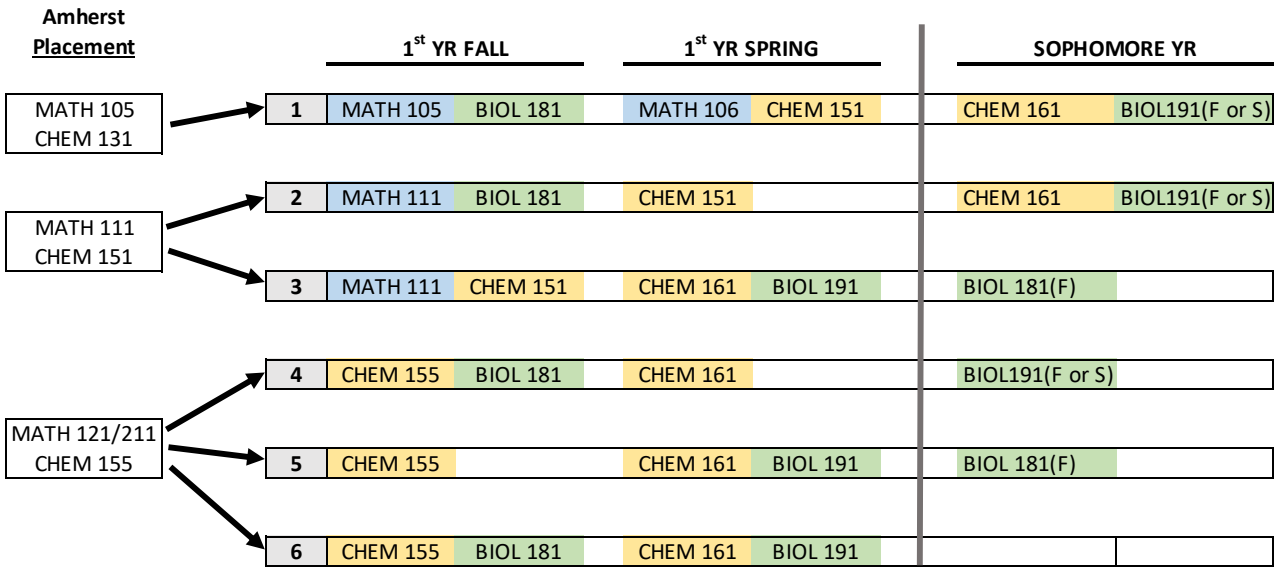
Pathways for Foundations of a Biology Major

There are several ways to navigate the Introductory math and science courses necessary for the foundation of a Biology major. In consultation with your advisor, you should tailor your own path to give you the best opportunity for success in these courses so that you can move on to advanced courses with confidence (see 6 options below). Consider your Amherst College Math/Chem placements, your previous preparation in Biology, including previous laboratory work, your interests in different subdisciplines of Biology (look at the advanced courses you want to take), and your other curricular/extracurricular commitments.
See below for additional considerations and for a key to the courses listed here.

6 Alternative Pathways for laying the foundations for a Biology Major:



Specific Notes:

- Students who are placed into MATH 121/211 and CHEM151 can follow paths 2 or 3, without MATH 111
- Since MATH 121 is not a required prerequisite for any Biology course, it is not listed in these paths, but can be added when there is space in your schedule.
- Biology, Chemistry, and Math Departments agree that it is NOT in a student's best interest to take more than two STEM courses in the fall of the first year; instead, chose 1-2 to fit your own preparation and future plans.
- Note that taking two laboratory courses simultaneously puts a significant constraint on your weekly schedule. (The foundation courses that have laboratories are CHEM 151/155, BIOL 181, and BIOL 191).
- Note that unlike Chemistry and Math courses, the introductory Biology courses can be taken in either order. They each serve as a pre-requisite for different advanced Biology courses (consult course description); courses that require BIOL191 also require a year of intro Chemistry (since this is required for BIOL191).
- BIOL 191 requires completion of, or co-enrollment in, CHEM 161.
- CHEM 161 requires completion of CHEM 151/155 or the equivalent, and completion of MATH 111 or MATH 105/106 or equivalent (eg. AP credit that places you into MATH 121 OR 211).
- BIOL 181 is offered every fall semester and BIOL 191 is offered both fall and spring semesters.
- Most advanced Biology courses are not open to first year students (consult course description).
- Students who are following a pre-med curriculum should check with the health professions advisor Dean Aronson for specific recommendations. The different paths above will affect the timing of when organic chemistry and biochemistry can be taken (the earliest is possible through paths 3-6).
- Other majors that overlap with the Biology major are Environmental Studies, Biochemistry & Biophysics, and Neurosciences; please consult web sites for these majors to learn of their course requirements.

Key to courses and course numbers:

	Course Type and when offered	**Pre-Requisites**
BIOLOGY		
BIOL-181: Adaptation and the Organism This a prerequisite for courses such as Ecology, Evolution, Animal Behavior, Plant Biology, and Field Biology	Lect/Disc/Lab Fall only	No pre-requisites
BIOL-191: Molecules, Genes and Cells This a prerequisite for courses such as Molecular Genetics, Cell Biology, Development, Microbiology, Biochemistry, and Neuroscience	Lect/Disc/Lab Fall & Spring	Completion of or co-enrollment in CHEM-161
CHEMISTRY:		
CHEM-151: **Introductory Chemistry**	Lect/Lab/Disc Fall & Spring	Placement by Chem Dept
OR		
CHEM-155: **Fundamental Chem Principles**	Lect/Lab/Disc Fall only	Placement by Chem Dept
CHEM-161: **Chemical Principles**	Lect/Lab/Disc Fall & Spring	Completion of CHEM-151 or 155 and MATH 111/105-6
MATH:		
MATH-105 Calculus with Algebra **MATH-106**	Lect/Disc Fall, Spring	Placement by Math Dept
OR		
MATH-111: **Intro to the Calculus**	Lect/Disc Fall & Spring	Placement by Math Dept