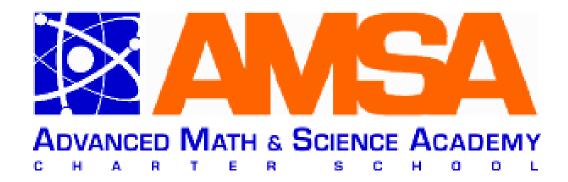
# ANNUAL REPORT 2014-2015



# 201 Forest Street, Marlborough, Massachusetts 01752

Dr. Joseph McCleary Executive Director

Phone: 508-597-2400 FAX: 508-597-2499 jmccleary@amsacs.org www.amsacs.org

July 29, 2015

# **TABLE OF CONTENTS**

Introd	uction to the School	1
Letter	from the Chair of the Board of Trustees	2
Schoo	ol Performance and Program Implementation	
	ulness to the Charter	3
	Mission and Key Design Elements	3
	Amendments to the Charter	4
	Dissemination Efforts	5
Acade	emic Program Success	5
	Student Performance	5
	Program Delivery	6
Organ	izational Viability	6
	Organizational Structure of the School	6
	Teacher Evaluation	6
	Budget and Finance	6
	Unaudited Income Statement for FY15	7
	Balance Sheet for FY15	8
	Approved School Budget for FY16	9
	Capital Plan for FY16	10
Apper	ndices	
	A. Accountability Plan performance for 2014-2015	11
	B. Recruitment and Retention Plan	16
	C. School and Student Data	20
	D. Key Leadership Changes, Facilities, Enrollment	23
Additi	onal Information	
	Conditions	24
	Complaints	25
Attach	nments	
	AP Score Summary 2014	27
	AP Data Year To Year	28
	Administrative Organizational Chart 2014-2015	29
	Administrative Organizational Chart 2015-2016	30

# **Introduction to the School**

Advanced Math and Science Academy Charter School

Type of Charter (Commonwealth or Horace Mann)	Commonwealth	Location	Marlborough, MA
Regional or Non-Regional?	Regional	Districts in Region (if applicable)	Marlborough, Clinton, Maynard, Hudson
Year Opened	2005	Year(s) Renewed (if applicable)	2010, 2015
Maximum Enrollment	966	<b>Current Enrollment</b>	996
Chartered Grade Span	6-12	Current Grade Span	6-12
# of Instructional Days per school year	180	Students on Waitlist	475
School Hours	8:05 AM – 3:15 PM	Age of School	10

# **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 of our modern high-tech world.

#### Letter from the Chair of the Board of Trustees

Dear AMSA Community,

It is with great pleasure that we present this annual report during AMSA's 10<sup>th</sup> Anniversary. For those in the community that have been here for the entire 10 year history, I am sure that you hold great pride in the achievements and the obstacles we overcame in this period. For those not entirely new, you must also feel a part of a team that has learned to endure and overcome challenges. For those just arriving, we welcome you to be a part of our success and future. Great things are in store.

Our students and faculty have accomplished a great deal in the past year. Staying true to our mission to "...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 of our modern high-tech world," it is apparent that our team is succeeding. Our accomplishments are too many to enumerate and would invariably fail to mention many of the wonderful accomplishments. Our graduates are also going on to achieve collegiate success and our alpha class graduated from college this spring. We have much to be proud of.

We also have great challenges ahead. In assessing these challenges, it is apparent that success will take honesty, commitment, hard work, and, finally, patience. We will have to work together as a community to tackle the challenges, establish understanding and overcome differences to move toward a common vision and purpose.

In June, the Board of Trustees elected Pauline Jen Ryan to the Chair role. We couldn't ask for a more dedicated and productive leader for the coming year. Please join me in welcoming her to this position. We will also be saying goodbye to Roger Jarrett who has served on the Board for over six years in a number of positions. We thank him for his service. A number of new Trustees have also joined the Board in the past year and they have made very positive contributions in a short period of time.

Finally, we are excited to welcome Dr. Joseph McCleary as our new Executive Director. Please stop by to welcome him and introduce yourself. The entire Board is so pleased to have him lead our school.

Our collective optimism must remain high and our commitment must remain steadfast. Please join me in looking back to celebrate the unquestionable success that our entire student body has achieved and in looking forward to overcoming challenges together for the greater good.

Craig Holbrook

Chair (outgoing), Board of Trustees

Craig L. Hollook

# SCHOOL PERFORMANCE AND PROGRAM IMPLEMENTATION

#### Faithfulness to the Charter

#### **Mission and Key Design Elements**

The Advanced Math and Science Academy Charter School (AMSA) celebrated its 10<sup>th</sup> anniversary this year. The academy's mission to create an environment where we celebrate knowledge, inspire an appreciation for learning and support students of all abilities is evidenced by the academic and personal achievements of our students over the past decade. AMSA students are encouraged to embrace challenge, pursue intellectual advancement and develop personal responsibility. Students are taught that advancement in academic knowledge is a process that requires time, commitment and discipline.

Beginning with our first graduating class in 2011, alumni are welcomed "home" for our annual *Back to the Future* event where they discuss their post AMSA experiences and offer advice to seniors. Returning alumni consistently express sincere gratitude for the outstanding preparation and academic foundation they received at AMSA.

Many of AMSA's key design elements are unique and distinguish our educational program from other schools. The foundation of AMSA's educational model is the belief that all children are able to learn complex, abstract concepts at an early age if allowed to build on these concepts as they mature. Understanding grows from exposure to ideas and concepts developed over time. Students experience multiple-year exposure to all subjects preparing them for the demands of college and professional life.

William Paul Thurston (1946-2012), one of America's most accomplished mathematicians, expressed the essential truth upon which the philosophy of AMSA's Math program is based, "Mathematics is not about numbers, equations, computations, or algorithms: it is about understanding". Building a strong foundation of understanding in mathematics relies on our multi-year and well-integrated program of study, beginning in grade six and ending in the tenth or eleventh grade with the core subjects of Algebra, Trigonometry, Geometry and Calculus. We have developed a variety of courses that are offered to our juniors and seniors as capstone to the mathematics curriculum. These courses include Calculus at Honors and AP levels, Multivariable Calculus, Linear Algebra with Differential Equations, Statistics at Honors and AP Levels, topics via Independent Study, and Accounting/Financial Math.

It takes both sustained thought and a measure of inspiration to understand mathematical ideas. AMSA is dedicated to creating an educational culture that makes it possible for our students to think imaginatively, to probe alternatives and to view ideas from a variety of perspectives. These skills are cultivated over time and encourage opportunities for interdisciplinary learning that connects Mathematics with AMSA's Science and Humanities programs. Programs are offered that allow students to apply mathematics to hands-on research problems. Areas of student research in Science this year have included Wildlife Conservation (on site surveillance of small mammals and trapping methods), Sustainability (partnering with Water Fresh Farm solving mildew issues), GeoScience (testing for soil contamination at a local organic farm and the Assabet River in Hudson and submitting results to the Geological Society of America (GSA) for

conference presentation), and Molecular Biology (developing systems to study proteinprotein interactions using green fluorescent protein reporter gene).

AMSA's Computer Science curriculum is another program that distinguishes AMSA from other schools. All students take Computer Science in grades six through eleven. When a student completes our Computer Science program they will have been exposed to the following topics: Networking, Software Design using Java, Advanced Web Design, Mobile Computing, Computer-Aided Design and Drafting, and Robotics. Students will have the opportunity to take advanced electives in Engineering and AP Computer Science. Equipped with this knowledge and skills in computing, our students participate in interdisciplinary projects and push the boundaries of conventional thinking with confidence. In addition to working with our own students and faculty, we seek out partnerships with industry and universities to expose our students to practical applications of computing and engineering.

While a focus on mathematics and science remains a driving force in our school, the entire curriculum at AMSA is focused on excellence. Student achievement is not only demonstrated in mathematics and the sciences, but is strongly represented in the equally rigorous humanities program. AMSA's goal is to graduate students who are intellectually prepared and culturally literate. In addition to advanced Math, Science and Technology, AMSA students are exposed to an integrated and challenging curriculum in art, history, language and literature. The literature curriculum begins with classical Greek and Roman Literature in 6<sup>th</sup> and 7<sup>th</sup> grade and then follows a logical, chronological sequence through the medieval, Romantic, Victorian and modern periods in England, Europe and the world. Alignment with our history and art curriculum provides context and reinforcement throughout the six year sequence along with three years of Latin in grades six through eight. In twelfth grade students can choose from several specialized English topics including Shakespeare, Gothic literature, AP English Literature and AP Language and Composition.

Our students compete regionally and nationally in Math, Science, Engineering, Technology, Speech and Debate, History (Quiz Bowl), Geography, Art, Acapella, and Business Entrepreneurship. Our exceptional athletic program was accepted into the Colonial Athletic League this year, providing a more competitive conference.

AMSA's goal is to cultivate a generation of leaders and informed citizens capable of making a contribution of their community, their families, and their country. We believe that true leadership is made possible through the combination of intellectual attainment and good character. Consequently, the charter school promotes academic achievement coupled with ongoing growth in respect and responsibility.

#### **Amendments to the Charter**

Date	Amendment Requested	Approved by DESE?
7/02/15	Bylaws Amendment	pending
6/03/15	Enrollment Policy Amendment	pending

#### **Dissemination Efforts**

Sharing our educational philosophy, teaching practices and curriculum is an obligation and a pleasure that AMSA students, faculty and administrators embrace. Students are especially animated and enthusiastic when they share information about their school with visitors. AMSA was selected by the Jacobson Family foundation and Strategic Grant Partners (SGP) in 2014 to participate in an in-depth assessment of our innovative model of education and best practices. The partnership with SGP has continued and they recommend AMSA as an example of a model STEM school to other schools and potential school founders.

In November 2014, we were contacted by the Co-Director of Brooke Charter Schools in Boston who was referred by SGP. Friends of Brooke Charter School were considering opening a STEM High School in the Boston area and were interested in visiting AMSA to observe classes and speak with teachers, primarily in the areas of Biology, Chemistry and Math. They spent several hours with us on November 21, 2014.

AMSA hosted a group of five visitors, the co-founders of Mass Prep Network (a new high school turnaround operator in Massachusetts) and three members of the Boston Prep Charter School. Their stated purpose was to observe our higher level and more rigorous classes, to observe our special education team work with students, to learn how we develop non-cognitive skills, and to understand how we support our teachers from both a content and pedagogical approach. AMSA hosted the group on January 6, 2015.

On February 10, 2015, visitors from the Excel Academy Charter High School visited AMSA based on a referral from SGP and our strong test results in Math and Science. Their visit focused on observing Math and Science instruction and meeting with faculty from AMSA's Science Department.

AMSA was host to forty Japanese students and two teachers from the Tokyo Metropolitan High School on March 27, 2015. Visiting students were paired with AMSA "student ambassadors" for a day to shadow their school routines. This cultural exchange experience initiated a stream of international correspondence between new friends.

# Academic Program Success

#### **Student Performance**

The following link will take you to AMSA's School District Report Card: <a href="http://profiles.doe.mass.edu/reportcard/rc.aspx?linkid=37&orgcode=04300305&fycode=2014&orgtypecode=6&">http://profiles.doe.mass.edu/reportcard/rc.aspx?linkid=37&orgcode=04300305&fycode=2014&orgtypecode=6&</a>

AMSA students have continued to maintain a high level of achievement on PSAT, SAT and Advanced Placement (AP) exams. Refer to Appendix A on page 11 for PSAT and SAT 2014-2015 Performance; Attachment 1 on page 27 for the 2015 AP Summary and Attachment 2 on page 28 for the AP Year to Year Summary.

### **Program Delivery**

Data collected in 2012 indicated that many of our incoming sixth grade students were below grade level in reading skills. AMSA traditionally assesses all incoming sixth grade students in math skills to determine placement, but last year was the first time incoming students were given a reading assessment in addition to the math placement test. This practice has been successful in identifying students with reading and language deficiencies before the school year begins. Typically all sixth grade students have an introductory Latin class every other day as part of their academic schedule. Incoming sixth grade students who are identified as reading below grade level are put in a reading and language skills class instead of Latin. These students are regularly assessed for progress. Once students demonstrate they are reading at grade level they are integrated into Latin studies.

We have now implemented a system that monitors tutoring and student progress for at risk students. Students in grades six through eight who receive extra help during their daily Directed Study have a tutoring schedule and special pass assigned to them as a means to track services. Individual student progress is discussed at Grade Level Team Meetings.

# Organizational Viability

#### **Organizational Structure of the School**

The school's organizational structure has not changed during the 2014-15 school year, with the exception of the elimination of the position of Executive Director of Development. Moving forward into the 2014-15 school year, several adjustments have been made. The Registrar will report directly to the Executive Director; Facilities will report to the Business Manager; Director of Operations will be a phased out. IT Director will be a new position reporting to the Executive Director.

- Organizational Chart 2014-2015: See Attachment 3 on page 29.
- Organizational Chart 2015-2016: See Attachment 4 on page 30.

#### **Teacher Evaluation**

The school will use a process of teacher evaluation that focuses on frequent short visits to classrooms coupled with individual meetings with teachers for feedback and advice. The process will be coordinated between Department Chairs, the Principal and the Vice Principal. The tool used will focus on five key areas for observation, feedback, and the setting of goals. The five areas are: punctuality, curriculum coverage, classroom management, academic achievement, and professional/ethical standards.

#### **Budget and Finance**

The Unaudited FY15 statement of revenues, expenses, and changes in net assets (Income Statement), the statement of net assets for FY15 (Balance Sheet), and the approved school budget for FY16 (Budget) are included on the following three pages.

# Advanced Math and Science Academy Charter School Income Statement For Fiscal Year Ending June 30, 2015 Preliminary and Unaudited

	Jul 14 - Jun 15
Income	
4000 · Tuition	\$12,645,110.00
4050 · Grants & Donations	\$156,269.75
4181 · Misc Income	\$29,751.93
4200 · Nutrition Income	\$111,263.35
4300-01 · Student Program Income	\$375,053.56
4300-02 · Athletic Program Income	\$173,748.15
4300-08 · Student Transportation Income	\$170,618.25
4400 · Contr. In-Kind - Transportation	\$274,212.00
9996 · Fund Transfer Income	\$30,822.30
Total Income	\$13,966,849.29
Gross Profit	\$13,966,849.29
Expense	
Fund Transfer Expense	\$30,822.30
50000 · Salaries	\$7,193,842.77
50015 · Payroll Taxes & Fringe Benefits	\$1,052,560.47
50020 · Professional Development	\$100,842.62
52010 · Instructional Supplies & Equip	\$246,110.87
52050 · Student Program Exp	\$266,850.14
52060 · Nutrition Exp	\$117,986.28
52070 · Athletic Expense	\$426,542.63
52080 · Student Transportation Exp	\$568,481.22
54010 · Lease. CAM and Taxes	\$1,655,533.87
54030 · Facilities	\$306,575.65
54050 · Utility	\$245,417.79
55005 · IT	\$183,703.47
55006 · Auditor	\$27,532.00
55007 · Legal Expense	\$288,747.05
55010 · Other Operating Costs	\$198,382.26
5711 · Depreciation Expense	\$209,347.48
Total Expense	\$13,119,278.87
Net Income	\$ 847,570.42

# Advanced Math and Science Academy Charter School Balance Sheet As of June 30, 2015

	Jun 30, 15
ASSETS	
Current Assets	
Checking/Savings	\$6,994,495.39
Accounts Receivable	\$5,000.00
Other Current Assets	\$178,432.63
<b>Total Current Assets</b>	\$7,177,928.02
Fixed Assets	\$564,067.93
Other Assets	\$33,333.00
TOTAL ASSETS	\$7,775,328.95
LIABILITIES & EQUITY	
Liabilities	
<b>Current Liabilities</b>	
Accounts Payable	\$-359,586.54
Credit Cards	\$-568.56
Other Current Liabilities	\$1,661,781.68
<b>Total Current Liabilities</b>	\$1,301,626.58
Total Liabilities	\$1,301,626.58
Equity	\$6,473,702.37
TOTAL LIABILITIES & EQUITY	\$7,775,328.95

# Advanced Math and Science Academy Charter School Budget for Fiscal Year Ending June 30, 2016 Approved April 16, 2015 \*

	July 2015 – June 2016
Income	
4000 · Tuition	\$12,700,838.00
4050 · Grants & Donations	\$208,490.00
4181 · Misc Income	\$38,400.00
4200 · Nutrition Income	\$156,000.00
4300-01 · Student Program Income	\$326,150.00
4300-02 · Athletic Program Income	\$181,957.00
4300-08 · Student Transportation Income	\$211,720.00
9996 · Fund Transfer Income	\$30,000.00
Total Income	\$13,853,555.00
Gross Profit	\$13,853,555.00
Expense	
Fund Transfer Expense	\$30,000.00
50000 · Salaries	\$7,675,685.00
50015 · Payroll Taxes & Fringe Benefits	\$1,037,688.00
50020 · Professional Development	\$128,300.00
52010 · Instructional Supplies & Equip	\$265,954.00
52050 · Student Program Exp	\$232,794.00
52060 · Nutrition Exp	\$141,200.00
52070 · Athletic Expense	\$396,973.00
52080 · Student Transportation Exp	\$377,275.00
54010 · Lease. CAM and Taxes	\$1,674,716.00
54030 · Facilities	\$355,628.00
54050 · Utility	\$239,520.00
55005 · IT	\$198,351.00
55006 · Auditor	\$21,000.00
55007 · Legal Expense	\$425,000.00
55010 · Other Operating Costs	\$192,131.00
5711 · Depreciation Expense	\$199,616.00
Total Expense	\$13,591,831.00
Net Income	\$261,724.00

<sup>\*</sup>This is the current approved budget, but it will need to be revised and re-approved when a final, approved contract is in place with the teachers union.

# **CAPITAL PLAN** (Ongoing and Projected)

Description of Project	Current Status	Completion	Estimate
Math Laptop Cart	Purchased 13, will purchase additional 13 if pilot successful	In Progress	\$ 20K
Gigabit Ethernet Switches to upgrade network infrastructure high end backbone switch and upgrade current Ethernet switches with higher speed	In Progress	Continue to add Gigabit modules as needed	\$ 30K
SAN (Storage Area Network) Purchase and install storage  area network: AMSA plans to protect school data with a high availability SAN Server Virtualization - 100% server availability after install	In Progress  Will install SAN and finish virtualizing all remaining physical servers	August 2015	\$ 20K
Computer Science Lab Refresh	In Progress	August 2015	\$ 25K
Wireless Access Points Replace oldest access points and purchase 5 additional to ensure optimal coverage in all buildings	In Progress	August 2015	\$15K
Upgrade to Comcast Fiber connection 200Mbps/200Mbps	In Progress	July 2015	\$20K/year
Build New Greenhouse	Planning	TBD	\$ 50K
Interior painting of school	Paint all classrooms/hallways	August 2016	\$ 50K
Upgrade all student/faculty furniture as needed	Replace 30 classrooms	In Progress	\$ 80K
Capital Building Plan	Planning	TBD	\$ 25M

AMSA plans to establish a Capital Reserve Account for all future capital projects.

# Appendix A Accountability Plan Performance for 2014-2015

FAITHFULNESS TO THE CHARTER	2014-2015 Performance (Met/Partially Met/Not Met)	Evidence		
<b>Objective:</b> The school is faithful to the mission, vision and educational philosophy defined in the charter application and any subsequent approved amendments.				
Measure: AMSA will create a learning environment that allows all students to reach academic success.  95% of seniors will apply to a college or university and 100% of these students will be accepted to a college or university.	Met	98% (126) of students in the Class of 2015 applied to a college or university and 100% of these students were accepted. We also have one student who has been accepted into the U.S. Marine Corp and one student who has been accepted into a trade school.		
Objective: The school establishes an academic program that includes the pedagogical approach, curriculum, assessment, and other unique elements defined in the charter application and any subsequent approved amendments(s).				
Measure: The core of AMSA's educational model is highly structured, and each year consists of continuous, logically organized, and interconnected multi-year course in which teachers introduce, and build upon, fundamental concepts and theories in math, science, computer science, and the humanities, preparing students for the rigors of Advanced Placement courses.   80% of all students will take at least one Advanced Placement course during their 4	Met	83% of students in the class of 2015 have taken at least one Advanced Placement course during their 4 high school years (Grades 9-12).		
high school years (Grades 9-12).  Measure:  90% of students who take an Advanced Placement test will score a 3 or better.	Not Met	89% of students who took an Advanced Placement test in May of 2015 received a score of 3 or higher. 69% of these students earned a score of 4 or higher		

ACADEMIC PROGRAM SUCCESS	2014-2015 Performance (Met/Partially Met/Not Met)	Evidence
--------------------------	---	----------

**Objective:** Students at AMSA demonstrate proficiency, or progress toward meeting proficiency targets on state standards, as measured by the Massachusetts Comprehensive Assessment System (MCAS) exam in all subject areas and at all grade levels tested for accountability purposes.

Measure: 90% of all students enrolled for at least one full year will score in the Proficient or Advanced classification in ELA and at all grade levels tested for accountability purposes.	Met	97% of all students enrolled for at least one full year scored in the Proficient or Advanced classification in ELA 2014 MCAS	
Measure: 85% of all students enrolled for at least one full year will score in the Proficient or Advanced classification in Mathematics and at all grade levels tested for accountability purposes.	Met Not Met in Grade 7 and 8	87% of all students enrolled for at least one full year scored in the Proficient or Advanced classification in Mathematics 2014 MCAS.  (82% Grade 7, 80% Grade 8	
Measure: 85% of all students enrolled for at least one full year will score in the Proficient or Advanced classification in Science and Technology and at all grade levels tested for accountability purposes.	Met Not Met in grade 8	87% of all students enrolled for at least one full year scored in the Proficient or Advanced classification in Science and Technology 2014 MCAS.  (76% grade 8)	
<b>Measure:</b> 100% of seniors with Educational Proficiency Plans (EPP) based on a less than proficient score on their 10 <sup>th</sup> grade ELA and/or Math MCAS will achieve proficiency/Competency Determination (CD) and graduate with their class.	N/A	There were no seniors on Educational Proficiency Plans.	
<b>Objective:</b> The school achieves and maintains a median student growth percentile (SGP) of 40 or higher in the aggregate and for all statistically significant sub-groups in all subject areas tested for accountability purposes.			
Measure: Students who score below the Proficient or Advanced classification and students in statistically significant sub-groups who score below the Proficient or Advanced classification will achieve and maintain a median student growth percentile (SGP) of 40 or higher.	Met	The measure has been met in the aggregate for all grades.	
Objective: The school makes Adequate Yearly Progress (AYP) in the aggregate and for all statistically significant sub-groups in English language arts and mathematics.			
<b>Measure:</b> Each year, the school makes AYP in the aggregate and for all statistically significant subgroups in English language arts and mathematics.	NA	No longer reported	
Objective: The school does not have a status for accountability purposed of Improvement, Corrective Action, or Restructuring.			

<b>Measure:</b> Each year, the school does not have a status for accountability purposed of Improvement, Corrective Action, or Restructuring.	Met	Rated as Level 1	
<b>Objective:</b> If externally developed assessments other performance is strong and demonstrates improvement			
Measure: 95% of all students in grades 9, 10, and 11 take the PSAT. Students improve their Critical Reading and Writing PSAT scores by an average of 6% from grade 9 to grade 11. Students improve their Math PSAT scores by an average of 10% from grade 9 to grade 11.	Met	98% of all students in grades 9, 10 and 11 took the PSAT in October of 2014. The students in grade 11 have improved their mean scores by 14% in Critical Reading, 16% in Math and 13% in Writing.	
<b>Measure:</b> 95% of all upper school students will take the SAT before January 1 <sup>st</sup> of their senior year. The class mean SAT score will be no less than 10% higher than the state mean in Critical Reading, Math and Writing.	Met	98% of the students in the class of 2015 have taken the SAT or ACT. The class mean for SAT scores were 21-25% higher than the state mean in Critical Reading, Math and Writing.	
<b>Objective:</b> The school's curriculum is documented, articulates the skills and concepts that all students must know and be able to do to meet state standards, is aligned horizontally and vertically, and supports opportunities for all students to master these skills and concepts.			
<b>Measure:</b> AMSA's curriculum is aligned with the charter and the Massachusetts Curriculum Frameworks as documented in teacher's unit plans and Atlas Rubicon.	Met	AMSA's curriculum is aligned with the charter and the Massachusetts Curriculum Frameworks as documented in teacher's unit plans and Atlas Rubicon.	
<b>Measure:</b> 100% of the AMSA curriculum is available in Atlas Rubicon.	Met	100% of the AMSA curriculum is available in Atlas Rubicon.	
Measure: To support opportunities for all students to master the curriculum, all teachers provide at least 45 minutes of extra help after school during the school week. Teachers identify struggling students based on MCAS scores and internal assessment. Tutoring in the area of need is offered to all identified students.	Met	All teachers provide at least 45 minutes of extra help after school per week. 100% of incoming students are assessed for math and reading skills. Services are provided to students in need of remediation.	
<b>Measure:</b> 100% of students who receive targeted tutoring will significantly improve their academic performance in the subject(s) needing	Not Met	We did not establish an effective way to monitor tutoring progress for specific students at risk until	

improvement.	the end of this year. We have now implemented a process for creating schedules and passes for at risk students during Directed Study, providing dedicated time for extra help and a system to monitor participation. Individual student progress will be discussed at
	participation. Individual student progress will be discussed at Grade Level Team Meetings.

ORGANIZATIONAL VIABILITY	2014-2015 Performance (Met/Partially Met/Not Met))	Evidence	
<b>Objective:</b> The school develops an annual budget the of student academic achievement.	nat can be sustaine	ed by enrollment and is in support	
<b>Measure:</b> The school's annual budget is sustained by its enrollment.	Met	All seats are filled with a waiting list of 475.	
<b>Objective:</b> The school demonstrates a history of posoperations and support the academic program, and o			
<b>Measure:</b> Each year, the school demonstrates a history of positive net assets, adequate cash flow to sustain operations and support the academic program, and consistently operates within budget.	Met	The Board of Trustees approved a balanced FY15-16 Budget at the April 16, 2015 Board Meeting.	
Objective: The school's annual independent audit is free of material or repeated findings.			
<b>Measure:</b> AMSA's annual independent audit is free of material or repeated findings.	Met	Audit prepared by Alexander, Aronson, Finning & Company confirmed sound fiscal practices.	
Objective: The school involves parents/guardians as partners in the education of their children.			
Measure: AMSA provides parents/guardians access to EDLINE (Online Learning Community Management System). Parents/guardians can check homework assignments and monitor their student's grades and academic progress through EDLINE. Parents can communicate via email at any time with teachers and schedule conference as needed throughout the school year.	Met	PlusPortal was implemented this year to replace EDLINE. The program has two modules: ParentPlus and StudentPlus. Students/Parents are able to view homework assignments, and monitor grades and academic progress. Teachers' emails are provided.	
Objective: Families and students are satisfied with the school's program.			

Measure: The school conducts a Family Satisfaction Survey every year. The Family Satisfaction will have a response rate of 50% or higher.	Not Met	32% response rate to the November Family Satisfaction Survey
<b>Measure:</b> 90% of parents/guardians who respond to the Family Satisfaction Survey will be "very satisfied", "satisfied" or "somewhat satisfied" with the school's program.	Met Not Met Not Met	Satisfaction rate: Academic: 90% Culture: 83% Communication: 82%
Objective: Employees of the school meet all applica	ble state and feder	ral qualifications and standards.
Measure: 100% of AMSA teachers are Highly Qualified and meet all applicable state and federal qualifications and standards. Teaching qualifications are verified through the Department of Elementary and Secondary Education (ELAR).	Not Met	99% of AMSA teachers met Highly Qualified state and federal standards. (86 out of 87)

# Recruitment Plan 2015 – 2016

School Name: Advanced Math and Science Academy Charter School

Date: July 31, 2015

Please provide a brief narrative report on implementation of recruitment strategies from last year's plan.

The consolidation of the Guidance Department, Special Education Department and the Health Office, under the oversight of the Director of Student Services significantly improved the overall delivery and orchestration of student services. School Tours were well attended in the fall and spring. AMSA continues to develop partnerships with Assabet Regional Technical High School, the Marlborough Chamber of Commerce, EMC, MathWorks, Massachusetts International Academy, Raytheon and Bose. These relationships have provided a wide range of exposure for our academic program. AMSA focused on our 10<sup>th</sup> Anniversary Celebration in lieu of the International Festival this year, providing an opportunity for AMSA staff, parents and students to share our history and mission with friends and community members who attended the festivities.

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

#### **General Recruitment Activities:**

Our focus for recruitment this year is to produce a full color flyer that will reach a broad range of potential students within the demographic groups listed. General Recruitment activities still include advertising in many of the local newspapers in three languages, English, Spanish and Portuguese. The school conducts well advertised student led tours in the spring and fall. AMSA holds educational and recreational events throughout the year that are open to the public. Some examples include academic workshops, theater productions, Arts Night, the Annual 5K Race, SMOC "I Love to Read Festival", and AMSA's Neighborhood Halloween Trick or Treat Night. This exposure allows families to become familiar with our school, students and staff. AMSA remains an active member of the Marlborough Chamber of Commerce and our student groups participate in many local events that target the needs of the community.

Recruitment Plan –Strategies List strategies for recruitment activities for <u>each</u> demographic group.		
Demographic Group Strategies		
Special education students	AMSA's website will feature a SEPAC page, providing information about SPED services at AMSA, current news and informational events that are open to the public. Our new flyer will mention our special education services.	

Limited English-proficient students	Our new flyer will be published in English, Portuguese and Spanish. We will distribute the flyer at the Hudson Portuguese Club and the Marlborough Spanish Seventh-day Adventist Church.
Students eligible for free or reduced lunch	AMSA plans to distribute our new flyer at the Marlborough Resource Center and the Hudson Community Center.  AMSA has identified four low income housing projects in Marlborough, each with a central office, where we can provide flyers and post information for resident families.
Students who are sub- proficient	AMSA will contact Kumon Math and Reading Center located in Marlborough to develop a partnership.
Students at risk of dropping out of school	Flyers will be distributed at the Boys and Girls Club of MetroWest and the Cottage Children's Center, both located in Marlborough.
Students who have dropped out of school	AMSA does not admit new students in grades 10-12.
Other subgroups of students who should be targeted to eliminate the achievement gap	AMSA will continue to send out press releases that describe our academic and athletic achievements, promoting that our success is built upon the effort and dedication of students of all backgrounds and abilities.

# **Retention Plan** 2015 – 2016

# Retention strategies from the 2014-2015 Retention Plan

Although we did not have students identified as ELL this year, we did hire an ELL consultant to assist with language assessment. The greater risk to many of our incoming students is a lack of reading skills. This was the second year that AMSA conducted both a Math and Reading Skills placement test prior to school start for incoming students. Students who tested below level were identified as needing support. Part of the academic program for sixth grade is an Introduction to Latin class that meets every other day. Students who test below grade level in reading skills are scheduled for a reading and language skills class instead of Latin. Students are assessed periodically. When a student demonstrates grade level proficiency they are integrated into sixth grade Latin studies.

The Soaring Eagles Math tutoring has been consistently effective in supporting struggling students. Extra help in Math is offered during the school day and after school.

The Guidance Department continues to develop exceptional resources for students and their families, assisting them with college admissions and the very complicated financial aid process. Counselors and a school psychologist are available to assist students, especially in the high school, with their academic and emotional needs.

Our *Back to the Future* event was originally designed to welcome our first graduating class back to AMSA to share their college experiences with Seniors. The program was well received and it has become a favorite annual event. Every January alumni meet with our seniors for a reception and Q&A, providing seniors with an opportunity to hear their predecessors talk about the many aspects of college life. Equally as important, alumni offer advice on how to avoid the tendency for seniors to lose academic interest during the last few months of high school.

AMSA has established a well respected athletic program and broad range of sports to complement the school's rigorous academic demands. Swimming and Girl's Lacrosse were added to the athletic program this past year.

AMSA also supports a robust afterschool program providing students with opportunities to pursue special interests, compete academically and participate in service and leadership activities. Team dynamics are a critical part of AMSA's educational philosophy, providing the necessary framework for successful learning that is dependent upon a deep respect for knowledge as well as a genuine respect for others.

Overall Student Retention Goal		
Annual goal for student retention	93%	

Retention Plan –Strategies List strategies for retention activities for <u>each</u> demographic group.		
Demographic Group	Strategies	
Special education students	12 Chromebooks have been added to our SPED resources to assist students with writing and organizational skills. AMSA is offering organizational and study skills instruction this summer for special needs students (4 sessions each month).	
Limited English-proficient students	Expansion of the reading skills program based on results of the reading placement test and follow-up progress assessments.	

Students eligible for free or reduced lunch	Financial help is made available to students who may require assistance to meet the cost of athletic and activity fees. AMSA also assists students in obtaining fee waivers for standardized testing, AP exams and college applications.
	Work with students without technology at home to ensure they have access while at school. Help students and their families to file for financial aid and to compare aid packages to capitalize on best fit. Give access to scholarships available to students of low means.
Students who are sub- proficient	AMSA has recently implemented a process for monitoring participation and progress with extra help. Schedules and passes are created for individual students and teachers during Directed Study. Student progress is discussed at Grade Level Meetings.
Students at risk of dropping out of school	AMSA has added access to on-line courses through FUEL (Families United in Educational Leadership) as part of our continued efforts to support students who are at risk of dropping out of school.
Students who have dropped out of school	Students who leave school will be notified in writing annually of their options and available resources for completing high school.
Other subgroups of students who should be targeted to eliminate the achievement gap	The school will continue to develop its culture of respect and responsibility through professional development opportunities for faculty and staff.
	Additionally, student assemblies will be used to promote the school's key design elements and deepen student appreciation for AMSA's distinctive approach to academic excellence and character growth.

# Appendix C School and Student Data

# School and Student Data Tables

AMSA's student demographic information can be found on the Department's website using the following link to our school's profile:

http://profiles.doe.mass.edu/reportcard/rc.aspx?linkid=37&orgcode=04300305&fycode=2014&orgtypecode=6&

STUDENT DEMOGRAPHIC AND SUBGROUP INFORMATION*				
Race/Ethnicity	# of students	% of entire student body		
African-American	29	3%		
Asian	249	25%		
Hispanic	52	5%		
Native American	6	<1%		
White	624	62%		
Native Hawaiian, Pacific Islander	1	<1%		
Multi-race, non-Hispanic	35	4%		
Special education	39	4%		
Limited English proficient	1	<1%		
Low income	53	5%		

<sup>\*</sup>Based on June 2015 SIMS Report

ADMINISTRATIVE ROSTER FOR THE 2014-2015 SCHOOL YEAR				
Name, Title	Brief Job Description	Start date	End date (if no longer employed at the school)	
Mary Ann DeMello Interim Executive Director	Responsible for the overall management of the school	August 2014	June 30, 2015	
John Brucato Executive Director of Development	Responsible for overall development and marketing	July 2014	September 17, 2014	
Richard Porter Assistant Principal	Responsible for student discipline	September 2013	June 30, 2015	
Michael McIntyre Director of Student Services	Responsible for the SPED Program/Staff, Nurses, Registrar and Adjustment Counselor	August 2013		
Lisa Barooshian Director of Guidance	Oversees the Guidance Department, Student Data	August 2011		
Ann Richards Operations Director	Transportation, lunch program, school events and student activities	September 2006		
Nancy Konisky HR and Business Manager	Responsible for school finances and human resources	January 2012		
Sara Snow Director of Accountability	Oversees state and federal compliance, MCAS testing, Liaison to Board of Trustees	January 2011		
Eric Lane Facilities Director	Responsible for maintenance of three school buildings and campus security	September 2011		
Maureen Evans Director of Marketing and Outreach	Responsible for community outreach and marketing development	September 2011		

TEACHERS AND STAFF ATTRITION FOR THE 2014-2015 SCHOOL YEAR				
	Number as of the last day of the 2014-2015 school year	Departures during the 2014-2015 school year	Departures at the end of the school year	Reasons for Departure
Teachers	81	1	9	1 terminated, 4 resigned, 1 moving out of state, 3 non renewal, 1 change of career
Other Staff	37	1	3	2 resigned, 2 Interim positions

BOARD MEMBERS FOR THE 2014-15 SCHOOL YEAR				
Name	Position on the Board	Committee affiliation(s)	Number of terms served	Length of each term (including date of election and expiration)
Craig Holbrook	Chair	Executive Finance	In second term	10-22-09/10-22-16
Pauline Jen Ryan	Vice Chair	Executive Governance Finance	In first term	6-14-12/6-30-16
Roger Jarrett	Secretary	Executive Governance Fundraising	In second term	11-18-08/11-18-15
Thomas Taverna	Treasurer	Executive Finance	In first term	9-19-12/6-30-16
Allyson Hope Cohen	Trustee	Governance	In first term	4-25-13/6-30-16
Chris O'Keeffe	Trustee	Fundraising	In first term	11-21-13/6-30-17
Rick Kamal	Trustee	Governance	In first term	4-17-14/6-30-17
Scott Ladner	Trustee	Education	In first term	4-17-14/6-30-17
Michael Glass	Trustee	Finance	In first term	11-20-14/6-30-18
Ev Reynolds	Trustee	Governance	In first term	11-20-14/6-30-18
Ken Estabrook	Trustee	Education	In first term	12-15-14/6-30-18
Jessica E. Bowen	Faculty Rep	Education	Elected to second term	6-19-14/6-30-16
Melissa Vera	Parent Rep	Education Governance	End of third term	12-13-12/6-30-15
Mary Ann DeMello	Interim ED ex officio	Finance	With position	8-13-14/6-30-15

# Appendix D Additional Information

# **Key Leadership Changes**

Position	Name
Board of Trustees Chairperson	Craig Holbrook (end date 6-25-15) Pauline Jen Ryan (start date 6-25-15)
Charter School Leader	Dr. Mary Ann DeMello (Interim ED, end date 6/30/2015) Dr. Joseph McCleary (Permanent ED, start date 7/01/2015)
Executive Director of Development	John Brucato, (resigned 9-17-14)
Principal	Position Vacant
Assistant Principal	Richard Porter (Interim, end 6/30/15)
Special Education Director	Michael McIntyre, No change
MCAS Test Coordinator	Sara Snow, No change
SIMS Coordinator	Judith Wing, No change
English Language Learner Director	Michael McIntyre, No change

#### **Facilities**

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

#### **Enrollment**

The estimated student application deadline and lottery date for students who are interested in enrolling for the 2016-2017 school year:

Action	Date		
Student Application Deadline	January 2, 2016		
Lottery	February 12, 2016		

#### Conditions

In February 2015, AMSA's charter was renewed with four conditions.

- 1) Beginning in March of 2015 and until further notice, AMSA must submit to the Department of Elementary and Secondary Education, board meeting agendas, materials and minutes prior to each board meeting at the same time that these items are sent to the school's board members. Additionally, if board materials do not already include this information, the school must also submit monthly financial statements.
  - Since March 2015, all documentation provided to AMSA Board members has also been provided to DESE.
- 2) By June 30, 2015, the school shall provide the Department an evaluation of its leadership structure, an organizational chart, with accompanying job descriptions, and a plan to fully staff the administrative structure.
  - These materials were provided to the Department prior to June 30, 2015.
- 3) By October 31, 2015, the school's board of trustees must have completed a comprehensive self-evaluation of its practices and its capacity.
  - As of April 2015, the Board piloted *BoardOnTrack* and 10 of 13 Trustees completed the Board assessments portion of *BoardOnTrack*'s software tool. The Governance Committee reviewed the results of this preliminary assessment with a *BoardOnTrack* employee. As of July 2015, the Board became an annual member of *BoardOnTrack* and intends to use the membership to complete a comprehensive self-evaluation prior to the end of October. At its July 2015 meeting, the Governance Committee discussed the existing Board composition and capacity and identified desired experience and skills that would complement existing Trustees. The Board will direct its recruiting efforts to seek Trustees with these skills and background.
- 4) By December 31, 2015, the school's board of trustees must engage in training conducted by an external consultant, acceptable to and approved in advance by the Department, on the roles and responsibilities of a board of trustees for a charter school and on the Open Meeting Law.
  - As of July 2015, the Board confirmed that the Department would accept an employee from *BoardOnTrack* to conduct this required training. *BoardOnTrack* has confirmed that they can provide a consultant to conduct the training. The Board intends to schedule this training with *BoardOnTrack* prior to the end of December.

#### Complaints

In May 2014, the Board received a complaint from one family alleging fraudulent use of a personal credit card. A task force was assigned to investigate the complaint. Investigation was put on hold pending a separate police investigation into the matter. Upon the court's dismissal of the charges, the task force reported that the event was deemed an error. Credit card policy has been revised and changes made to the credit card handling process to prevent the possibility of another error. This revised policy was adopted at the July 29, 2014 BOT meeting. The Board agreed with the task force findings and the complaint was closed.

In June 2014, the Board received a complaint from a teacher alleging harassment and an unhealthy work environment. A task force was assigned to investigate the complaint. The task force noted that there is a distinction between unprofessional conduct and the legal definition of harassment. There was no evidence of harassment by legal standards found, but the Board is working with the current administration to improve the working environment at the school. The Board agreed with the task force findings and the complaint was closed.

In August 2014, the Board received a complaint from a former teacher alleging wrongful termination. Separately, the Teamsters filed a complaint on behalf of the former employee through the Massachusetts Department of Labor Relations. The task force and the complainant jointly agreed that the legality of the school's actions was best adjudicated through the DLR and its appeals boards. The DLR found no wrongdoing and dismissed all four charges against the school; after appeal to the Commonwealth Employment Relations Board, the CERB upheld the DLR's findings. As these legal bodies determined no wrongdoing on the school's behalf, the task force accepted the outcome that the school did not wrongfully terminate the former employee and noted that the Board has no further jurisdiction over personnel matters beyond ensuring compliance with law. The Board agreed with the task force findings and the complaint was closed.

In October 2014, five separate complaints were received by the Board from employees who felt that the Faculty Representative made comments at the October Board meeting that violated the confidentiality rights of a candidate for the position of Principal at AMSA, improperly attempted to influence the ongoing Principal search, misrepresented faculty sentiment regarding a candidate for the Principal position, and made an unsubstantiated comment that AMSA salaries discriminated against women and immigrants. Due to the fact that all the complaints concerned the circumstances of a single event, a single task force was assigned to investigate all five complaints. With respect to the allegation of a confidentiality violation, the task force noted that, at the time of the meeting in question, the candidate had already been identified as a finalist and the application was no longer confidential thus there was no violation. With respect to the allegation that the Faculty Representative was improperly attempting to influence the Principal search, the task force found that there is no explicit prohibition against the Faculty Representative reporting opinions that have been expressed to them in their role. The task force found the communication unfortunate and recommended that explicit expectations be put in place to prevent future occurrences in similar situations. With respect to the allegation of misrepresentation of faculty sentiment, the task force noted that the Faculty Representative stated that she could not claim to be speaking for the faculty as a whole and repeated this several times during her remarks. Although she did not seek input

from the full faculty, no guidelines exist regarding how the Faculty Representative should solicit feedback. Regarding the unsubstantiated comment that AMSA salaries discriminated against women and immigrants, the task force noted that AMSA is an equal opportunity employer and does not discriminate. Individuals who believe a violation of this policy exists may follow the "Whistleblower" process in the Employee Handbook or procedures dictated by the Massachusetts Commission Against Discrimination. The merits of such a statement are beyond the scope of the Board. The task force recommended that the Board establish clear guidelines for the Faculty and Parent Representatives and that all Trustees have accountability for each other. The Board agreed with the task force findings and all five complaints were considered closed. The Governance Committee of the Board was delegated the task of creating guidelines for how the Faculty and Parent Representatives should represent their constituencies while maintaining their responsibilities as Trustees.

In May 2015, five separate complaints were received by the Board against the Interim Executive Director and an administrative employee. The complaints allege workplace harassment, violation of privacy, age discrimination, sexual orientation discrimination, retaliation and unprofessional and unethical conduct. Because the nature of the complaints is similar, all five complaints were assigned to a single task force to investigate the complaints against the Interim Executive Director. However, complaints against the administrative employee are outside of the Board's purview and were redirected to the Interim Executive Director. At this time, the task reported on two of the complaints and investigations into the other three are ongoing. The first of the complaints was filed by an employee against the Interim Executive Director for elimination of the employee's position due to discrimination. The second complaint was filed by an employee for an unwarranted suspension without pay and discrimination. The task force found that the Interim Executive Director did eliminate a position and did implement a suspension without pay, but that she had the authority to make these decisions. In a separate action taken by the Board at a May 21 Board meeting, the Board authorized the incoming Executive Director to review all personnel decisions made since his selection as Executive Director on April 7 and to uphold, amend or reverse any decisions. With regard to discrimination claims, the task force noted that the employee may lodge a complaint with the Massachusetts Commission Against Discrimination which is the proper authority for adjudicating discrimination claims. The Board agreed with the task force and these two complaints are considered closed. Investigation into the three other complaints is ongoing.

In June 2015, the Board received a complaint from an employee alleging an Open Meeting Law violation for comments made at the May 28 Board meeting. The Governance Chair directed the employee that allegations of Open Meeting Law violation are to be submitted according to the process described by the Attorney General. A task force has been assigned to investigate the complaint in accordance with Massachusetts Department of Elementary and Secondary Education regulation 600 CMR 1.09 and the Board's Bylaws and Policy A-105, Complaint Policy. This investigation is ongoing.

# **Attachment 1**

# AP SCORE SUMMARY 2015 Advanced Math and Science Academy Charter School (221349)

School Totals for this View	5	4	3	2	1	Total Exams
Number of Exams	232	250	108	49	12	551
Percentage of Total Exams	42%	27%	20%	9%	2%	100%
Number of AP Students	140	123	93	45	11	

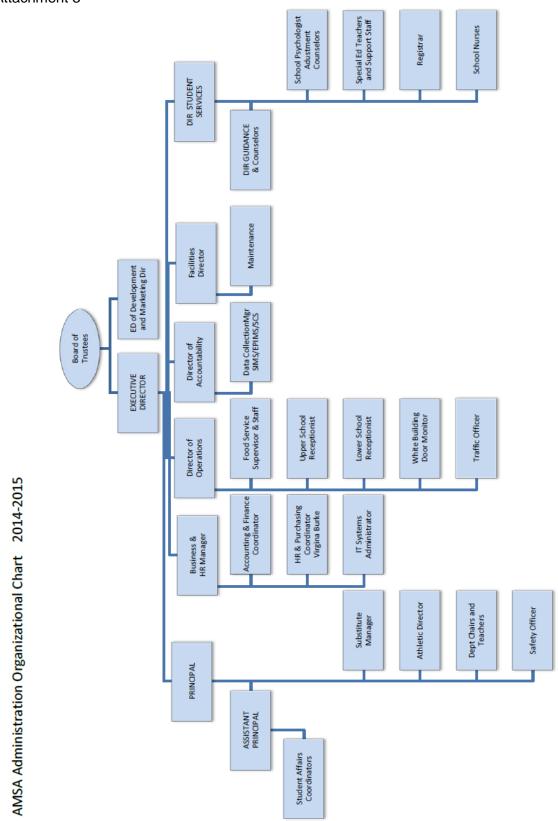
Exam Name	Number of Exams	Average Score		
Biology	42	3.48		
Calculus AB	35	4.26		
Calculus BC	90	4.87		
Chemistry	36	3.81		
Computer Science A	60	4.23		
English Language Composition	19	4.68		
English Literature and Composition	26	4.39		
European History	9	2.89		
Latin	10	4.00		
Macro Economics	38	3.45		
Physics C: Electricity and Magnetism	18	4.61		
Physics C: Mechanics	18	4.83		
Psychology	21	3.43		
Spanish Language	11	3.46		
Statistics	27	3.33		
Studio Art: 2D	22	2.91		
Drawing	6	3.67		
US Government and Politics	33	3.24		
US History	51	4.43		

# **Attachment 2**

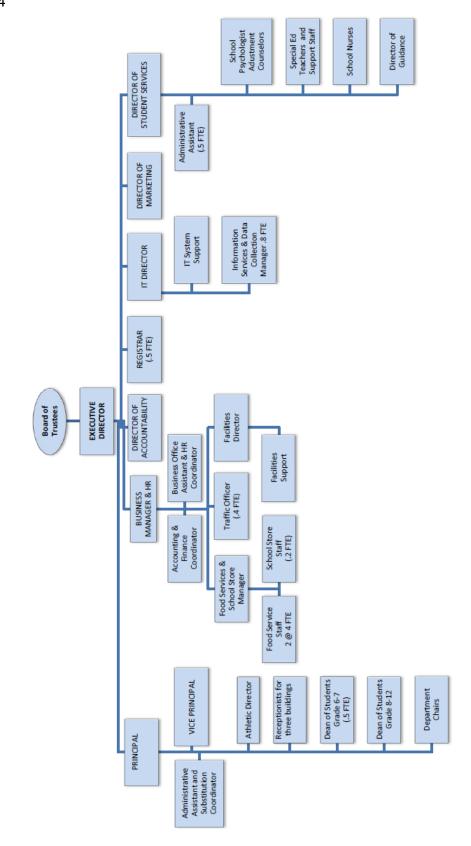
# AP Data Year to Year Advanced Math and Science Academy Charter School (221349) Average AP Score

	2010	2011	2012	2013	2014	2015
AP Subjects						
Biology	2.87	3.60	3.89	3.55	3.53	3.48
Calculus AB	4.07	4.67	4.28	4.61	4.74	4.26
Calculus BC	4.75	4.89	4.95	4.89	4.97	4.87
Chemistry	3.90	3.67	4.33	4.50	4.04	3.81
Computer Science A	-	-	4.75	4.55	4.25	4.23
English Language and Composition	-	4.00	4.71	4.44	5.00	4.68
English Literature and Composition	3.84	3.96	4.00	4.00	3.97	4.39
European History	3.28	2.43	3.77	4.23	3.89	2.89
Latin	-	3.17	NA	4.67	3.50	4.00
Macro Economics	-	-	-	-	3.29	3.45
Physics C: Electricity and Magnetism	-	3.38	3.69	3.73	3.73	4.61
Physics C: Mechanics	-	3.89	4.29	4.36	4.55	4.83
Psychology	-	-	-	-	3.84	3.43
Spanish	-	2.80	4.33	3.60	4.57	3.46
Statistics	-	3.82	3.67	2.10	3.05	3.33
Art: 2D Drawing	-	-	-	-	-	2.91 3.67
US Gov and Politics	1	4.07	4.56	4.00	3.79	3.24
US History	4.06	3.96	4.31	4.68	4.62	4.43

Attachment 3



# Attachment 4



AMSA Annual Report 2014-2015

AMSA Administration Organizational Chart 2015-2016