

**How does AMSA's
curriculum
compare to our
sending districts?**

Constraints:

- Data is only from high schools
- Graduation requirements are not always exactly alike
- Data is mostly focused on AP/Advanced classes
 - Lower level classes are more uniform
 - AP provides a better chance of an apples to apples comparison
- Data does not include enrollment numbers for classes, average AP scores, or other outcome-oriented metrics

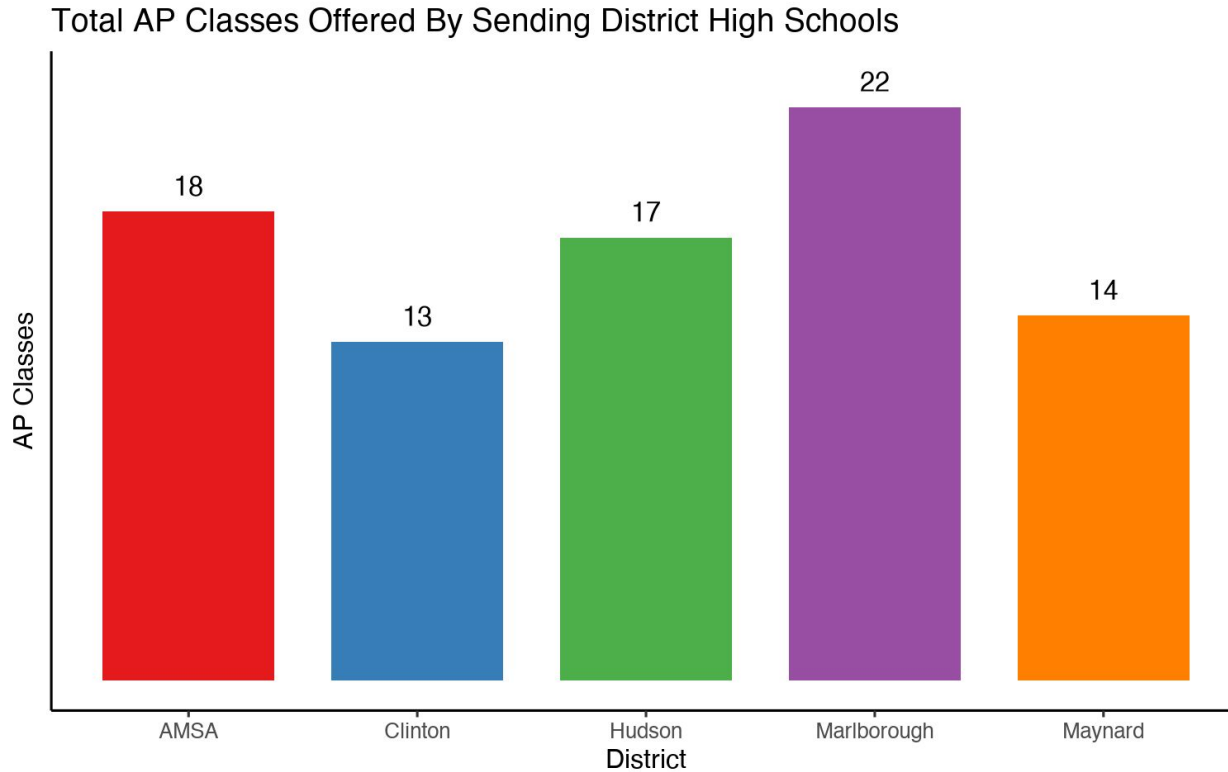
Graduation Requirements:

District	Math	Science	Computer Science & Engineering	English	History & Social Studies	World Languages	Fine Arts	PE & Health
AMSA	4	3	1.5	4	3	2	1	2
Marlborough	4	3		4	3	2	1	2
Hudson	4	3		4	3	2	0.5	2
Clinton	3	3	1.5	4	3	1		1
Maynard	4	3		4	3	2	1	2

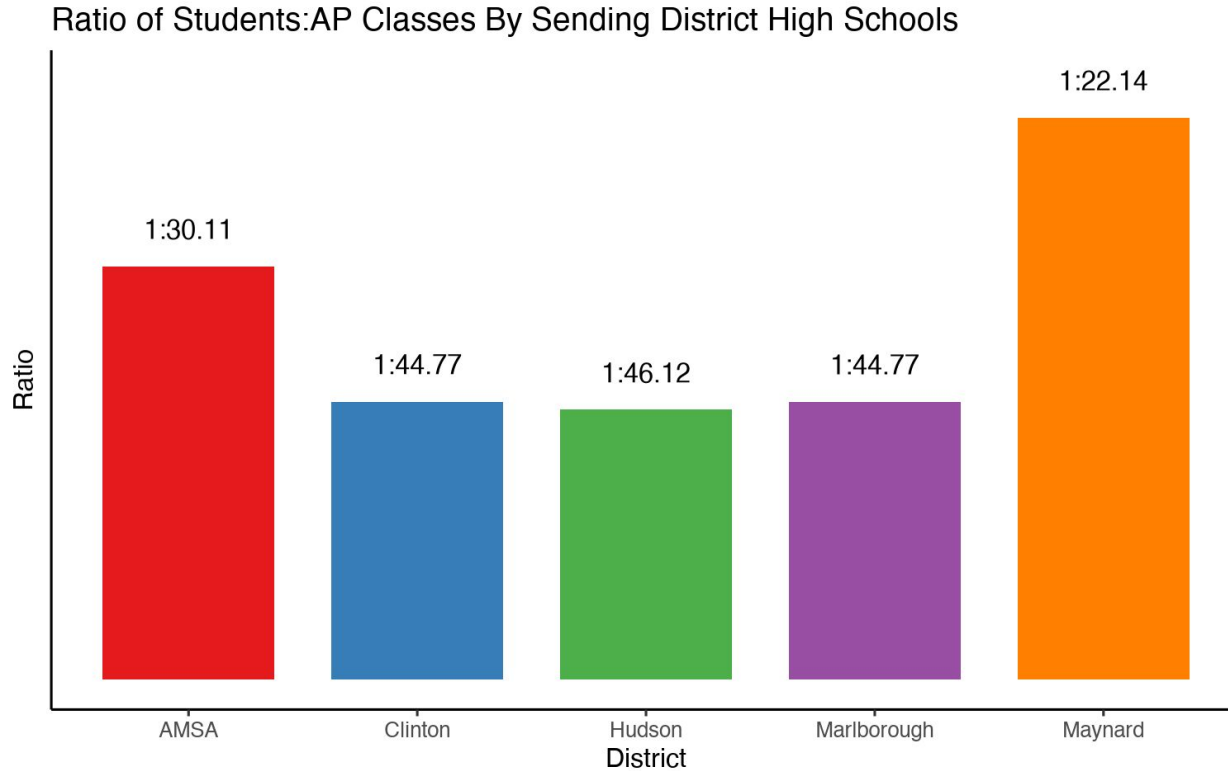
Takeaways

- AMSA's is less flexible than our sending districts – we require more mandatory classes of our students
- AMSA requires students to take more Science & Computer Science classes than most other sending districts, and most of that weight comes from Computer Science
- Broadly, AMSA's graduation requirements are in line with sending towns

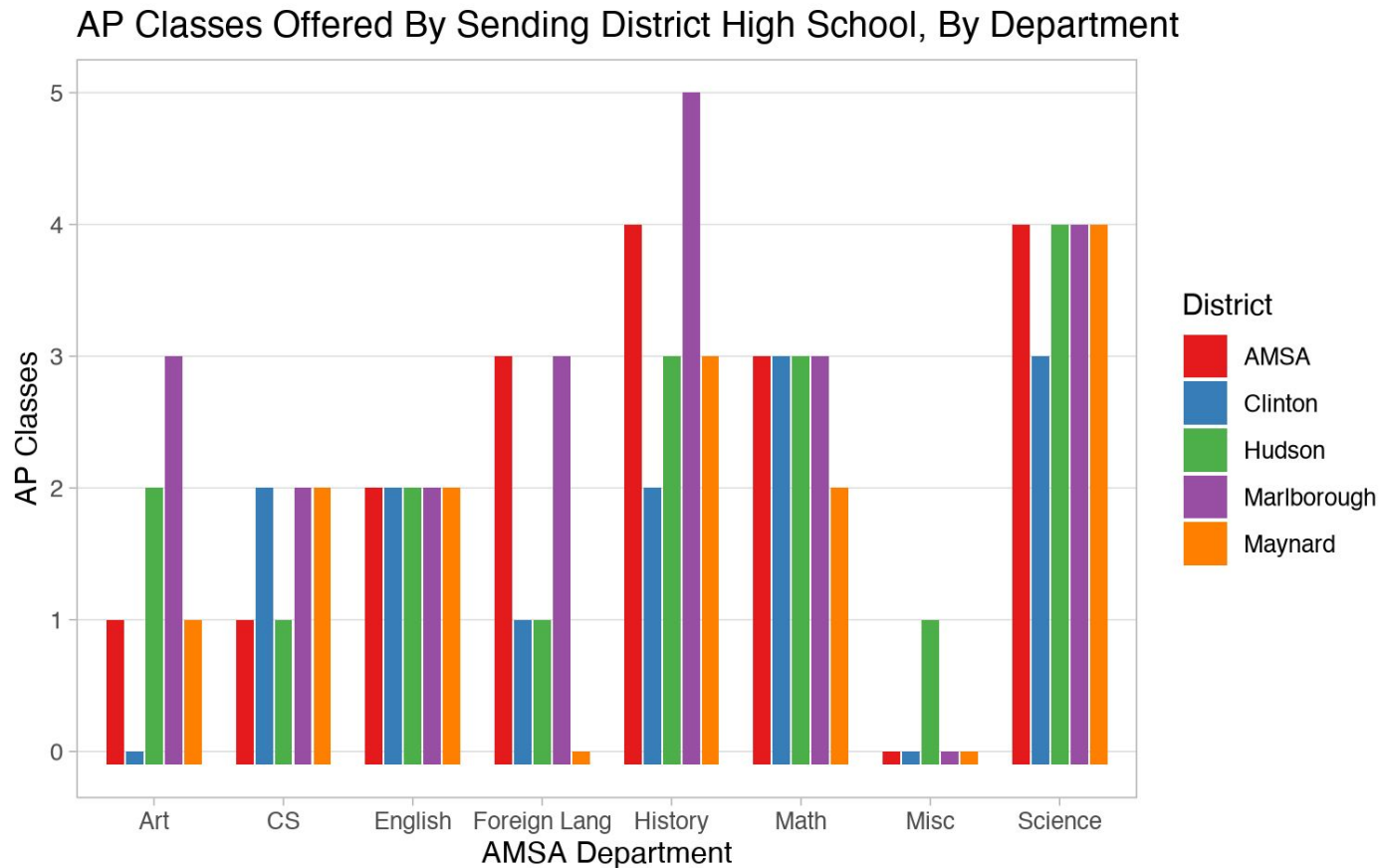
AP Classes:



AP Classes:



AP Classes (By Department):



Takeaways

- AMSA's offers slightly more AP classes than most of its sending districts
- The overall picture doesn't change when controlling for the number of enrolled students, although Maynard in particular really shines by this metric
- The distribution of AP courses offered across departments is fairly normal, with spots of strength in foreign languages and history

Caveats...

Sciences

AP Biology >

AP Chemistry >

AP Environmental Science >

AP Physics 1: Algebra-Based >

AP Physics 2: Algebra-Based >

AP Physics C: Electricity and Magnetism >

AP Physics C: Mechanics >

Math and Computer Science

AP Calculus AB >

AP Calculus BC >

About the AP Computer Science Courses >

AP Computer Science A >

AP Computer Science Principles >

AP Precalculus >

AP Statistics >

Caveats...

Data Science (Acc)

elective / grades 11, 12 / 1 credit / <1 hr homework per week

Science Research - Advanced Biochemistry

elective / grades 11, 12 / 1 credit / 1 hr homework per week

Discrete Mathematics in Computer Science (Acc)

elective / grade 12 / 1 credit / 2-3 hrs homework per week

Cybersecurity and Cryptography (Acc)

elective / grade 12 / 1 credit / 1 hr homework per week

Multi-variable & Vector Calculus

core course / grade 12 / 1 credit / 4-5 hrs homework per week

Science Research - Geochemistry

elective / grades 10, 11, 12 / 0.5 credit / 1-2 hrs homework per week

Differential Equations/Linear Algebra (Acc)

elective / grade 12 / 1 credit / 2.5 hrs homework per week

Caveats...

This introductory course will cover one of the four areas of technology systems. It will emphasize the basic principles of the design process through production and manufacturing. Experience will include fabrication of selected projects from raw materials to a finished product. This course will emphasize safety and the uses of woodworking hand tools and power machines. Students will be expected to pay a fee for project materials for each project.

Department of: Music

845 - INSTRUMENTAL MUSIC (CP)

Credits:
10**Length:**
Full Year

725 - CHILD DEVELOPMENT I (CP)

Credits:
10**Length:**
Full Year

This course offers fundamental knowledge of child growth and development. Topics

Synthesis and some shameless editorializing

Synthesis

- AMSA offers an above-average number of APs both in absolute terms and for a school of its size, when compared to sending towns.
- AMSA offers post-AP classes at a level that is significantly higher than its sending towns, but those courses largely exist in the Science, Computer Science, and Math departments.

Shameless Editorializing

- A major area of growth for AMSA would be to offer an avenue for students who want to demonstrate excellence & engage with advanced content in a non-STEM or non-exclusively-STEM path – these paths already exist for some faculties and could be expanded to others
 - This doesn't necessarily mean just more advanced classes, which is suited more for STEM fields, and which is a major reason this hasn't been done

Future Work

- Some unanswered questions:
 - How does this data look for middle school?
 - How does this data look when analyzed over the course of a student's time at AMSA? Is some material encountered earlier? Later? To what degree?
 - What is the distribution of students across levels and across departments? Is AMSA really a school for “STEM kids”, or just “advanced kids”, or something else?

Please look at my data!

data