

If you are interested in concentrating in Chemistry, other Science/Engineering concentrations, and/or Premed, there are **two tracks of chemistry courses** you can take during the first two years of college:

(Students are able to mix and match different courses below. Please reach out to us at [chemistrydus@fas.harvard.edu](mailto:chemistrydus@fas.harvard.edu) for advice.)

Fall
Spring
Fall
Spring  
**Track 1: LPSA / LS1a → PS11 → Chem 17 → Chem 27**  
 General Chemistry                      Organic & Biochemistry

Fall
Spring
Fall
Spring  
**Track 2: Chem 10 → Chem 20 → Chem 30 → Chem 40**  
 General Chem.                      Organic Chem.                      Inorganic Chem.

### LPS A v.s. LS 1a

Although LPS A and LS 1a take different approaches to studying chemistry and biology, either class will prepare you for later science classes.

LPS A is particularly important for students with little or no chemistry background who plan to take PS 11 in the spring. The 1<sup>st</sup> half of LPS A is a study of general chemistry, and the 2<sup>nd</sup> half explores molecular & cellular biology.

It is beneficial to already have some familiarity with basic chemical principles when taking LS 1a. LS 1a integrates chemical & biological principles throughout the course and applies these concepts to biological problems (e.g. HIV, cancer).

1<sup>st</sup>-year Fall

**LPS A**

Life & Physical Sciences A:  
Foundational Chemistry  
and Biology

OR

LS 1a

An Integrated  
Introduction  
to the Life Sciences:  
Chemistry, Molecular  
Biology, and Cell  
Biology

1<sup>st</sup>-year Spring

**PS11**

2<sup>nd</sup>-year Fall

**CHEM 17**

2<sup>nd</sup>-year Spring

**CHEM 27**

The biology and chemistry placements tests have been carefully constructed to give good advice about which course is most appropriate for you based on what you have learned in high school. You should take the course that is most appropriate for your background.

### Introducing CHEM 10\*

CHEM 10 offers an advanced introduction to the fundamental theories of quantum mechanics and statistical mechanics and their role in governing the behavior of matter. It is designed for students with strong high school chemistry background to dive into the *how's* and *why's* behind the chemical principles they have learned, and to see their wide applications including electronics, solar energy conversion, medical imaging, and the stability and dynamism of living systems.

Calculus will be used extensively, and students will learn numerical simulations and instrument control with MATLAB. In the weekly laboratory sections and the final project, students construct technical instruments that they then use in directed and open-ended explorations of the core concepts of the course.

1<sup>st</sup>-year Fall

**CHEM 10**

1<sup>st</sup>-year Spring

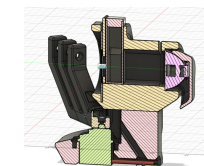
**CHEM 20**

2<sup>nd</sup>-year Fall

**CHEM 30**

2<sup>nd</sup>-year Spring

**CHEM 40**



Prototype of the spectrometer to be built in CHEM 10!

\*Chem 10 will be offered every fall starting 2023. It builds on the success of PS10 and adds more hands-on labs. (PS10 is no longer offered.) Chem 10 (4- credit) fulfills two semesters of general chemistry for the chemistry concentration and for most medical schools.

For most medical schools, the four courses in Track 1 fulfills the chemistry requirements for premed students (2 General Chemistry, 2 Organic Chemistry and 1 Biochemistry); Chem 10→20→30→27 also fulfills the same requirement. For the complete list of courses that satisfy the Premed course requirements, please refer to the premedical blue book at <https://careerservices.fas.harvard.edu/> and email [premed@fas.harvard.edu](mailto:premed@fas.harvard.edu) with any questions.