

Science and Mathematics Course Planning

How much science and mathematics will I need to do?

By the end of 10th grade, most of you will have enough credits of each to graduate. Yay! BUT, you may not have enough for your college requirements, if that is what you want to do after high school. Most of you will need a third year, and others will even need a fourth. Some of you will need specific courses, depending on your college.

CHECK WITH COLLEGES AND BE PREPARED!

*What **mathematics** courses does CAJ offer?*

Algebra 1 Geometry Algebra 2 Precalculus
 AP Calculus AB and BC Statistics Applied Mathematics

In which grade should I take them? These are some common sequences. Ask if you want to try something different! Some may not be possible due to scheduling conflicts.

Sequence	9th grade*	10th grade*	11th grade	12th grade
Math 1	Geometry	Algebra 2	Precalculus	AP Calculus AB
Math 2	Geometry	Algebra 2 + Precalc summer	AP Calculus AB	AP Calculus BC
Math 3	Geometry	Algebra 2 + Precalc summer	AP Calculus AB and/or Statistics	AP Calculus BC and/or Statistics
Math 4	Geometry	Algebra 2	One more	
Math 5	Algebra 1	Geometry	Algebra 2	One more
Math 6	Algebra 1	Geometry	One more	
Math 7	Algebra 1	Geometry		

* These shaded boxes are the required years, you have to take math of some sort.

Notes:

- We recommend **Sequence 1** if you are able to do it.
- Applied Mathematics can be done any time after Geometry.
- Algebra 2 is the minimum required prerequisite for Statistics.
- CAJ accepts credits for approved Precalculus online courses over the summer. See Mr. Lindsey or Mr. Marshall for more information.
- SAT is aimed at Algebra 2, and SAT Math Subject Tests are aimed at Precalculus.

Which sequences are for what kind of future studies? Generally speaking:

For Engineering, Science, Computing, Medicine	For Humanities	For Economics and Business
<i>USA:</i> Math 1-3 <i>Japan:</i> Math 3	<i>USA:</i> Math 1, or 4-7 <i>Japan:</i> Same as USA	<i>USA:</i> Math 1-3, or 4-5 <i>Japan:</i> Same as USA

What science courses does CAJ offer?

Environmental Science	Biology	Chemistry
Physics (Regular, AP 1 & 2)	AP Biology	AP Chemistry

In which grade should I take them?

Some flexibility is possible, including taking two in one year, but this is not easy. Note that schedules may not permit some combinations in some years.

Here are some common options:

Sequence	9th grade*	10th grade*	11th grade	12th grade
Science 1 (common)	Biology	Chemistry	Physics	One AP science course
Science 2	Biology	Chemistry	AP Chemistry (+AP Biology?)	AP Physics 1 (+AP Biology?)
Science 3 (all APs)	Biology	Chemistry	AP Chemistry AP Physics 1	AP Biology AP Physics 2
Science 4 (no APs)	Biology	Environmental Science	Chemistry	Physics
Science 5	Biology	Chemistry	One more if desired	

* Required to do a science course these years.

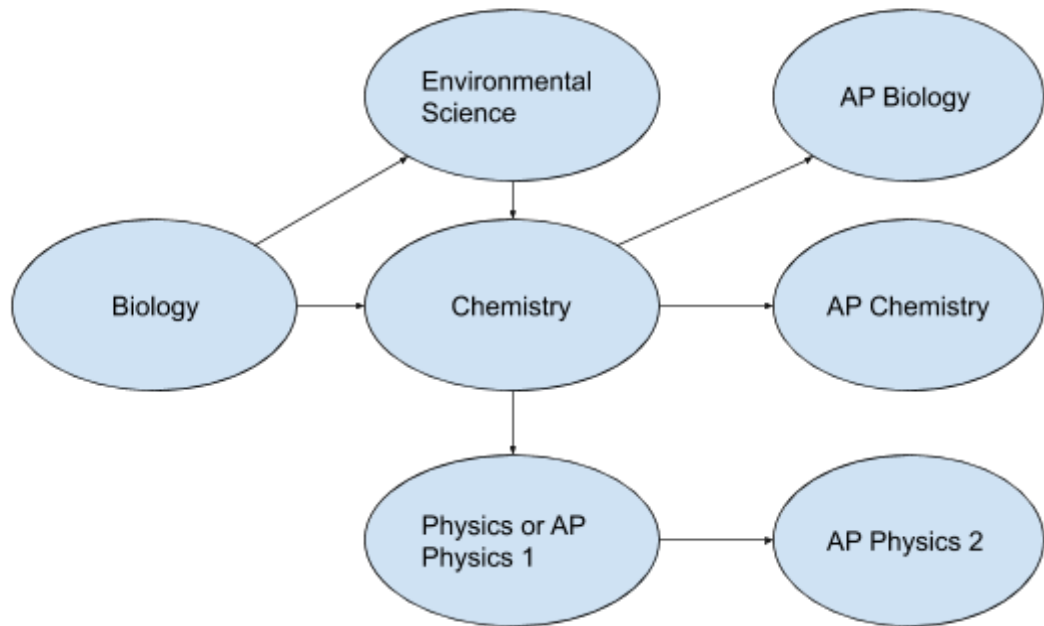
Notes:

- Chemistry needs Algebra 2 completed or taken at the same time.
- Physics (or AP Physics 1) needs Algebra 2 completed before taking it.
- AP Physics 2 needs AP Physics 1 first.
- AP Chemistry needs the regular version first.
- AP Biology needs Biology and Chemistry before taking it.
- SAT Physics Subject Test best taken after AP Physics 1 and 2, but can be done after Physics 1 with extra preparation. Please be careful!
- SAT Chemistry or Biology Subject Tests best taken after AP Chemistry/ Biology.

Which ones are for what kind of future studies? Generally speaking:

Highly selective colleges in the US, including liberal arts	Japanese engineering (e.g., Waseda)	Medicine-related courses (nursing, therapies)
Science 1, or 2-4 if desired	Science 3 and SAT Physics and Chemistry Subject Tests (and Math II)	Science 1-4
Less selective US colleges	Engineering	Japanese colleges
Science 5	Science 1-4	Often Chemistry

Science Sequence of Courses



Notes on MATH needed:

Chemistry - B+ or higher in Geometry

Physics - Algebra 2 completed

Mathematics Sequence of Courses

