

Annual Report 2023-2024



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INTRODUCTION TO THE SCHOOL

Advanced Math and Science Academy Charter School			
Type of Charter	Commonwealth	Location	Marlborough, MA
Regional or Non-Regional	Regional	Districts in Region	Marlborough, Clinton, Maynard, Hudson
Year Opened	2005	Year(s) Renewed	2010, 2015, 2020
Maximum Enrollment	966	Enrollment for 2023-2024	966
Chartered Grade Span	6-12	Current Grade Span	6-12
Number of Instructional Days per School Year (as stated in the charter)	180 (originally 188, but amended on 7/05/06)	Students on Waitlist for 2023-24	852
Number of Instructional Days during 2024-2025 School Year	180		
School Hours for the 2024-25 School Year	7:55-2:45 (Monday-Friday) 7:55-11:07 (Professional Development Half Days- total 6) 7:55-11:07 (Half Days for Students and Staff- total 4) 7:55-11:45 (Final Exams-total 4)	Age of School in 2023-2024	19
Mission Statement The Advanced Math and Science Academy Charter School will create an atmosphere of celebration of knowledge where children of all backgrounds and abilities excel in all subjects, especially in math, science, and technology, empowering them to succeed in the workplace in our modern high-tech world.			

SCHOOL PERFORMANCE AND PROGRAM IMPLEMENTATION

FAITHFULNESS TO THE CHARTER

CRITERION 1: MISSION AND KEY DESIGN ELEMENTS

Celebrate academic knowledge and inspire an appreciation of learning.

AMSA provides the opportunity for all students to participate in the American Mathematics Competitions that are designed to promote the development and enhancement of problem-solving skills and a love for learning.

AMSA students are offered many choices of academic clubs and activities. Students are encouraged to participate in academic endeavors beyond school hours that complement their studies and allow them to focus deeper into their individual passions.

AMSA recognizes seniors who have earned honor roll status for at least 12 out of 15 quarters during their high school career with the award of Honor Roll Distinction.

Implement an educational model that is highly structured, and each year consists of continuous, logically organized, and interconnected multi-year courses (Executive Summary) in which teachers introduce, and build upon, fundamental concepts and theories in math, science, computer science, and the humanities, preparing students for college and professional life.

AMSA's program prepares and encourages students to participate in Advanced Placement studies as early as 10th grade and offers a wide selection of courses that are available to students who are inspired to take the challenge and strive for excellence.

The Counseling Department provides seminars for all juniors and seniors that focus on college preparation, college applications, and career planning. This includes essay writing, financial aid guidance, with a strong focus on mental health and wellness.

Cultivate a generation of leaders (and collaborators), especially in math, science, and technology that requires full commitment from the school to ensure that every student is challenged at the maximum of their ability and current intellectual preparedness with the goal of further advancing this "maximum" level.

*AMSA has implemented **Panorama**, a data driven program used to improve the school climate and culture, teaching and learning, family and community engagement, and student' social-emotional learning. The program allows us to identify and track students who are considered the "lowest performing", providing data that guides strategies for narrowing learning gaps. Due to testing interruptions caused by COVID, the 2022 Next Generation MCAS will serve as our baseline.*

Students identified as lowest performing are supported through our Math Intervention Program, MCAS Tutoring Program, or Peer Academic Counseling Program.

AMSA offers many opportunities for participation in research and internships within our science, engineering/technology, and computer science departments.

AMENDMENTS TO THE CHARTER DURING THE 2023-2024

There were no amendments made to the Charter between August 2023 and July 2024.

CRITERION 2: ACCESS AND EQUITY

STUDENT DEMOGRAPHIC INFORMATION

AMSA's student demographic information is located on the Department's website using the following links to our school's profile.

[Enrollment-Data-\(2023-2024\)-AMSA-Charter-School](#)

Student Data by Race/Ethnicity (2023-24)	
Race/Ethnicity	Percentage of Student Body
African American	2.7
Asian	10.6
Hispanic	11.0
Native American	0.1
White	68.5
Native Hawaiian, Pacific Islander	0.1
Multi-Race, Non-Hispanic	7.0

[Selected-Populations-Data-\(2023-2024\)-AMSA-Charter-School](#)

Selected Student Populations (2023-24)	
Title	Percentage of Student Body
First Language not English	24.5
English Language Learner	4.7
Low-income	17.3
Students with Disabilities	6.8
High Needs	27.0

2022-2023 STUDENT DISCIPLINE DATA REPORT

Based on the 2022-2023 Student Discipline Data in the table below, AMSA observed a reduction in suspensions for all students, decreasing from 52 individual students suspended in the previous year to 34. Notably, the number of suspensions for ELL students was reduced from 6 to 2, bringing the rate below the state reporting threshold. This improvement was achieved through increased collaboration and alignment between the deans' offices, counseling staff, special education staff, and ELL staff. However small, AMSA recognizes a disparity in discipline for students who fall into the categories of

economically disadvantaged, high-needs, and students with disabilities. As such, In the 2023-2024 school year, AMSA made a shift to hire a skilled and experienced Director of ELL. This hire will help us strengthen school and family partnerships and lower discipline rates for our high-needs and economically disadvantaged students. AMS continues to work with our Director of Special Education to find alternatives to suspension for our special education students also. These innovative alternatives include Saturday School and an increase in our restorative justice options

[Student-Discipline-Data-\(2022-2023\)-AMSA-Charter-School](#)

2022-23 Student Discipline (Please note: data used is from the previous school year)					
Student Group	Total Number of Students	Students Disciplined	Percent In-School Suspension	Percent Out-of-School Suspension	Percent Emergency Removal
All Students	973	34	2.2	2.0	0.0
English Learner	17	2			
Economically Disadvantaged	175	17	5.1	6.0	0.0
Students with Disabilities	77	12	7.8	11.7	0.0
High Needs	272	24	5.5	5.1	0.0
Female	439	4			
Male	527	30	3.8	3.0	0.0
American Indian or Alaska Native	0				
Asian	115	2			
African American/Black	27	2			
Hispanic/Latino	82	6	6.1	2.4	0.0
Multi-race, Non-Hispanic/Latino	74	3			
Native Hawaiian or Pacific Islander	0				
White	675	21	1.8	1.9	0.0

In the 2022-2023 school year, AMSA continued its peer mediation program in partnership with a community-based mediation agency. This program helps students resolve conflicts peacefully and constructively before they escalate to the point of needing serious disciplinary action. Over the year, the peer mediation program conducted more than 50 mediations. Additionally, both deans met with representatives from several nearby school districts to share effective practices for running a successful peer mediation program. A new group of peer mediators was selected and participated in a three-day mediation training session in September 2023.

AMSA takes a proactive approach to addressing student behavior by consistently communicating with teachers, parents, and students to understand behavioral trends both on and off campus. The school addresses situations with students and their parents/guardians on a case-by-case basis, using its core values of integrity, excellence, and community as guiding principles in discussions related to disciplinary actions.

AMSA uses a “progressive” disciplinary system that avoids zero-tolerance policies, which often result in automatic suspensions. For less severe cases of disrespect or poor behavior, AMSA assigns reflective assignments directly related to the student's actions—such as writing a research paper on topics like substance abuse, gender discrimination, or bullying—rather than issuing detentions or suspensions. This approach focuses on educating students, helping them learn from their mistakes, understand the consequences, and make better choices in the future.

To support students’ social and emotional growth, AMSA school counselors lead an advisory curriculum for middle school students. This program develops skills such as social-emotional learning, organization, conflict resolution, empathy, leadership, digital kindness, respectful disagreement, and managing difficult conversations.

AMSA has implemented Panorama, a tool that provides access to a broad range of student data points, including attendance, grades, discipline records, IEPs, 504 plans, ELL status, and low-income status. This allows the administration to identify and address behavioral trends early. The vice principal and deans meet weekly with upper and lower school counselors to monitor all students' well-being, not just those with obvious behavioral issues, enabling a more comprehensive and equitable approach to student support.

To reduce disparities in discipline rates, particularly for economically disadvantaged students and students with disabilities, AMSA employs several targeted strategies:

1. **Tailored Interventions:** By utilizing data from Panorama, AMSA identifies at-risk students and provides personalized support and interventions. For students with disabilities, interventions are aligned with their Individualized Education Plans (IEPs) or 504 Plans, ensuring their specific needs are met.
2. **Restorative Practices:** AMSA emphasizes restorative practices and conflict resolution techniques, such as the peer mediation program, to help all students, including those from economically disadvantaged backgrounds, resolve conflicts without resorting to punitive measures.
3. **Multi-Tiered System of Support (MTSS):** Supported by the DESE Social Emotional Learning and Mental Health grant, AMSA continued to develop its Multi-Tiered System of Support (MTSS). This framework provides differentiated support for students based on their specific needs, helping to reduce disciplinary actions by addressing root causes of behavior through programs like the BRYT-model program and Executive Functioning support.
4. **Family Collaboration:** AMSA works closely with families to ensure that disciplinary actions are fair and consistent. This collaboration is particularly important for families from economically disadvantaged backgrounds, who may require additional support and resources.
5. **Equity in Access to Resources:** Programs like the i-Decide initiative from Harvard University, which provides interventions for vaping, alcohol, and drug use, are offered to all students. AMSA ensures that students with disabilities and those from economically disadvantaged backgrounds have equal access to these support programs.

The deans also conduct grade-level assemblies to discuss age-appropriate topics related to behavior and civic-mindedness. Younger students learn about bullying, harassment, vandalism, discrimination, and respect, while older students focus on issues like vaping, substance use, plagiarism, and academic dishonesty. Regular communication and follow-up help build relationships that promote healthy and caring behaviors.

AMSA's commitment to student well-being is further supported by its partnership with Challenge Success, clinical supervision for the counseling department, and initiatives like Balance Day, which promote student wellness. Additionally, the school's fully integrated 9th-12th grade seminar program, mapped in Atlas (AMSA's curriculum mapping software), helps provide a comprehensive and equitable educational experience for all students.

Overall, AMSA remains focused on reducing disparities in discipline rates by providing equitable support and promoting a culture of reflection, education, and growth.

CRITERION 4: DISSEMINATION

AMSA is committed to robust community outreach and dissemination efforts, that continue to provide opportunities for our students and staff to share and exchange instructional practices and innovative curriculum with other Massachusetts schools.

AMSA has provided innovative models for replication and best practices to other public schools in our district and other districts in the Commonwealth during this charter term. In addition, we have welcomed visitors from other states who have come to learn about our educational model. Just recently, we have partnered with a group from Rhode Island that is in the process of opening a charter school with ambitious plans to replicate AMSA's program. We look forward to sharing our successes as well as strategies for overcoming challenges that are familiar to charter schools.

AMSA's outreach is not limited to the classroom. Our students and staff are equally interested in building strong citizenship and community mindedness through service to local residents and assistance programs. AMSA's Leaders of Tomorrow actively participate in community services. This year, Leaders of Tomorrow provided books to the Willis House (a homeless shelter in Hudson for women and children who are victims of domestic abuse). The group organized three town-wide coat drives in Marlborough, Hudson, and Clinton and participated in supporting two community soup kitchens, June's Table in Marlborough and the Wheat Kitchen in Clinton. Leaders of Tomorrow hosted classes and activities (How to use your Smart phone, jazz band concert, trivia, and bingo) at four senior housing projects in Marlborough (The Branches, Marlborough Hills, The Reservoir, and New Horizons).

Kate Driver, Director of School Counseling, was a panelist at the DESE Spring 2024 Federal Grants Conference on May 13, 2024. The session, titled "Data-Driven Decisions: Supporting Social Emotional and Mental Health in Schools," was facilitated by Chris Pond, Behavioral Health and Mental Health Specialist at DESE.

Dissemination efforts that involved sharing AMSA's best practices and resources with other public-school districts, students, and educators are provided on page 7.

Dissemination Efforts 2023-2024

Best Practice Shared	Vehicle for Dissemination	Who at the school was involved with the dissemination efforts?	With whom did the school disseminate its best practices?	Result of dissemination
How to conduct a productive science lab	Classroom instruction was presented as a lab, one per quarter in Chemistry, Biology, and Physics.	Community Outreach Manager and 12 student members of AMSA's Leaders of Tomorrow	4 full classrooms of 4 th graders at Kane School in Marlborough.	Elementary school students were exposed to the intriguing art of science lab techniques used at AMSA, which encourages further interest in science.
Research and Development practices	Worked together to research and develop proposals to address housing sustainability in Massachusetts.	Science Teachers and Grade 11 AMSA students	Students from Marlborough High, Assabet Technical High, and the New England Innovation Academy	AMSA's corporate partners from Quest Diagnostics, Dupont, and Thermal Fisher served as consultants during the process and served as judges of the students' proposals.
Capstone Projects	AMSA seniors shared their capstone projects with students from other schools as part of the Marlborough STEM Competition.	AMSA Teachers and Grade 12 AMSA students	Students from Marlborough High, Assabet, and the New England Innovation Academy.	Students from the Marlborough High Schools were able to share and compare their work.
Data-Driven Decisions: Supporting Social Emotional and Mental Health in Schools	Panelist at the DESE Spring Federal Grants Conference	Director of School Counseling	Attendees at the DESE Federal Grants Conference	AMSA's Director of School Counseling shared how AMSA supports students using a strong Multi-Tiered System of Support (MTSS) and tracking tool that includes comprehensive student data points such as attendance, grades, discipline action, IEP, 504, ELL, or low-income status.

ACADEMIC PROGRAM SUCCESS

CRITERION 5: STUDENT PERFORMANCE

The following link provides the most recent (2023), publicly available student performance data in AMSA's School Report Card. [AMSA-Charter-Public-School-Report-Card-2023](#)

Massachusetts uses information related to progress toward improvement targets, accountability percentiles, graduation rates, and MCAS participation rates to determine each district and school's overall classification. Most districts and schools are placed into one of two categories: those that require assistance or intervention from the state, and those that do not require assistance or intervention. AMSA is in the latter category and has been further classified as **"meeting or exceeding targets"** for most accountability measures. Refer to Appendix E (Table 1) to see how our MCAS performance has compared to the overall state performance from 2019 through 2023.

See Appendix A *Accountability Plan Evidence* to see how AMSA has demonstrated progress in academic achievement during the 2023-2024 school year as measured by non-statewide assessments.

The AMSA community is very proud of its commitment to providing students with a broad access to Advanced Placement (AP) courses. AMSA offered 17 different AP courses in 2024 to students in grades 10, 11, and 12. As shown in Appendix E (Table 2), 87% of our students' AP exams had scores of 3 or higher, demonstrating a dedication to excellence that is shared by our students and teachers.

The total number of AP students who took the exams over the past four years and the number of students in each cohort who are identified as High Needs (*High Needs includes the following groups: students with Disabilities, Low Income, and English language learners*) is an excellent example of AMSA's commitment to providing access to Advanced Placement courses. See Appendix E (Table 3).

The English Department at AMSA uses several measures to assess students' placement and progress including, i-Ready Diagnostic, School-wide writing rubrics, AP English Language and AP English Literature test scores, and the PSAT and SAT test scores. The i-Ready Diagnostic (which was new to AMSA this year, replacing the Lexia Rapid Test used in past years) 2024 spring assessment showed an overall improvement in grade-level reading ability for the 55 students enrolled in AMSA's reading program. This is the first year using this program so historical data is unavailable. At the start of the year, 56% of reading students were performing 3+ grade levels below their enrolled grade, which shrunk to 27% in the spring. Students reading two grade levels below reduced from 24% to 13%. Students reading one grade level below grew from 25% to 27%. Students reading on grade level grew from 5% to 13%. Students reading above grade level grew from 0% to 9%. Results in the specific areas of the assessment reveal stronger results in vocabulary and weaker results in comprehension of informational texts. For vocabulary, 58% of reading students scored on grade level or one grade level below, while in comprehension of informational texts, 56% of students scored 2 or more grade levels below their enrolled grade.

AP scores (see **Table 4** in Appendix E) in English (AP Language & Composition and AP Literature & Composition) have held fairly steady over the years, indicating that our highest achieving students continue to thrive with scores significantly higher than the state and national averages. AMSA's average score over the last six years in AP Literature is 3.65, and in AP Language it is 4.2. The historical statistics measured using the Lexia Rapid Test is as follows: Comparing the testing data for incoming 6th graders over the last four years (2020-2023) to data from the previous four years (2016-2019),

there was a slight shift in the scores of students we serve. In the first four years of data, we had an average of 13.5% of students reading below grade level when they entered AMSA. From 2020-2023, 15.25% of students new to AMSA were reading below grade level. We also saw a slight drop in the average RSP, from 71.5% of students above the threshold for likely reading success to 70% with the lowest percentiles in the last two years.

Anecdotally, teachers report a general decline in student vocabulary and reading comprehension which tracks national trends. This year we piloted a new half credit course for students who have failed an English class at the high school level. The purpose of this class is not only to provide an opportunity for credit recovery for students who did not qualify or complete summer school, but also provide an opportunity for practice and support for our lowest achieving students and to address the causes (which are many) in an intensive and individualized way. The plan is to expand this program over the next two years to include students identified by their English teachers who are struggling to complete work and develop skills. For these students, the program will offer them additional support for their reading and writing work during the school year. This program is integral to the school's mission and commitment to excellence for all students. Because of programs like this, our students continue to do well on standardized tests despite these trends.

For many years, the English Department has used a school-wide writing rubric with 3 three grade level bands: 6-8; 9-10; 11-12 as the primary assessment tool for writing. Based on these rubrics' criteria, we are seeing a clear decline in the sophistication of student writing. Certainly, these gaps are attributable to several factors and have complex causes, but among them are losses during Covid and the deleterious effects of a constant barrage of low-quality reading "hits" from social media and other online sources which constitute the bulk of many students' reading activity. We are trying to address both of these trends by keeping our standards and expectations for students high, and by providing the support needed for students to regain the stamina and skills lost to Covid and the societal trend away from engaging in critical reading.

The Math department uses midyear exam results and final exam results to analyze gaps in students' knowledge. The 2023-2024 results showed that in grades 9 through 12, "covid learning gaps" still exist, but have continued to narrow. The majority of students gained expected confidence and knowledge with averages in the range of 65-85 across all levels, though exams are still based on a partially abbreviated curriculum.

With younger students in grades 7 and 8 we still see lower than pre-COVID averages, especially in groups of struggling students. For example, in both 7th and 8th grade, students who are considered "struggling" scored a raw average result of 60 on the 2024 mid-year exam, versus the results on the mid-year exam in 2020, where raw average results in these groups were in the range of 68-80. For both 7th and 8th grade, midyear exams were more challenging than the previous year and included the majority of pre-covid curriculum which is a step forward for these grades. Struggling 6th grade students this year performed better than 6th grade students last year, showing an average of 65-70, which is higher than the average of 62 last year. In addition to midyear and final exams, the math department runs MCAS practice tests. This year's practice tests identified twice as many underperforming students in 10th grade than last year. These are students whose 6h, 7th, and 8th grades were affected by COVID restrictions and online study, clearly demonstrating that we must continue to address the effects of COVID with some groups of students

To address learning gaps and provide additional support for students who needed more individualized work, the Department Chairs have continued their recovery plan that focused on study skills and executive function skills. The Math Department expanded their support program, and teachers in

general have continued to put emphasis on reading, writing, and comprehension skills. The PSAT and AP scores in the comparison charts in Appendix E (Table 4) provide some insight into AMSA's successful recovery process. Despite the interruption in learning caused by COVID, our students have continued to perform at a high level of achievement.

CRITERION 6: PROGRAM DELIVERY

AMSA continues to deliver a highly structured academic program that consists of continuous, logically organized, and interconnected multi-year courses. Our goal is to meet the needs of all students. The foundation of AMSA's educational model is the belief that all children can learn complex, abstract concepts at an early age if allowed to build on these concepts as they mature and allowed to make mistakes. Understanding grows from exposure to ideas and concepts developed over time. AMSA students are encouraged to embrace challenges, pursue intellectual advancement, and develop valuable collaborative skills. Students are taught that advancement in academic knowledge is a process that requires time, commitment, and discipline, but most importantly, a passion for learning.

The AMSA English program includes seven years of continuous, scaffolded writing practice. Grammar, mechanics, usage, and vocabulary are taught directly in grades 6, 7, and 8, and targeted instruction in problem areas of writing continues in grades 9-12. At all grade levels, AMSA's writing curriculum develops writers by doing. All students work toward mastery of the techniques of effective writing by producing meaningful and effective prose in a variety of modes and by editing and revising their own and peers' work, preparing them for writing in college, work, and civic society. Literature study at AMSA is historically and thematically aligned with an emphasis on foundational works of literature confronting the essential questions of human existence from a variety of perspectives and traditions. Students' study of literature has a two-fold goal: to produce critical thinkers who have a clear and informed understanding of the literary canon and who have mastered the skills and concepts necessary to interpret, appreciate, and apply the knowledge gained from a wide range of literary works and voices from both the past and present. General alignment with AMSA's history curriculum helps students understand the context necessary to achieve the rigorous levels of critical analysis for which AMSA strives. Our goal is to produce critical readers who can ask incisive critical questions and find answers which undergird a deep understanding of any text.

This year, a new reading teacher has implemented a new reading testing program and much more student-centered practice in reading classes as well as regular communication with families and planning with our English teachers to identify and assist students who may need additional reading support. We have encouraged reading generally (both inside and outside of school) by partnering with the Marlboro Public Library to obtain library cards for our 6th and 7th graders and to bring MPS librarians into AMSA to make presentations to the students about the resources available at the newly renovated library. Students have learned how their local library and librarians can enrich their lives, from school and research help to manga clubs and finding the books each student will love reading just for fun.

We have also received a grant this year to provide incoming 6th graders with a "jumpstart" on their career at AMSA which provides them with a fun, four week "summer camp" experience which will better prepare them to meet the rigors and demands of AMSA's high standards, including completing regular critical writing and reading assignments not only in class but also independently. Marlboro Public librarians will also be presenting for this program and will be assisting students in finding books to read for fun.

Gaps in students' writing skills are most apparent in grades 6-8 but are also evident in the upper school

grades 9-12. By the time students have moved through our Lower School (grades 6-8) program, they have shown marked improvement; however, we continue to see gaps in the Upper School (grades 9-12) in writing and reading ability, particularly in the areas of organization, evidence and analysis, and ability to comprehend more complex texts. Over the last couple of years, we have returned to our more rigorous pre-Covid reading and writing program and are beginning to see improvements year to year in student writing ability. We continue to review and adjust all grade-level writing assessments in order to identify where re-teaching and additional practice may be necessary.

By opening AP enrollment to both 11th and 12th graders this year, we were able to enroll significantly more students in AP Language (50 this year vs. 5 last year) due to additional flexibility in scheduling. Students did not have to choose between two courses which were offered only in a single year but could plan to take both. The enrollment for AP Literature has increased this year over last year because in 2022-23, the course was only offered to 11th graders. As a result, interested 12th graders had already taken the course in 11th grade. We expect enrollment numbers to settle into a more consistent pattern over the next year or two.

The AMSA Math program introduces students to concepts of Algebra and Geometry in grade 6 and grade 7. Geometry is taught in parallel to Algebra in grade 7 through 10 to build connection between subjects. There is progression of courses from grade 6 through 12. All students are introduced to ideas of polynomial functions, trigonometry, conic sections, logarithms, exponent, probability, and statistics. 85% of students are introduced to concepts of Calculus. Students are given knowledge of Calculus (including Multivariable Calculus) and Linear Algebra before or in parallel of studying advanced Physics, Chemistry and Statistics. Seniors are offered "Life Courses" that include Statistics and Accounting. Special lessons for advanced students are offered once a week that focus on non-standard problems, such as graph theory, game theory, number theory, and advanced combinatorics and probability.

During the last two years AMSA math department implemented a Math Intervention program that paired struggling students with tutors (teachers and advanced students) to work once or twice a week on knowledge gaps and missing material due to long absences or chronic underperformance. (about 40 students participated in this program this year). AMSA continues to implement a Middle School Math Internship Program, offering credit to student interns who assist students during Directed Study by reviewing material covered in class, helping students prepare for quiz retakes by reviewing previous quizzes and managing the Skills Quiz retake process.

AMSA's Middle School Science program is unique. Over the course of three years, AMSA middle school students will cover a high school biology course. This allows teachers to reinforce ideas throughout the material, helping to draw connections relevant to students and the world they live in today. In grade 7, the classes of Chemistry and Physics are folded in, and in grade 8, an Earth Science class is added. That means that AMSA students have four unique science teachers, all specialists in their field, in 8th grade. Due to this multi-year foundation, students in grade 9 are well prepared for their high school Biology course. After successful completion of their freshman year, students have the opportunity to choose their path in Chemistry and consider AP Biology. Juniors are provided with options in addition to Physics, Anatomy and Physiology, Sustainability, GIS, Forensics, AMSA's Research Program, and AP Chemistry. Seniors have all the elective options, plus the ability to take AP Physics. Some of the most notable advancements to our science curriculum in recent years are the dynamic research and internship opportunities offered in collaboration with Thermo Fisher Scientific, Boston Scientific, Sunovion, Quest Diagnostics, Raytheon, GE Health, and ViaSat. Students participate in scientific research modeled after graduate school science programs. Current areas of research include Engineering, Environmental Sustainability, Geochemistry, Molecular Biology, and Wildlife Population Studies.

AMSA's Computer Science and Engineering program is very special as it integrates our Science and Math curriculum into its program for all grade levels. All students take Computer Science in grades 6 through 11. The curriculum focuses heavily on solving problems using tools that help students visualize and get feedback from their computation. The curriculum focuses on projects that not only reinforce the Math, Science, and other content areas, but also emphasizes the importance of foundational knowledge of STEM fields to show the real-world relevance to our students. AMSA's Computer Science curriculum focuses not only on core concepts and programming structures but also on creativity, flexibility, and critical thinking. AMSA offers many accelerated courses such as AP Computer Science, Data Science, Cyber Security and Cryptography, Discrete, Networks and Full Stack Development. When a high school student completes our program, they will be well prepared to seek a Computer Science, Math, Science and/or Engineering degree. They will have advanced knowledge and abilities in computing, be able to engage in solving problems with success, push the boundaries of conventional thinking, complete interdisciplinary projects, and explore internship/research opportunities with skill and confidence. AMSA seeks to build collaborative relationships with industry and universities to expose our students to practical applications of Computing and Engineering. AMSA is proud of its early foresight to keep CS in the core curriculum, and we are willing to work with other schools and businesses to make its program's model of Computer Science a core requirement, the exemplar for all others.

The Computer Science Department introduced a new course, *Full Stack Development*. This course is a comprehensive and interdisciplinary project that requires students to apply the knowledge and skills acquired throughout their academic careers to solve real-world problems or issues. This year's students carried out an independent group research project in order to devise an innovative solution for a real-world problem, such as period attendance at schools. They developed a product called AMSA Eagle Eye, which will provide AMSA administrators with data on how much time students spend out of class. Students learned a lot about GitHub and version control, used by thousands of development teams and companies. They learned advanced web server and database management using AWS, worked with object-oriented design through the document-object model and realistic development workflows and environments using Docker Containers, which is the latest technology used in the software industry. This is like no other class at a high school.

Some of our students created cyber security architecture and incident response plans for the following types of organizations: secondary school, financial institution, big tech company, healthcare facility, and government, defense, or research institution. Students presented their work at the Arts and Science Night event at AMSA.

Last year the Cummings Foundation awarded AMSA a \$105,000 grant (over three years) to fund an initiative AMSA created to broaden participation in engineering from underrepresented groups. We piloted the program with our collaborator, the University of Massachusetts Lowell (UML). Last year and again this year, we are serving students from primarily underrepresented backgrounds. Underrepresented students in engineering include students who identify as women, first-generation college students, and as Underrepresented Minority (URM) students. In our program, rising ninth and twelfth graders were put into teams to develop a prosthetics prototype. Undergraduate students facilitate their design process in collaboration with UML and AMSA staff. Professors across the different fields of engineering at UML gave seminars and ran activities. The goal is to encourage students to develop their STEM identity and identify in-group STEM role models, while engaging in hands-on engineering activities and learning about potential engineering careers. AMSA hosted a two-week engineering design camp again this year, in addition to on-campus recruitment events for STEM careers at UML and UMass Amherst.

AMSA's History and Social Studies Department seeks to instill a passion for learning about how the past informs the present. Across grades 6 through 12, students learn about the chronological progression of human history. 6th grade focuses on ancient history, while 7th grade focuses on medieval and early modern world history. Beginning in the 2024-2025 academic year, 8th grade focuses on Civics, adhering to the standards set by the 2018 History and Social Studies Curriculum Frameworks. Students take a final year of world history in 9th grade. In 10th grade, students transition to United States History, which they continue studying in 11th grade. Students in grades 9-12 have the opportunity to take several elective courses, including AP courses.

The following AP courses are offered: AP Macroeconomics (10-12), AP Microeconomics (10-12), AP United States History (11-12), AP US Government (11-12), and AP Psychology (12). The remaining electives are driven by the department's own priorities of allowing opportunities to study certain historical periods and trends in greater depth. In alternating years, students can select elective courses on Anthropology, History of Modern Africa, Contemporary US History, History of Sports, The History of the Wild West, and The Dark Side of American History. There is one elective specially reserved for juniors and seniors who wish to study Government and Economics in a non-AP setting. Assessments across all grades include document-based questions, primary source analysis, simulations, group and individual projects, geography quizzes, multiple choice exams, and research essays.

The World Language and Art Program offers a rigorous program with the AP level in all subjects including Art, French, Latin, and Spanish. The department implements interdisciplinary study between World Language and Art, and other disciplines, so students can make connections and comparisons across various subjects, synthesize concepts, and engage in critical thinking and analysis. For the second consecutive year, we have held Arts and Science night in May as a way to celebrate our multi-faceted and talented students. This event includes an extensive visual artwork display, student presentations of science projects and performances by chorus, band and acapella. The department is also proud to offer national honor societies in Art and Spanish to qualifying students. AMSA has also successfully offered the Massachusetts Biliteracy State Seal for the fifth year. This initiative recognizes students who demonstrate proficiency in English and another language. This year's 2024 AMSA graduates earned the Seal in Latin, Portuguese, and Spanish. See Appendix E (Table 5).

AMSA is very proud of its vigorous wellness and physical education curriculum. Our wellness and physical education teachers are highly qualified professionals who work with a diverse student body. The curriculum provides activities and learning opportunities that encourage healthy habits and lifelong fitness. Along with teaching students the importance of teamwork and sportsmanship, students in grades 8 and 10 receive a health curriculum in conjunction with their physical education.

The health and physical education curriculum is designed to familiarize students with issues that are commonly experienced in middle and high school. Lessons have been carefully developed to provide a strong knowledge base and offer experiences that enable students to make good choices and decisions. The goal is to build a foundation of self-awareness, empathy, and understanding, that promotes the development of physically, socially, and emotionally healthy students.

The Special Education program teaches skills that students need in order to access and make progress in the general education curriculum. The skill development areas include academic and executive functioning skills as well as social/emotional and behavioral skills that are needed to access the life of the school. Our service delivery model is an inclusive model of service, which means that students receive their special education services in the classroom, where the learning occurs. General Educators, Learning Specialists, and Assistant Learning Specialists work as a cohesive team with the student and family to effectively implement the Students Individual Education Plan.

We have a full service of related service providers which include Adjustment Counselors, Psychologist, Speech and Language Pathologist, and Behavior Specialist to consult with team members and provide direct services. Physical Therapy and Occupational Therapy are currently contracted services through Assabet Valley Collaborative. We also have an Inclusion Specialist to effectively include students in the general education classroom. The Inclusion Specialist works with students and families who may need an increased level of support in the development of skills needed to access the curriculum.

The AMSA English Language Learners Program of Sheltered English Instruction provides specialized instruction for students according to their level of need depending on the integrated setting. Sheltered English Instruction means that students study the same subjects and material as their peers, but with simplified language and with audio-visual material presented in a comprehensible manner. Lessons and activities are designed so the English language development of the student is addressed. ELL students are also provided regular in-classroom support and enrollment in an English Language Development (ELL) class providing more focused development of necessary academic English language skills. All ELL classes are taught by a fully licensed ELL teacher.

AMSA offers a summer credit recovery program for students who fail a subject. Middle school students have the opportunity to recover credit in English and Math. High School students are provided with the opportunity to recover credit in all core subjects. Running simultaneously during the summer, AMSA offers the Eagles Academy Program, which is an enrichment program designed to offer AMSA students and rising 6th graders opportunities to gain additional academic support.

ORGANIZATION VIABILITY

CRITERION 10: FINANCE

The following documents are available on the next four pages:

- Unaudited FY24 Income Statement, page 15
- Balance Sheet FY24, page 16
- Approved School Budget FY25, page 17
- FY25 Enrollment Table, page 18
- Capital Plan for FY25, page 18

Advanced Math and Science Academy Charter School
Income Statement
For Fiscal Year Ending June 30, 2024
Preliminary and Unaudited

	<u>July 23-June 24</u>
Income	
Tuition	16,342,604
Grants & Donations	645,609
Misc Income	584,017
Nutrition Income	119,225
Rental Income	240,595
Student Program Income	237,904
Athletic Program Income	182,204
Transportation, Includes In Kind	615,584
In-Kind MTRS (estimated)	1,800,000
Total Income	<u>20,767,742</u>
Gross Profit	20,767,742
Expense	
Salaries	10,307,734
Payroll Taxes & Fringe Benefits	1,962,995
Professional Development	85,158
Instructional Supplies & Equip	396,673
Student Program Expense	189,402
Nutrition Expense	157,864
Athletic Expense	654,651
Student Transportation Expense	744,968
Mortgage Interest	673,921
Facilities	579,324
Utility	236,260
IT	324,935
Auditor	39,700
Legal Expense	55,854
Other Operating Costs	377,132
Interest Expense on Leased Assets	10,480
Amortization of Leased Assets	163,565
Depreciation Expense	919,435
MTRS Expense (estimated)	1,801,594
Total Expense	<u>19,681,644</u>
Net Income	<u><u>1,086,098</u></u>

Advanced Math and Science Academy Charter School
Balance Sheet
As of June 30, 2024
Preliminary and Unaudited

	<u>June 30, 2024</u>
ASSETS	
Current Assets	
Checking/Savings	16,477,101
Accounts Receivable	92,179
Other Current Assets	<u>730,709</u>
Total Current Assets	17,299,989
Fixed Assets, Net of Accumulated Depreciation	25,237,954
Other Assets	<u>841,774</u>
TOTAL ASSETS	<u>43,379,717</u>
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	159,128
Other Current Liabilities	<u>1,996,641</u>
Total Current Liabilities	<u>2,155,769</u>
Long Term Liabilities	
Mortgage Payable	23,732,138
Deferred Cash Inflow Leased Assets	<u>997,650</u>
Total Long Term Liabilities	<u>24,729,788</u>
Total Liabilities	<u>26,885,557</u>
Equity	<u>16,494,160</u>
TOTAL LIABILITIES & EQUITY	<u>43,379,717</u>

Advanced Math and Science Academy Charter School
 Budget for Fiscal Year Ending June 30, 2025
 Approved by the AMSA Board of Trustees on May 2, 2024

Subject to final negotiations with the Collective Bargaining Units

	<u>July 2024-June 2025</u>
Income	
Tuition	\$ 16,621,000
Rental Income	\$ 237,000
Grants & Donations	\$ 372,000
Miscellaneous Income	\$ 430,000
Nutrition Income	\$ 144,000
Student Program Income	\$ 282,000
Athletic Program Income	\$ 197,000
Student Transportation Income	\$ 210,000
Total Income	<u>\$ 18,493,000</u>
Gross Profit	<u>\$ 18,493,000</u>
Expense	
Salaries - Collective Bargaining Unit	\$ 6,241,000
Salaries - Non Collective Bargaining Unit	\$ 4,282,000
Payroll Taxes & Fringe Benefits	\$ 1,977,000
Professional Development	\$ 109,000
Instructional Supplies & Equip	\$ 323,000
Student Program Expense	\$ 349,000
Nutrition Expense	\$ 138,000
Athletic Expense	\$ 634,000
Student Transportation Expense	\$ 357,000
Mortgage Interest	\$ 788,000
Facilities	\$ 540,000
Utility	\$ 316,000
Non Instructional Supplies	\$ 112,000
Advertising and Marketing	\$ 10,000
Insurance	\$ 186,000
IT	\$ 359,000
Auditor	\$ 37,000
Legal Expense	\$ 300,000
Other Operating Costs	\$ 159,000
Depreciation Expense	\$ 1,179,000
Total Expense	<u>\$ 18,396,000</u>
Net Income	<u><u>\$ 97,000</u></u>

Information From the Budget Submission and Spring 2025 Pre-enrollment Process

FY25 Enrollment Table	Enter Number Below
Number of students pre-enrolled via March 15, 2024, submission	966
Number of students upon which FY25 budget tuition line is based	966
Number of expected students for FY25 first day of school	966
Please explain any variances: <i>Potential variances managed through backfilling and/or enrolling students from the waitlist.</i>	

CAPITAL PLAN FY25 (Ongoing and Projected)

Description of Project	Current Status	Completion	Estimate
Information Technology Fixed Assets:			
Staff Laptops About one fourth of staff receive a new laptop Annually. Laptops are on a four-year rotation.	In Process	Sep-24	27,000
Chromebook Carts and White Glove Service Purchase 8 new Chromebook carts	In Process	Sep-24	123,734
Laptop Cart 1 Laptop Cart for the Science Department	In Process	Sep-24	21,000
Migration to Cloud for Legacy Systems	In Process	Sep-24	18,000
Wireless License Renewal	In Process	Sep-24	6,660
Total Information Technology Fixed Assets			196,394

Facilities Fixed Assets:			
Replace Rooftop Units 199 Forest Street	In Process	Dec-24	220,000
Total Facility Capital Improvements			220,000

New Building			
New Classroom Building 195 Forest Street	In Process	Jan-25	15,416,448
Total New Building			15,416,448

Total Fixed Assets			15,832,842
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To finance the purchase the buildings at 199 Forest Steet and 201 Forest Street, and finance the new academic building, AMSA has entered into a 30-year mortgage with First Citizens Bank for \$24,000,000.

AMSA does not have a capital project reserve account.

APPENDIX A: ACCOUNTABILITY PLAN EVIDENCE 2022-2023

FAITHFULNESS TO THE CHARTER	2023-24 Performance M (Met) NM (Not Met)	Evidence (include detailed evidence with supporting data or examples)
Objective: AMSA will create an environment that celebrates knowledge and inspires an appreciation of learning.		
Measure: 95% of all AMSA students in grades 6 through 11 will participate in the annual American Mathematics Competitions (AMC). The 95% of AMSA students in grades 6 through 11 participating in the annual AMC will reflect the demographics of all students in grades 6 through 11. (<i>Participation in the AMC is optional for seniors.*</i>)	M	96.5% of students in grades 6 through 11 participated in the AMC. 97% of students in grades 9 through 11 participated in the AMC 10/12 A. The upper school data reflects AMSA's demographics in most student groups. <i>*It is noteworthy to report that 99 (78%) of our seniors opted to participate in the AMC.</i> 96% of students in grades 6 through 8 participated in the AMC 8. The lower school data reflects AMSA's demographics in most student groups. <i>See Appendix E (Table 6) for supporting demographic data.</i>
Measure: By the end of the charter term, 65% of all AMSA students will participate in an academic interest club, Student Government, Student Council, a National Honor Society, Student Mentor Program, Student Mediation Program, and/or competitive academic activity during or outside their regular school day. The 65% of all AMSA students participating in academic interest clubs and activities will reflect the demographics of all AMSA students.	M	758 (78%) students participated in an academic club, student government, and/or interest group during the 2023-2024 school year. Data closely reflects AMSA's demographics for most student groups. <i>See Appendix E (Table 6) for supporting demographic data.</i>

Objective: AMSA's educational model will prepare students for college and professional life.		
Measure: Each year, 85% of all AMSA students will take at least one Advanced Placement course during their High School career.	NM	82% of the students in the class of 2024 took at least one Advanced Placement course between grades 9 and 12.
Measure: Each school year, the number of Advanced Placement exams taken by AMSA students earning at least a score of "3" will exceed the state average by 15% and the national average by 20%.	NM	AMSA administered 435 AP exams, with 87% exams with a score of 3 or higher. Comparing the same AP exams to state scores of 3 or higher, the state percentage is 74% and the national percentage is 69%. AMSA exceeded the state percentage by 13% and the national average by 18%.

Faithfulness to Charter	2023-24 Performance (Met/Not Met)	Evidence (include detailed evidence with supporting data or examples)
Measure: By the end of the charter term, the School Counseling Department will have integrated into the curriculum, seminars for all high school students, that provide grade appropriate college admissions preparation, essay writing, and financial aid guidance, with a strong focus on mental health and wellness.	M	AMSA School Counselors taught grade level seminars to all students in grades 9-12. AMSA has a fully integrated grades 9-12 seminar program that is also mapped in Atlas. AMSA was the recipient of MyCAP funding for the second year in a row and expanded their MyCap Implementation team this year to include teachers in a wider range of subject areas at ASMA: Computer Science, Math, English, and Science.
Measure: Each year, 98% of seniors will apply to a college or university and 100% of seniors who apply to a college or university will be accepted.	NM	95% of the students in the class of 2024 applied to a college or university. Of these students, 100% were accepted to a college or university.

Objective: AMSA will challenge all students at the maximum of their ability and current intellectual preparedness with the goal of further advancing their “maximum” level.		
Measure: 100% of AMSA students in grade 6 (Class of 2027) and grade 7 (Class of 2026) who are identified as Lowest Performing based on their Next Generation MCAS scores in Math and ELA will advance to the level of Next Generation Passing or higher by the time they complete grade 10.	NA	The cancellation of the 2020 MCAS administration and the significantly reduced participation during the 2021 MCAS, left us without a true baseline on which to assess this measure. Participation in 2022 was back to “normal” and will serve as the baseline to track progress as we move forward.
Measure: 100% of AMSA students in grade 8 (Class of 2025, Class of 2026, and Class of 2027) who are identified as Lowest Performing based on their Next Generation MCAS scores in Science, Technology, and Engineering will advance to the level of Next Generation Passing or higher by the time they complete grade 10.	NA	The cancellation of the 2020 MCAS administration and the significantly reduced participation during the 2021 MCAS, left us without a true baseline on which to assess our charter term progress. Participation in 2022 was back to “normal” and will serve as the baseline to track progress as we move forward.
Measure: By the end of the charter term, 20% of students in grades 10, 11, and 12 will be enrolled and actively participating in AMSA’s Science Research and/or Internship Program. The 20% of students will reflect the demographics of all students.	M	84 students (22%) out of the 387 students in grades 10, 11, and 12 enrolled and actively participated in AMSA’s 2023-2024 Science Research Programs and/or Internship Program. Data closely reflects AMSA’s demographics for most student groups. <i>See Appendix E (Table 6) for supporting demographic data.</i>

DISSEMINATION	2023-24 Performance (Met/Not Met)	Evidence (include detailed evidence with supporting data or examples)
Objective: AMSA will share its curriculum with other Massachusetts public schools and public charter schools over the course of the charter term.		
Measure: Each year of the charter term, AMSA will participate in at least two educational exchange activities with the Massachusetts Charter Public School Association and their Northeast and Central Region affiliate.	M	Our new Executive Director actively participated in the Leadership Program through MCPSA that provided opportunities for valuable exchanges of administrative knowledge, and best practices. The Program included the ED Networking Group-monthly meetings/ongoing, the ED Northeast and Central Regional Alliance-monthly, and the MCPSA bi-annual Delegate-fall/spring.
Measure: AMSA is an active member of the Marlborough STEM Council, a collaborative educational initiative with Marlborough High School and the Assabet Valley Regional Technical High School. The goal is to encourage students to be “professional learners” within their community. Each school year, AMSA student members “adopt” a local elementary school, share curriculum, and personally deliver instruction. By the end of the charter term, AMSA will establish similar collaborative initiatives with our other three core towns, Maynard, Hudson, and Clinton.	NM*	AMSA sophomores and juniors collaborated with students from Marlborough High, Assabet Valley Regional Technical School, and New England Innovation Academy again this year. Each high school “adopted” an elementary school in Marlborough and participated in a program called STEM in the Classroom. The high school students taught Chemistry, Biology, and Physics to all the 4th graders in Marlborough. <i>*The work with the STEM Council has been met in Marlborough. However, the goal to involve Clinton, Hudson, and Maynard in this program has been an ongoing initiative but a difficult measure to achieve.</i>

APPENDIX B: RECRUITMENT AND RETENTION PLAN

RECRUITMENT PLAN 2024-2025

2023-2024 Implementation Summary:

AMSA's website has been continuously in the process of updating and improving. The content available is rich with information about the academic program, support services for Special Education and ELL students, athletics, events, club activities, competitions, videos, student led outreach, Board of Trustees meetings, and featured personnel and student highlights.

AMSA held three virtual information meetings during the 2023-2024 school year, on November 29, December 13, and January 27. Postcards with school information including an invitation to the virtual information sessions were sent to families with fifth grade students in the Marlborough public elementary schools. Also, post cards were sent to students in the 8-11 years of age demographic who are residents of Clinton, Hudson, and Maynard. The Principal, Registrar, Special Education Director, ELL Director, and Communications Manager attended these meetings. Our Special Education Director remained online after the meeting to answer questions. As advertised, the January 27 meeting featured live Portuguese and Spanish translators. A recording with highlights from each meeting, offering live translations in Portuguese and Spanish, and subtitles in multiple language options, is available on the school website. However, word of mouth has proven to be our best marketing tool. Applications increased again this year.

AMSA held three in-person, student led, school tours in the fall and three in the spring. Tours are open to the public and publicized through social media (Facebook and Instagram). All new students who were accepted through the lottery, and their families, were invited personally to attend the spring tours.

Subgroup enrollment is historically impacted by the large number of siblings who are enrolled each year. Out of the 160 seats available for the 2023-2024 school year, 66 will be filled by siblings on the first day of school. Due to the nature of a lottery system, and having only 94 seats available to non-siblings, it is difficult to manage sub-group numbers. The net school spending (NSS) cap affected lottery applicants from Marlborough this year. After consultation with the Department regarding AMSA's 2024-2025 lottery, and to comply with 603 CMR 1.05(10)(b), all Marlborough residents who applied by the application deadline were included in the lottery but offers of admission were limited to siblings of currently attending students and to twenty-five non-sibling Marlborough residents. All remaining non-sibling Marlborough residents were placed on the waitlist but will be "skipped over" and not eligible for enrollment. If the Marlborough Public School District no longer is at its NSS cap, and a vacancy occurs, a Marlborough resident applicant from the waitlist could become eligible for enrollment.

It seems unlikely that the October 1, 2024, SIMS will meet the comparison index or the school's gap narrowing targets. We would be open to further discussion with the Department regarding the school's Recruitment Plan once we have submitted the October 1, 2024, SIMS. We would also be open to further discussion with the Department regarding the school's rates of enrolling students with disabilities or English learners (EL) compared to the Comparison Index or gap narrowing targets.

Describe the school's general recruitment activities, i.e. those intended to reach all students.

General Recruitment Activities for 2024-25:

Activity 1: Postcards with the Recruitment Meeting Information (in three languages will be sent to all families who are residents of Marlborough, Hudson, Maynard, and Clinton who have children between the ages of 8-11.

Activity 2: The Executive Director will send flyers to the superintendents in the four core towns and ask them to distribute the information to shelters and to new families arriving in their districts.

Activity 3: We plan to hold three virtual information meetings for all interested families from all four core towns. One meeting will feature live translations in Portuguese and Spanish. Highlights from all three meetings will be posted on the AMSA website with closed caption translations available in multiple languages. At least one virtual meeting will be attended by the Special Education Director, the ELL Director, the Principal, Registrar, and Athletic Director. Information shared will include details of the academic program, special education services, English Language Learners Program of Sheltered English Instruction, financial assistance program, transportation, athletics programs, application and lottery instructions, and important dates and deadlines.

Activity 4: The PTO officers will again attend virtual information meetings to address parent involvement, community awareness, and uniform sales.

Activity 5: AMSA Public events inspire families and students to consider AMSA as a unique educational community. Events open to the public include the International Festival (which will be held on campus this year), Spring Arts and Science Night, Drama Society productions, and the successful Annual Golf Tournament.

Activity 6: The Administration is focusing on family engagement this year. We have learned that our best recruiters are members of our ASMA community.

Activity 7: AMSA's Community Outreach Manager supervises AMSA's student group *Leaders of Tomorrow*, who continue to participate in many volunteer activities throughout the year, Marlborough and Clinton soup kitchens, Sweats for Vets, and aiding local shelters. AMSA's Community Outreach Manager represents our school and serves as an effective spokesperson for all charter schools. He is a member of the Board of Trustees Development Committee, sits on the Board of Directors of the Marlborough Regional Chamber of Commerce, and is currently serving as a City Councilman.

Activity 8: AMSA sophomores and juniors continue to collaborate with students from Marlborough High, Assabet Valley Regional Technical School, and New England Innovation Academy. Each high school "adopts" an elementary school in Marlborough and participates in a STEM in the Classroom program. The high school students will teach Biology, Chemistry, and Physics to all the 4th graders in Marlborough. This exciting program has prompted many students to consider applying to AMSA.

Recruitment Plan – 2024-25 Strategies List strategies for recruitment activities for <u>each</u> demographic group.	
Special education students/students with disabilities	
(a) CHART data School percentage: 6.8% CI percentage: 13.7% The school is <u>below</u> the CI percentage	(b) Continued 2023-24 Strategies • The lingering effects of the pandemic have stalled efforts to successfully engage a functioning SEPAC. The goal this past year was to recruit a new SEPAC President and recruit interested and enthusiastic parents who will work closely with the school and the Director of Special Education to develop programs and events that will showcase AMSA's special education services and qualified staff. • The AMSA website will focus on building support from our families. • The Director of Special Education will continue to reach out to the Clinton, Maynard, and Hudson SEPAC organizations with the hope of initiating a partnership with one or more of our core towns, since many of our students are residents. • AMSA hired a full-time Special Education Teacher.
	(c) 2024-25 Additional Strategies • To enliven parent interest, we are working on creating a new and more inclusive parent group that will attract more families than our continued attempts to recruit SEPAC members have generated. We plan to advertise the new group as the Advocacy Council for Student Support (PACSS) and membership would be open to all our sending district families, especially those with students with disabilities (IEPs and 504 plans), limited English, and low income. • The Special Education Director will attend at least one Recruitment Parent Information Nights. • We will assess strategy progress in one year.
Limited English-proficient students/English learners	
(a) CHART data School percentage: 4.7% CI percentage: 11.6% The school is below the CI percentage	(b) Continued 2023-24 Strategies • Live interpreters (Spanish and Portuguese) will attend at least one virtual Recruiting Information event. Will assess strategy in one year. • Virtual meetings will be recorded and translated on the website. • Hired a full-time ELL Director/ELL Teacher • All admissions documents are available in English, Portugues, and Spanish with subtitles in 12 language options.

	(c) 2024-25 Additional Strategies • Student Handbook and most documents are now available in many different languages on the website. • The Executive Director’s Community Newsletter is offered in over 100 languages. • Advertise AMSA’s new Advocacy Council for Student Support (PACSS). Membership would be open to all our sending district families, especially those with students with disabilities (IEPs and 504 plans), limited English, and low income. • The Executive Director will send flyers to the four core town superintendents asking them to distribute information at shelters and to newcomers arriving in their districts. • We will assess the effectiveness of this strategy in one year.
Students eligible for free or reduced lunch (Low Income/Economically Disadvantaged)	
(a) CHART data School percentage: 17.3% CI percentage: 38.3% The school is <u>below</u> the CI percentage	(b) Continued 2023-24 Strategies • The PTO will resume their used uniform sales. • AMSA will target families with 5th graders in core town public schools and invite them to attend meetings that will include information about AMSA’s robust financial assistance policy. • AMSA will increase the uniform assistance for eligible students from \$150 to \$200 per student. • AMSA will continue the Holiday Gift Card program, providing families in need with additional financial support. We will assess the effectiveness of these strategies within one year. • AMSA mentions the financial assistance program in our recruitment literature during virtual information meetings and school tours.
	(c) 2024-25 Additional Strategies • Collaborate with local community centers, churches, and organizations that serve low-income families. • Continue to host information sessions and open houses that provide details on AMSA’s financial assistance programs. • Participate in and sponsor community events to raise awareness about AMSA’s free tuition and its financial programs. • Advertise AMSA’s new Advocacy Council for Student Support (PACSS). Membership would be open to all our sending district families, especially those with students with disabilities (IEPs and 504 plans), limited English, and low-income status. • Highlight success stories about current students from underrepresented groups to inspire prospective students and their families. • We will assess the effectiveness of this strategy in one year.

<u>Students who are sub-proficient</u>	(d) Continued 2023-24 Strategies • AMSA will target families with 5th graders in core town public schools, inviting them to attend meetings that will include information about AMSA robust peer mentoring and relatable student success stories. • AMSA will continue to run frequent videos describing school events and programs, including student mentor programs. • AMSA will continue to publish press releases that demonstrate our academic and athletic achievements, promoting that our success builds upon the effort and dedication of our students who have diverse backgrounds and abilities. • We will assess the effectiveness of this strategy again in one year.
<u>Students at risk of dropping out of school</u>	• AMSA does not accept applications past grade nine.
<u>Students who have dropped out of school</u> <u>*only schools serving students who are 16 and older</u>	• AMSA does not accept applications past grade nine.

RETENTION PLAN 2024-2025

Please provide a brief narrative report on the successes and challenges of implementing strategies from the 2022-23 Retention Plan.

2023-24 Implementation Summary:

The current retention rate of Advanced Math and Science (AMSA) is 96.7% and has remained in the range of 96% for the past five years. Our Registrar conducts exit interviews with families of students who transfer out of AMSA to identify why they decide to transfer. AMSA consistently maintains a waitlist of 600-700 students and continues to enroll students throughout the school year without implementing a supplemental lottery.

AMSA's EL attrition rate of 21.4% results from three students leaving. One student returned to their sending district to attend the same school as their sibling, one moved out state, and the third chose to attend a private boarding school.

AMSA's Board of Trustees, led by the finance subcommittee, reviewed its financial assistance program and significantly increased financial support to economically disadvantaged students, a subgroup often including many ELs. This enhanced financial assistance policy aims to provide additional access to AMSA's extracurricular offerings, thereby increasing student engagement. This is a significant area of success for the 2023-2024 retention plan, and we should all take pride in this achievement.

Another area of success celebrated by AMSA was the increased number of students who obtained the Massachusetts Seal of Biliteracy. Many students received the Seal in their native language and English as well, a testament to our commitment to celebrating culture and diversity. This practice not only increases a sense of belonging but also fosters an environment of appreciation and inclusion.

AMSA's biggest challenge was family engagement. While our students appeared to enjoy increased engagement, AMSA has not focused on improving family engagement as a tool to reduce attrition, particularly in our EL population. AMSA will include family engagement strategies in its 2024-2025 plan.

Overall Student Retention Goal	
Annual goal for student retention	96.5%

Retention Plan – 2024-25 Strategies	
List strategies for retention activities for <u>each</u> demographic group.	
Special education students/students with disabilities	
<u>(a) CHART data</u> School percentage: 10.9% Third Quartile: 15.9% The school's attrition rate is <u>below</u> third quartile percentages.	<u>(b) Continued 2023-24 Strategies</u> • The disruption of the pandemic has continued to stall efforts to successfully engage a functioning SEPAC. AMSA will continue to recruit interested and enthusiastic parents who would be able to work closely with the school and the Director of Special Education to develop programs and events that would assist our students with special needs and their families. • The Director of Special Education will reach out to the Clinton, Maynard, and Hudson Special Education Directors with the hope of initiating a partnership with one or more of our core towns. • AMSA will hire an additional full-time special education teacher.
	<u>(c) 2024-2025 Additional Strategies</u> Below third quartile: no enhanced/additional strategies needed.
Limited English-proficient students/English learners	
<u>(a) CHART data</u> School percentage: 21.4% Third Quartile: 12.4% The school's attrition rate is <u>above</u> third quartile percentages.	<u>(b) Continued 2023-24 Strategies</u> • A full-time Reading Specialist provides targeted support. • AMSA's website has a translation function for most content. Through FC 613/332, AMSA has added administrative support to the counseling department, and an academic success coach to the ELL department. • Full-time ELL Director/ELL Teacher who speaks English, Spanish, and Portuguese fluently and is a certified WIDA/ACCESS Administrator.
	<u>(c) 2024-2025 Additional Strategies</u> Above third quartile: additional strategies needed. • Create a more inclusive environment for students through additional social connections and community events, such as theme dances, art/science nights, the International Festival, and outstanding citizenship awards. • Offering the opportunity to earn the Seal of Biliteracy to native speakers of foreign languages.

Students eligible for free or reduced lunch (low income/economically disadvantaged)	
(a) CHART data School percentage: 6.6% Third Quartile: 12.7% The school's attrition rate is <u>below</u> third quartile percentages.	(b) Continued 2023-24 Strategies Below third quartile: no enhanced/additional strategies needed. • The PTO will continue to hold used uniform sales periodically to assist parents with uniform costs. • AMSA established a <i>Car-pool Bulletin Board</i> on the school's website, providing a forum for AMSA families who live outside of Marlborough to communicate with other AMSA families who are looking for less expensive transportation options. • AMSA has a financial assistance policy that clearly states and formalizes financial assistance to economically disadvantaged students for school expenses, such as uniform, transportation, meals, field trips, athletics, and clubs. We hope to see the data change within two years. • Parent volunteer translators to assist with used uniform sales. • The uniform assistance provided to families who are in our free or reduced lunch program will receive gift cards to buy uniforms in the amount of \$200 per student, an increase of \$50. • AMSA will continue to provide eligible families with Holiday Gift Cards in December.
	(c) 2024-2025 Additional Strategies • Below third quartile: no enhanced/additional strategies needed.
<u>Students who are sub-proficient</u>	(d) Continued 2023-24 Strategies • Through the FC336 Grant, AMSA revamped the Student Support Team process, started a Mental Health Committee that participated in DESE-sponsored professional development, mapped lessons for a new 9th and 10th grade seminar, and forged partnerships with Wayside Youth and Family Support Network, INTERFACE Referral Services, and Challenge Success. • AMSA holds an orientation program in August to assist new students with assimilation.

<u>Students at risk of dropping out of school</u>	(e) Continued 2023-24 Strategies • AMSA has established a working rapport with the Marlborough Police Department. AMSA will continue to collaborate with local law enforcement to educate our students about the dangers of engaging in harmful activity that can potentially contribute to challenges at school and the risk of dropping out. • AMSA continues to be a member of the Middlesex Partnership with Youth. Workshops offered include strategies to help eliminate risky behavior among students. • The School Counseling Department will continue to develop curriculum for advisory periods that promote social and emotional health. • The Dean, Associate Dean, and school counselors are continuing to develop the social and emotional curriculum for Lower School students delivered during their Directed Study period. The content addresses issues such as ethics training, character development, bullying, and suicide awareness. We will assess the effectiveness of this strategy at the end of each year. • AMSA continues to run an orientation for new students in August, to provide clear expectations and guidelines for student behavior in the high school, providing the critical attention and focus on social and emotional support. • AMSA continues to implement the SEL screener, Tier 2 Cognitive Behavioral Therapy (CBT) Groups, and a Tier 1 A program called TRAILS, and contracted with a new referral service (Care Solace). 2024-2025 Additional Strategies • MCAS preparation classes are offered to students who are still attempting to pass MCAS to achieve graduation determination (CD) status.
<u>Students who have dropped out of school</u> <u>*only schools serving students who are 16 and Older</u>	(f) Continued 2023-24 Strategies • Students who leave school will be notified in writing annually of their options and available resources for completing high school.

APPENDIX C: ADMINISTRATIVE ROSTER AND STAFF ATTRITION DATA

AMSA's student demographic information is located on the Department's website using the following links to our school's profile.

Administrative Roster During the 2023-2024 School Year			
Name	Title	Start Date	End Date
Lisa C. Mobley	Executive Director	7/2023	
Michael Nawrocki	Principal	3/2019	
Amanda Cence	Vice Principal	7/2021	
Daniel Amaral	Dean of Students	8/2017	
Anthony Montesion	Dean of Students	7/2019	
Lynn Jarvis	Director of Special Education	8/2019	
Kate Driver	Director of School Counseling	8/2017	
Catilsa Indresano	ELL Director	8/2023	
Liana McLaren	Director of Finance and Operations	2/2026	
Virginia Burke	Human Resources Manager	3/2017	
Erica Piotrowski	IT Director	5/2017	
Joanne Doherty	Data Administrator	8/2018	
Sara Snow	Director of Accountability	1/2011	
Linda Edwards	Registrar	9/2017	
Sara Snow	MCAS District Coordinator	9/2008	
Eric Lane	Facilities Director	9/2011	
Michael Finkle	Communications Manager	11/2016	
Mark Vital	Community Outreach Manager	9/2011	
Marcy Eckel	Director of Development	10/2022	

Teacher and Staff Attrition for the 2023-2024 School Year				
	Number as of the last day of the 2023-24 school year	Number of departures during the 2023-24 school year	Number of departures at the end of the school year	Reason(s) for Departure
Teachers	90	0	6	2=Retired, 4=other employment in education
Other Staff	55	3	7	1=leave of absence/returned 3=layoff, 1=Terminated, 5=personal

INFORMATION ABOUT THE BOARD OF TRUSTEES

Link to location of Board of Trustees Page, with links to meeting minutes, meeting documents, policies, and more: [AMSA-Trustees-Page](#)

Link to location of Board of Trustees and Committee Meeting Notices on the AMSA website: [AMSA-Board-of-Trustees-and-Committee-Meeting-Notices](#)

* In October 2023, Jill Schafer stepped down from the role of Secretary. Sheila Creaton Kelly filled the Secretary position for the remainder of the term.

**In September 2023, Laura Burgess stepped down from the role of Parent Representative. Dwayne Stanley was selected by the PTO to represent AMSA parents for the remainder of the term and for the 2024-2025 school year term.

Board Membership During the 2023-24 School Year					
Name	Position on the board	Committee affiliation(s)	Number of terms served on the board	Length of each term (start and end date in MM/YY format)	Final year of service possible based on term limits in bylaws
Raul Porras	Chair	Executive, Governance	Two	07/17 – 06/21 07/21 - 06/24	2024
Maura Webster	Vice Chair	Development Chair	Two	07/21 - 06/24 07/24 - 06/27	2027
Jill Schafer	Secretary* Trustee	Executive, Governance	Two	07/19 - 06/22 07/22 - 06/25	2025 Stepped down
Roger Jarrett	Treasurer	Executive, Education Finance Chair	Two	07/17 - 06/21 07/21 - 06/24	2024
Sheila Creaton Kelly	Secretary*	Governance Chair	Two	09/19 - 06/23 07/23 - 06/26	2026
Sowmini Sampath	Trustee	Governance	One	07/20 - 06/24	2027 Stepped down
Bela Gorman	Trustee	Finance	One	07/22 - 06/25	2027
Evan Przyborowski	Trustee	Education	One	07/23 - 06/26	2029
Christine Tridente Fahey	Trustee	Education	One	06/24 - 06/27	2030
James Carter	Trustee	Finance	One	06/24 - 06/27	2030
Greg Theos	Faculty Rep	Education	Two	07/23 - 06/24 07/24 - 06/25	2025
Laura Burgess	Parent Rep**	Education	Two	07/22 - 06/23 07/23 - 09/23*	2024 Stepped down
Dwayne Stanley	Parent Rep**	Governance	One	11/23 - 06/25	2026

APPENDIX D: ADDITIONAL REQUIRED INFORMATION

Facilities

The Advanced Math and Science Academy has not relocated to a new facility within the charter school's current charter term.

The school purchased the building at 165 Forest Street on April 24, 2018, and the other two buildings on campus, located at 199 and 201 Forest Street, on October 20, 2021. The estimated cost of renovations to the 165 Forest Street building proved to be prohibitive, but constructing a new academic building was financially possible. AMSA obtained a tax-exempt bond from Boston Private in October 2021 which provided interest-only payments for the first two years of construction. This loan is guaranteed by Mass Development.

The administration, the Board of Trustees, and dedicated stakeholders are actively fundraising to raise additional capital that will enable the school to complete this multi-phase project.

The new building, located at 195 Forest Street, will provide ten state-of-the-art classrooms and a much-anticipated science lab “drop zone” that will allow our students to explore the world of physics, projectile motion and gravity.

The building was designed with a modular concept, with the expectation of adding a gymnasium to the building in the future. The layout of the campus and traffic pattern have been modified, creating a traffic-free pedestrian area between buildings.

Location	Dates of Occupancy
201 Forest Street, Marlborough, MA	February 18, 2005
199 Forest Street, Marlborough, MA	August 30, 2007
165 Forest Street, Marlborough, MA	November 21, 2011
195 Forest Street, Marlborough, MA	Estimated date of occupancy January, 2025

Enrollment

The student application deadline and estimated lottery date for students who are interested in enrolling for the 2025-2026 school year:

Action	Date
Student Application Deadline	February 7, 2025
Lottery	February 26, 2025

APPENDIX E: CONDITIONS, COMPLAINTS, AND ATTACHMENTS

Conditions

In a letter from Commissioner Riley, dated March 25, 2020, AMSA's charter was renewed without conditions. The charter term is five years, beginning July 1, 2020, and expiring on June 30, 2025. *"Based upon the evidence gathered over the past four years regarding the school's academic success, organizational viability, and faithfulness to the terms of its charter and under the authority delegated to me by the Board of Elementary and Secondary Education, I have approved the renewal of the school's charter under Massachusetts General Law chapter 71, section 89, and 603 CMR 1.00."*

Complaints

The AMSA Board of Trustees did not receive any official (written) complaints during the 2023-2024 school year

Supporting Performance Data

Table 1

The table below provides the percentages of students who scored Exceeding or Meeting Expectations on Grade 10 Next Generation MCAS tests compared to the overall state results. The 2019 scores are provided to demonstrate the effect of the learning gap due to COVID-19. MCAS was not administered in 2020. Students in the Class of 2023 were not required to take the High School Science MCAS. *The 2019 Science scores were based on the Legacy scale.

All Students	2019 AMSA	2019 State	2021 AMSA	2021 State	2022 AMSA	2022 State	2023 AMSA	2023 State
ELA 10	93	61	86	64	86	58	86	58
Math 10	97	59	88	52	91	50	91	50
SCI 10	96*	74*	NA	NA	83	47	83	47

Table 2

87% of our students' AP exams had scores of 3 or higher, demonstrating a dedication to excellence that is shared by our students and teachers.

All Students	2021	2022	2023	2024
Number of AP Exams	505	413	390	435
% of AP Exam scores 3 +	88%	89%	84%	87%

Table 3

The table below demonstrates the total number of AP students who took the exams over the past four years and the number of students in each cohort who are identified as High Needs. *(High Needs includes the following groups: students with Disabilities, Low Income, and English language learners.)*

High Needs Students	2021	2022	2023	2024
Number of all AP Students	247	227	232	240
Number of High Needs Students	40 (16%)	38 (17%)	47 (20%)	39 (16%)
% of High Needs Students 3+	70%	78%	62%	85%

Table 4**AMSA AP English Scores 2019-2024 & Enrollment Stats 2024-2025**

	AP Literature AMSA Mean Score	Number of students taking Lit test	AP Language AMSA Mean Score	Number of students taking Lang test
2019	3.81	48	4.0	6
2020	3.35	40	4.25	24
2021	3.32	34	4.1	31
2022	4.20	15	4.09	11
2023	4.00	8	4.20	5*
2024	4.25	8	4.08	50
2025		18 (current enrollment)		33 (current enrollment)

PSAT Scores 2021-2023

Grade	2021 AMSA Mean	2021 State Mean	2022 AMSA Mean	2022 State Mean	2023 AMSA Mean	2023 State Mean
11	1142	996	1118	992	1156	989
12	1069	932	1070	928	1061	928

Table 5

AMSA has also successfully offered the Massachusetts Biliteracy State Seal for the fifth year. This initiative recognizes students who demonstrate proficiency in English and another language. This year's 2024 AMSA graduates earned the Seal in Latin, Portuguese, and Spanish.

Class of	# of Students	Massachusetts Biliteracy State Seal
2020	6	French, Japanese, Portugues, Spanish
2021	7	Portugues, Russian, Spanish
2022	3*	Polish, Portugues, Spanish
2023	10	Latin, Portuguese, Spanish
2024	26	Latin, Portuguese, Russian, Spanish, Tamil

**The test is usually taken by juniors, so the Class of 2022 was particularly impacted by COVID.*

Table 6**Supporting evidence measuring progress with AMSA's Accountability Plan objectives**

Objective: AMSA will create an environment that celebrates knowledge and inspires an appreciation of learning. (AMC and Clubs data for the 2023-2024 school year)

Objective: AMSA will challenge all students to the maximum of their ability and current intellectual preparedness with the goal of further advancing their "maximum" level. (Research/Internships)

Race/Ethnicity	% of School	% AMC 8 *	% AMC 10/12 *	% Clubs	% Research
African American	2.7	5.8	2.5	2.2	1.2
Asian	10.6	7.5	13.4	12.0	10.8
Hispanic	11.0	9.4	10.0	8.0	6.2
Native American	0.1	0.1	0.0	0.1	0.0
White	68.5	69.0	66.4	68.2	74.6
Native Hawaiian/Pacific Islander	0.1	0.1	0.0	0.1	0.0
Multi-race	7.0	8.3	7.7	4.4	7.2

Selected Populations	% of School	% AMC 8 *	% AMC 10/12*	% Clubs	% Research
FLNE	24.5	27.0	22.5	24.9	13.0
ELL	4.7	7.7	2.2	4.7	0.0
Low Income	17.3	8.7	4.7	6.7	7.0
Students with Disabilities	6.8	8.3	5.2	6.6	5.8

AMC 8: Grades 6-8*

AMC 10/12: Grades 9-11* (testing is optional for seniors)

Clubs: Grades 6-12

Research: Grades 10-12

* **AMC 8 Data:** 96% of students in grades 6 through 8 participated in the AMC 8 as part of their mathematics curriculum.

* **AMC 10-12 Data:** 97% of students in grades 9-11 participated. 78% of seniors opted to participate.

**The percentage of ELL students in the higher grades is historically very low because most students who receive ELL services in the lower grades move to the FLEP category in high school. This is clearly reflected in the representation of zero ELL students in the Research/Internship program, which is available to students in grades 10, 11, and 12.

***The Low-Income percentage of 17.3 is based on information that is not part of the collection data that AMSA uses to track low-income status. The data that is used for our comparison measure is based on the free and reduced status of our students, which is 6.7 % of the school's total student population. AMSA does not participate in the Federal Lunch Program, which limits our access to Virtual Gateway and the federal program data for students who are receiving SNAP, TAFDC, DCF, Medicaid assistance, or the recently added P-EBT program.