THE BIOLOGY MAJOR: A RECOMMENDED COURSE PLAN

FIRST YEAR:
Fall:  
a quantum course
CHEM 11a and CHEM 18a  
Spring:  
BIOL 15b [or BIOL 22a]  
CHEM 11b and CHEM 18b

SOPHOMORE YEAR:
Fall:  
BIOL 22b and BIOL 18b  
CHEM 25a and CHEM 29a*

Spring:  
BIOL 22a and BIOL 18a  
CHEM 25b and CHEM 29b*

JUNIOR YEAR:
Fall:  
PHYS 10a and PHYS 18a  
electives or quant

Spring:  
PHYS 10b and PHYS 18b  
electives or quant

SENIOR YEAR:
Fall:  
electives or quant  
BIOL 99a senior research**

Spring:  
electives or quant  
BIOL 99b senior research**

*THE MANY REASONS WHY YOU SHOULD TAKE ORGANIC CHEMISTRY IN YOUR SOPHOMORE YEAR (and take Physics later).

A. Cell biology (BIOL 22b) at Brandeis requires knowledge of concepts in organic chemistry.
B. Several of the projects in the Bio and Orgo labs are linked. The students will design a drug in the organic lab and then test their molecule on in vitro and organismal systems in the biology lab.
C. The biology labs have recently moved to a more biochemical subject matter over the past few years and so require more knowledge of organic than before.
D. Specific topics are covered in cell biology that require knowledge of organic chemistry:
   1. Bonding patterns
   2. Reaction mechanisms
   3. Stereochemistry in biomacromolecules
   4. Spectroscopic techniques (UV, fluorescence, NMR, etc.)
E. Human Physiology (BIOL 42) – a course taken by many pre-meds as good MCAT prep - strongly recommends that organic chemistry has already been taken.
F. Many upper level biology electives (BIOL 125, BIOL 132, BIOL 149) as well as BCHM 100 list Chem 25a as a pre-requisite (orgo cannot be taken concurrently).

First year students with a strong background in biology and genetics (e. g., a 5 in AP Biology) can consider taking BIOL 22a Genetics in Spring semester of their first year, but if so, you should defer taking the lab BIOL 18a until the following year.

**BIOL 99 senior research - is not required to major in biology - but many students elect to do senior research and many receive departmental honors. Students wishing to do a research project should try to get into a laboratory no later than fall semester, Junior year; and earlier is better.