



# 2023-2024 High School Profile

## Advanced Math & Science Academy Charter School

Ranked #7 Public High School in Massachusetts and #62 Charter School nationally in 2023 by US News & World Report. Recognized as a Best High School annually since 2017.

**Dr. Lisa C. Mobley**  
Executive Director

**Mike Nawrocki**  
Principal

**Amanda Cence**  
Vice Principal

**Daniel Amaral**  
Dean of Students

**Pete Jones**  
Director of Athletics

**Kate Driver**  
Director of  
School Counseling

**Wylie Culhane**  
School Counselor

**Lindsay Currello**  
School Counselor

**Chris Dugan**  
School Counselor

**Sarah Morrissey**  
School Counselor



### AMSA MISSION

This statement from AMSA's Charter remains the foundation of all that we do:

*The Advanced Math & Science Academy 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.*

### AMSA CORE VALUES

Building upon our Mission, we undertook a lengthy process of self reflection involving all stakeholders in the AMSA community. What emerged became AMSA's Core Values. Collectively, we take pride in these values, and we promote them within and outside of our school. Individually, we hold ourselves responsible for embodying and reflecting these values each and every day.

**MODEL INTEGRITY** - Model integrity by being truthful in our work and caring in our relationships with people.

**PURSUE YOUR EXCELLENCE** - Pursue excellence by embracing the joy of learning, by being curious, by working hard, by persevering in the face of obstacles, by embracing creativity and innovation, and by constantly striving to improve. At AMSA, we reach for the stars!

**FOSTER COMMUNITY** - Foster community by being good citizens -- by helping others, by appreciating and celebrating diversity, and by collaborating kindly and supportively.

### COMMUNITY & ENROLLMENT FOR 2023-2024

The Advanced Math & Science Academy (AMSA) opened its doors in 2005 and is located about 35 miles west of Boston. AMSA is a seven year, comprehensive public charter school, educating students in grades 6-12.

Admittance to AMSA is based on a space-availability lottery. there are no entrance exams. While preference in admission is given to families from AMSA's core towns of Clinton, Hudson, Marlborough, and Maynard, students travel to AMSA from over 30 different communities.

**CLASS SIZES:**      Grade 9 = 149      Grade 10 = 132      Grade 11 = 128      Grade 12 = 129

### IMPACT OF COVID-19 ON AMSA'S EDUCATIONAL PROGRAM

**2021-2022 and 2022-2023 School Years** -- AMSA students are learning in person, full-time and will receive standard AMSA grades as outlined on page 2.

**2020-2021 School Year** -- AMSA students learned remotely from September to April and then had the option of in-person classes. Students received standard AMSA grades as outlined on page 2.

*"I can't say enough about the galactic difference between AMSA and other schools our children have attended. The community of teachers and administrators at AMSA has been exceptional, and the quality of students is second to none."*

Parents of Graduate, 7th Grader, and 12th Grader

## GRADING SYSTEM / CLASS RANK / GPA CALCULATION

GPA is cumulative and we report weighted GPA on a 5.0 scale. GPA is calculated annually, beginning at the end of 9th grade and midyear for 12th grade. A GPA factor of 0.5 is added for Honors / Advanced level classes. A GPA factor of 1.0 is added for Advanced Placement / Accelerated courses. AMSA does not rank.

Alpha	Numeric	AP / Accelerated	Honors / Advanced	CP
A+	96.5 & above	5.30	4.80	4.30
A	92.5 – 96.0	5.00	4.50	4.00
A-	89.5 – 92.0	4.70	4.20	3.70
B+	86.5 – 89.0	4.30	3.80	3.30
B	82.5 – 86.0	4.00	3.50	3.00
B-	79.5 – 82.0	3.70	3.20	2.70
C+	76.5 – 79.0	3.30	2.80	2.30
C	72.5 – 76.0	3.00	2.50	2.00
C-	69.5 – 72.0	2.70	2.20	1.70
D+	66.5 – 69.0	2.30	1.80	1.30
D	62.5 – 66.0	2.00	1.50	1.00
D-	59.5 – 62.0	1.70	1.20	0.70
F	Below 59.5	0.00	0.00	0.00

AMSA 2023 SAT Cohort			
Percentile	Total	EBR	Math
75 <sup>th</sup>	1350	650	710
50 <sup>th</sup>	1210	600	620
25 <sup>th</sup>	1040	500	540

*“Every student is held to a high standard, and they are accomplishing amazing things. There are so many opportunities here for students that I haven’t seen in other schools.”*

AMSA Teacher

## COURSE LEVELS

**Un-leveled** – Courses have no distinction between College Prep or Honors. These include art, computer science, physical education, health and wellness, and most elective courses.

**College Preparatory (CP)** – Courses are designed to prepare students for success in college.

**Honors (H) and Advanced (Adv)** – These classes cover more complex material, permit further in-depth study than a CP course and require independent learning and greater effort.

**Advanced Placement (AP)** – A program created by the College Board to offer college-level curriculum and examinations to high school students.

**Accelerated Courses (Acc)** – These courses require an Advanced Placement course as a prerequisite. Accelerated courses are also weighted the same as Advanced Placement courses.

## CURRICULUM

AMSA’s curriculum is extremely rigorous, with a heavy focus on excellence in science, technology, and mathematics. Our classes are taught at a fast pace with significant emphasis on student initiative and independence, similar to college-level classes.

Every AMSA student receives comprehensive training in mathematical thinking and analysis– the foundation skills necessary for success in college/graduate learning as well as STEM and other careers. They learn not what to think, but how to think, using critical thinking and problem solving skills that are future-proof.

For a complete list of high school course offerings, please visit [amsacs.org](http://amsacs.org) to view our Program of Studies.

Graduation Requirements: 28 Credits		
Math	4 Years	Students must pass the MA Comprehensive Assessment System exams.
English	4 Years	
Science	3 Years	
History	3 Years	
Foreign Language	2 Years	
Computer Science	3 Years (1.5 Credits)	
Art	2 Years (1 Credit)	
Physical Education	3 Years	
Health/Wellness	1 Year	

*“The teachers love what they do and are always pushing the boundaries with their innovative curriculum.”*

Parents of 9th Grader and 12th Grader

## ADVANCED PLACEMENT COURSES

Biology	European History	Physics
Calculus AB/BC	French	Psychology
Chemistry	Government & Politics	Spanish
Computer Science	Latin	Statistics
English Language	Macroeconomics	Studio Art
English Literature	Microeconomics	U.S. History

2023 AP Scholar Awards	
Award	# of Students
AP Scholar	30
AP Scholar With Honor	20
AP Scholar With Distinction	29

AMSA students took a total of 397 AP Exams in the 2022-2023 school year. 82% of students scored 3, 4, or 5 on at least one exam. 83% of the class of 2023 took at least one AP course while at AMSA. 2023 seniors took an average of 2.7 AP classes while at AMSA.

## ACCELERATED COURSES

Discrete Mathematics for Computer Science	Intro to Data Science
Linear Algebra / Differential Equations	Multivariable/Vector Calculus
Intro to Cyber Security & Cryptography	

*Class of 2023 National Merit Scholars*  
 2 National Merit Semi-Finalists  
 4 Commended Students

## MATH LEVELS

	College Prep I	College Prep II	Honors	Advanced
<b>Grade 9</b>	Algebra I <i>and</i> Geometry A	Algebra II <i>and</i> Geometry I (CP)	Algebra II (H) <i>and</i> Geometry I (H)	Algebra II / Trigonometry <i>and</i> Advanced Geometry
<b>Grade 10</b>	Algebra II <i>and</i> Geometry B	Algebra III <i>or</i> Precalculus <i>and</i> Geometry II (CP)	Precalculus (H)	Advanced Precalculus / Beginning Calculus
<b>Grade 11</b>	Algebra III	Precalculus <i>or</i> Intro to Calculus	Calculus (H)	AP Calculus AB / BC
<b>Grade 12</b>	Precalculus <i>or</i> Accounting	Intro to Calculus <i>or</i> Statistics (H) <i>or</i> Accounting	AP Calculus AB / BC <i>or</i> Statistics (H)	Multivariable / Vector Calculus <i>and/or</i> AP Statistics <i>and/or</i> Linear Algebra

## SCIENCE RESEARCH OPPORTUNITIES

AMSA's flagship science research program offers students the opportunity to conduct graduate school level research in the 10th-12th grades. Students conduct independent research in areas such as Molecular Biology, Geochemistry, Ecology, Biochemistry, Astronomy, and Engineering.

A new scanning electron microscope donated by Thermo Fisher Scientific is taking the science research program to new heights. This unprecedented gift—the only electron microscope housed at a public high school in the U.S.—gives AMSA students unrivaled learning and research opportunities normally only found in college science labs.

*“We create an environment where it’s safe for students to make mistakes. We encourage risk-taking and creativity. Growth comes from struggle, mistakes, and challenges.”*  
 Dr. Scott Joray, Founding Science Dept. Chair

## CLASS OF 2023 COLLEGE ACCEPTANCES

University of Alabama	Emerson College	UMass - Boston*	Rivier University
Anna Maria College	Emmanuel College	UMass - Dartmouth*	Rochester Institute of Technology*
Appalachian State University	Endicott College	UMass - Lowell*	University of Rochester
Arizona State University	Fairfield University	Massachusetts Bay Community College*	Roger Williams University*
University of Arizona*	Fisher College	McGill University*	Rollins College*
Assumption University*	Fitchburg State University	Merrimack College*	Rutgers University - New Brunswick
Babson College	Florida Atlantic University*	Miami University - Oxford	Sacred Heart University
Baylor University	Florida State University*	University of Miami*	Saint Anselm College
Bennington College	Fordham University	Michigan State University	Saint Michael's College
Bentley University*	Framingham State University*	University of Michigan*	Salem State University*
Boston College	Franklin Pierce University	University of Mississippi*	Salve Regina University
Boston University*	Gardner-Webb University	Montclair State University	University of San Diego
Bowdoin College*	George Washington University	Mount Holyoke College	Seton Hall University
Brandeis University*	Georgia Institute of Technology*	Mount Wachusett Community College*	Siena College
Bridgewater State University*	Georgia State University	New England Institute of Technology	Simmons University*
Brigham Young University Idaho	Gordon College	University of New England	Skidmore College
Brigham Young University Provo*	Grand Valley State University	University of New Hampshire*	University of South Carolina - Columbia
Bryant University*	Hamilton College	New Jersey Institute of Technology	Southern Adventist University*
University of California - Davis	Hampshire College	New York University*	University of Southern Maine*
University of California - Irvine	University of Hartford*	Newberry College	Southern New Hampshire University*
University of California - Merced	Hobart William Smith Colleges*	Nichols College	St. Lawrence University
University of California - Riverside	Hofstra University	North Carolina Agricultural & Technical State University	Stevens Institute of Technology
University of California - San Diego*	College of the Holy Cross	University of North Carolina - Chapel Hill	Stonehill College*
University of California - Santa Barbara	Howard University*	University of North Carolina - Charlotte	Stony Brook University
University of Central Florida	Husson University	North Carolina State University at Raleigh	Suffolk University
Champlain College	University of Illinois at Chicago*	University of North Florida	Syracuse University*
College of Charleston	University of Illinois at Urbana-Champaign	Northeastern University*	University of Tampa
Clark Atlanta College	Indiana University - Bloomington*	Norwich University*	Temple University*
Clark University	Ithaca College	Ohio State University	University of Tennessee - Knoxville*
Clarkson University*	James Madison University	Franklin W Olin College of Engineering*	University of Toronto*
Clemson University*	Kansas State University	University of Oregon	Union College
Coastal Carolina University	Keene State College	Pace University*	Utah State University*
Colby College*	University of La Verne	Penn State University	Vermont State University
College of Saint Rose	Lasell University	University of Pittsburgh	University of Vermont
University of Colorado - Boulder	Le Moyne College*	Plymouth State University	Villanova University*
University of Colorado - Denver	Lehigh University*	Point Park University	Virginia Tech*
Colorado State University*	Long Island University - Post	Providence College*	Wake Forest University
Columbia College Chicago	Louisiana State University*	Purdue University*	Wentworth Institute of Technology*
Columbia College Hollywood	Loyola University - Maryland	Queen's University	West Virginia University*
Connecticut College*	Loyola University - New Orleans	Queen's University Belfast*	Western Carolina University
University of Connecticut*	University of Maine*	Quinnipiac University*	Western New England University
Dean College	Marist College	Quinsigamond Community College*	Westfield State University*
University of Delaware	Marshall University	Reed College	Wheaton College - Massachusetts
University of Denver*	University of Mary Washington	Regis College	Whitman College
DePaul University	University of Maryland - Baltimore County*	Rensselaer Polytechnic Institute*	William & Mary
Dickinson College	University of Maryland - College Park*	University of Rhode Island*	Worcester Polytechnic Institute*
Drexel University	Massachusetts College of Pharmacy & Health Sciences*	University of Richmond	Worcester State University*
University College Dublin*	Massachusetts Maritime Academy*		Xavier University
East Carolina University	UMass - Amherst*		
Eckerd College			
Elon University*			

\* Indicates students attending

### 2023 Student Outcomes

93% plan to attend a 4-year institution • 4% plan to attend a 2-year institution • 3% plan to work, join the military, or take a gap year