HIGH SCHOOL PROFILE

MISSION & CORE VALUES

AMSA 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.

Core Value #1: Model Integrity
We model integrity by being truthful in our work and caring in our relationships with people.

Core Value #2: Pursue Your Excellence
We 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!

Core Value #3: Foster Community
We foster community by being good citizens -- by helping others, by appreciating and celebrating diversity, and by collaborating kindly and supportively.

COMMUNITY & ENROLLMENT FOR 2019-20

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.

While preference in admission is given to families from AMSA’s core towns of Clinton, Hudson, Marlborough, and Maynard, admittance to AMSA is based on a space-availability lottery. Students travel to AMSA from over 36 different communities.

Grade 9: 157  Grade 10: 154  Grade 11: 142  Grade 12: 135

GRADUATION REQUIREMENTS: 28 CREDITS

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>4 Years</td>
<td>Courses that meet 7.5 times per week are worth 1.5 credits.</td>
</tr>
<tr>
<td>English</td>
<td>4 Years</td>
<td>Courses that meet 5 times per week are worth 1 credit.</td>
</tr>
<tr>
<td>Science</td>
<td>3 Years</td>
<td>Courses that meet 2.5 times are worth 0.5 credits.</td>
</tr>
<tr>
<td>History</td>
<td>3 Years</td>
<td>Students are required to pass the Massachusetts Comprehensive</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>2 Years</td>
<td>Assessment System exams.</td>
</tr>
<tr>
<td>Computer Science</td>
<td>3 Years (1.5 Credits)</td>
<td></td>
</tr>
<tr>
<td>Art</td>
<td>2 Years (1 Credit)</td>
<td></td>
</tr>
<tr>
<td>Physical Education</td>
<td>3 Years</td>
<td></td>
</tr>
<tr>
<td>Health/Wellness</td>
<td>1 Year</td>
<td></td>
</tr>
</tbody>
</table>
COURSE LEVELS AT AMSA

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. AP classes are recommended for students who have demonstrated exceptional academic achievement through a combination of motivation and the ability to learn independently at a college-level pace.

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

ADVANCED PLACEMENT COURSES OFFERED

<table>
<thead>
<tr>
<th>Biology</th>
<th>Latin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus AB/BC</td>
<td>Macroeconomics</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Physics</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Psychology</td>
</tr>
<tr>
<td>English Language</td>
<td>Spanish</td>
</tr>
<tr>
<td>English Literature</td>
<td>Statistics</td>
</tr>
<tr>
<td>European History</td>
<td>Studio Art</td>
</tr>
<tr>
<td>French</td>
<td>U.S. History</td>
</tr>
<tr>
<td>Government &amp; Politics</td>
<td></td>
</tr>
</tbody>
</table>

AMSA students took a total of 490 AP Exams in the 2018-2019 school year. 89% of students scored 3 or higher on at least one exam.

2019 AP Scholar Awards

<table>
<thead>
<tr>
<th>Award</th>
<th># of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP Scholar</td>
<td>23</td>
</tr>
<tr>
<td>AP Scholar with Honor</td>
<td>27</td>
</tr>
<tr>
<td>AP Scholar with Distinction</td>
<td>43</td>
</tr>
<tr>
<td>National AP Scholar</td>
<td>2</td>
</tr>
</tbody>
</table>

ACCELERATED COURSES OFFERED

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

Class of 2020
National Merit Scholars
2 National Merit Semi-Finalists
12 Commended Students
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.

Drawing on the best international practices, AMSA’s curriculum is based on the belief that all children are able to learn abstract concepts at an early age and build on these concepts as they develop. Each subsequent year of learning builds upon the foundation laid in the prior years. The core of the educational model is highly structured, and each year consists of continuous, logically organized, and interconnected multi-year courses across all disciplines.

For a complete list of high school course offerings, you can view the Program of Studies from the AMSA website under the ‘Academics’ tab.

MATH LEVELS

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

SCIENCE RESEARCH OPPORTUNITIES

AMSA’s science research classes are geared towards providing a student experience with the opportunity to engage in self-designed scientific research in a laboratory setting. Students will learn how to perform advanced laboratory techniques, as well as how to read and analyze primary scientific literature as they work towards fulfillment of a long-term project. Successful research students thrive with a hands-on approach and are not discouraged or intimidated by setbacks and failures. Students are required to give presentations of their progress regularly to their lab group and yearly to the AMSA community. Research students are often required to find time outside of their regularly scheduled class to prepare or monitor their experiments.

Possible research groups include: Engineering, Environmental Sustainability, Geochemistry, Molecular Biology, and Wildlife Population Studies.
CLASS OF 2019 COLLEGE ACCEPTANCES

Academy of Film Theatre
Adelphi University
University of Alabama
Albany College of Pharmacy
American International
American University
Amsterdam University
Anna Maria College*
Arizona State University
Assumption College*
Babson College*
Bay Path University
Becker College
Bentley University*
Binghamton University
Boston College*
Boston University*
Brandeis University*
Bridgewater State Univ.*
Brigham Young Univ.*
Bryant University
Bucknell University
Ca State Univ. Long Beach
Univ. California, Davis*
Univ. California, San Diego
Carleton College
Carnegie Mellon Univ.*
Case Western Reserve
The Catholic University*
University Central Florida
Champlain College
Chapman University
Clark University
Clarkson University*
Clemson University
University of Colorado
Colorado School of Mines
Colorado State University
Columbia College Chicago
Connecticut College
University of Connecticut*
Cornell University
Curry College
University of Denver
Dixie Sate University
Drake University
Drexel University*

Elmira University
Elms College
Emerson College
Emmanuel College*
Endicott College*
Fairfield University*
Fashion Institute of Tech.
Fitchburg State University*
Florida Institute Technology
University of Florida
Fordham University
Framingham State Univ.*
Franklin Pierce University
Gallaudet University
George Mason University*
George Washington Univ.*
Georgia Institute of Tech.*
University of Georgia
Gettysburg College
Gordon College
Grove City College
Hamilton College
University of Hartford
Hobart and William Smith
College of the Holy Cross
University of Houston*
University of Ill. Urbana
Imperial College London*
Indiana University
Ithaca College
Johnson & Wales Univ.*
University of King’s College
La Salle University
Lafayette College
Lehigh University
Leiden University College*
The Hague
Lesley University*
Loyola Marymount Univ.
University of Maine
Marist College*
Univ. of Maryland Baltimore
Univ of Maryland College P.
MA College of Art & Design*
University Ma. Amherst*
University Ma. Dartmouth*
University Ma. Boston*
University Ma. Lowell*
McGill University
Meredith College
Merrimack College
Michigan State University
University of Michigan
University of Minnesota
University of Missouri*
Montserrat College of Art
Mount Holyoke College
New England College
University of New England*
Univ. of New Hampshire
University of New Haven*
New Jersey Institute Tech.
New York University*
North Carolina State Univ.
Northeastern University*
N. Vermont Univ. Johnson
N. Vermont Univ. Lyndon
Oberlin College of Arts
Pennsylvania College Tech
Pennsylvania State Univ.*
University of Pittsburgh*
Providence College
Purdue University
Quinnipiac University*
Quinsigamond Community
University of Redlands
Reed College
Regis College
Rensselaer Polytechnic Inst.*
Rhode Island College
University of Rhode Island*
Rider University
Roberts Wesleyan College
Rochester Institute of Tech.*
University of Rochester
Roger Williams University*
Rutgers University
Sacred Heart University
Saint Anselm College
Salem State University
San Jose State University
Sarah Lawrence College
Savannah Coll of Art/Design*
School of the Art Institute
Univ. of Sciences, Philad.
University of Scranton
Seton Hall University
Simmons College
Skidmore College
Smith College
Southern Methodist Univ.
Southern Utah University
Springfield College
St. John’s University*
St. Lawrence University*
Stonehill College
Stony Brook University
Suffolk University
SUNY Oswego
Syracuse University*
Temple University*
The New School*
The Ohio State University
University of Toronto
Tufts University*
Union College*
US Air Force Academy*
US Coast Guard Academy*
Universiteit Leiden
Universiteit v. Amsterdam
University of Essex
University of Utah
Vanderbilt University*
University of Vermont*
Villanova University
Virginia Tech*
Wellesley College*
Wentworth Institute Tech.*
Western New England Univ.
Westfield State University
Winthrop University
Univ. of Wisconsin Madison*
Worcester Polytechnic Inst.*
Worcester State University*
Xavier Univ. of Louisiana

* Indicates where students are attending.