIOL 101. In addition to introducing some basic lab techniques, it should include content on lab safety, statistical analysis, and responsible conduct practices such as keeping a lab notebook. Ideally, the lab course would have elements of a genuine research experience. Beyond these few specifics, the vision for the lab course is to be developed by the newly hired senior lecturer.

3. The new lab course could be offered jointly with Yale's Physics department, and since it should incorporate elements of both biochemistry and biophysics, would ideally qualify to count as either a "chemistry" or "physics" lab course towards several majors at Yale or for medical school entrance requirements.
4. The new lab course might be taught in the first year as just one or two sections of ~18 students each per semester. Ultimately a senior lecturer at Yale is expected to teach three lab sections/courses each semester with appropriate reductions for any assigned administrative duties. So, in years 2 and 3, the number of sections would increase. Given the number of Yale undergraduates who need to take chemistry and physics labs, the course could ultimately be expanded to many sections, with the senior lecturer supervising the work of additional instructors to teach these sections.
5. The standard Yale format for lab courses is to meet for four hours one afternoon a week for 12 weeks. Each lab section is assigned two graduate student teaching assistants. In addition, there are laboratory core facilities and staff that provide access and maintain large equipment, order supplies and generate media and solutions used in lab courses. Yale's Poorvu Center for Teaching and Learning also provides many types of support for pedagogy.

6. The course will be taught in Yale's state-of-the-art teaching lab facility, built in 2017.
<https://news.yale.edu/2017/04/24/yale-s-newest-stem-labs-teaching-takes-bold-step-forward>
An advanced biochemistry lab and many other chemistry and physics lab courses are already taught in this facility, so much relevant equipment is already in place. We expect Yale to fund purchase of additional equipment as needed.
7. Beyond developing the vision for and implementing the new biochemistry/biophysics lab course, the senior lecturer is expected to ultimately grow into overseeing and supervising the entire lab course curriculum taught by the Yale Molecular Biophysics and Biochemistry department. This means that in addition to teaching their own courses, the senior lecturer might supervise the work of other lab instructors, and help develop and implement the visions for additional lab courses, and for regularly updating existing courses. Thus, the senior lecturer position will ultimately include both direct teaching and leadership/administrative/supervisory components.
8. The senior lecturer will be a valued member of the Yale MB&B faculty. Like the tenure-track faculty, the senior lecturer will have their own office in our department space, attend our faculty meetings, and be able to take regular leaves (i.e. sabbaticals).