

A Profile of the Class of 2018



College Board Code: 210965

The School and Community

Since Montgomery Blair High School opened in 1935, it has served the Silver Spring and Takoma Park areas of Montgomery County, Maryland. As a comprehensive high school, Blair has a long history of academic and innovative programs that meet the needs of its highly diverse community. Montgomery Blair is accredited by the Middle States Association of Colleges and Secondary Schools and by the Maryland State Department of Education.

Administrators

Principal Ms. Renay Johnson
Magnet Coordinator Mr. Peter Ostrander

Counselors

Students are assigned to a counselor alphabetically by last name. Resource Counselor: Ms. Jane Godwin.

The Students

Class	Montgomery Blair High School	Magnet Program
Seniors	701	102
Juniors	668	103
Sophomores	805	112
Freshmen	960	112
Total number of students:	3134	429

Magnet Program

The Science, Mathematics, Computer Science Magnet Program, designed to offer accelerated, interdisciplinary courses for highly able students, opened in September, 1985. Located in Montgomery Blair High School to help promote quality integrated education, the Magnet provides enhanced learning opportunities for talented students from Montgomery County. Students have access to state-of-the-art computer and laboratory equipment to pursue independent research. Supporting students in their research efforts is a network which includes faculty advisors, local scientists and research laboratories as well as more distant facilities to which Blair is electronically linked. Students in the program are provided the opportunity to complete and present an independent research project during their senior year.

Students in the Magnet Class of 2018 have conducted research at these sites: American University; ARL; Broad Institute; Catholic University; CBSF; Children's National Medical Center; CNSI; Georgetown University; Johns Hopkins University; JHU Applied Physics Lab; University of Maryland; UMD/Baltimore; UMD/CBCB; UMD/HCIL; MIT; NIH/NCATS; NIH/NHGRI; NIH/NHLBI; NIH/NIAID; NIH/NIML; NIH/NIBIB; NIH/NCI; NIH/NAAAA; NIH/NCBI; NIH/NICHD; NIH/NLM; NIH/VCR; NIH/University Hospital of Lausanne; NIST; NRL; Naval Medical Research Center; Naval Surface Warfare Center; Novavax, Inc.; Smithsonian Tropical Research Institute; Stanford University; Stoney Brook University; UC-San Francisco; USDA; USUHS.

The Magnet is a founding member of the National Consortium of Secondary STEM Schools (NCSSS). NCSSS is dedicated to providing innovative and rigorous college level curricula for highly achieving students. More information regarding NCSSS can be found at <www.ncsss.org>.

Grade Point Average

The Board of Education of Montgomery County Public Schools eliminated the practice of providing class rank for students beginning with the class of 1994. Class rank is not listed on transcripts; however, students' weighted and unweighted grade point averages are provided. Grade point averages below were calculated at the end of the summer session following the sixth semester. Credit/No Credit grades are excluded. Weighted GPAs are calculated by adding one quality point to an A, B or C Advanced Placement or advanced level courses and an A or B in Honors courses.

Distribution of Cumulative GPA's, Weighted and Unweighted

Range	102 Students Number GPA	Number Weighted GPA
4.75 and above	0	35
4.50 - 4.74	0	44
4.25 - 4.49	0	9
4.00 - 4.24	14	8
3.75 - 3.99	60	3
3.50 - 3.74	14	2
3.25 - 3.49	8	1
3.00 - 3.24	3	0
2.75 - 2.99	3	0
Below 2.75	0	0

Magnet Program Courses

All Magnet courses are considered to be advanced level courses and are given Honors credit.

Required Magnet Courses

Science

Advanced Science 1 - Physics
Advanced Science 2 - Chemistry
Advanced Science 3 - Earth/Space Sciences
Advanced Science 4 - Biology

Research

Research and Experimentation for Problem Solving 1, A & B
Principles of Engineering A & B

Computer Science

Fundamentals of Computer Science A & B
Algorithms and Data Structures A & B (Object Oriented Programming)

SCIENCE, MATHEMATICS, COMPUTER SCIENCE MAGNET

at

Montgomery Blair High School
 51 University Boulevard East
 Silver Spring, Maryland 20901
 (301) 649-8240
 Fax (301) 649-8245
 www.mbhs.edu



Mathematics

All students who enter the Magnet must have completed Algebra I in Grade 8 or earlier. Most students have completed Geometry and others Precalculus. All students must complete Magnet Analysis 1, A & B (most closely equivalent to AP Calculus BC) or its equivalent before they graduate from the program.

- Magnet Geometry A & B
- Magnet Precalculus A, B, & C
- Magnet Functions A & B (Magnet Precalculus in two semesters instead of three. Intended for highly able, diligent mathematics students)
- Magnet Analysis 1, A & B (most closely equivalent to AP Calculus BC)

Magnet Elective Courses

Magnet electives are one semester single period courses unless otherwise noted. A course designated w/an asterisk (*) is taken in lieu of or after successful completion of an AP level course.

Science

- Advanced Topics in Earth Science
- *Analytical Chemistry
- Astronomy
- *Biological Chemistry
- *Cell Physiology
- Entomology
- *Immunology
- *Introductory Genetic Analysis (double period)
- *Introductory Physical Chemistry
- Marine Biology
- Materials Science
- *Mathematical Physics (coded as AP Physics A & B. Only for students who are currently enrolled in or who have taken Magnet Analysis 2, Multivariable Calculus and Differential Equations. One year course.)
- *Optics
- Origins of Science
- *Organic Chemistry
- *Quantum Physics
- *Thermodynamics

Computer Science

- *Analysis of Algorithms
- *Computational Methods
- *Computer Graphics (Java)
- *Computer Modeling and Simulation
- *Guided Research A (3-D Computer Graphics)
- *Introduction to Artificial Intelligence with LISP
- *Software Design

Mathematics

- *Applied Statistics
- Advanced Geometry
- *Complex Analysis
- Discrete Mathematics
- *Linear Algebra
- *Logic
- *Magnet Analysis 2, A & B (Multivariable Calculus and Differential Equations)
- *Guided Research in Statistics

Research

Most Magnet students complete an individual or group project which begins in the second semester of their junior year and continues through senior year. Research Project courses enable them to complete that research in one or two periods per day. Guided Research courses can be used for individualized or group study of a topic with a teacher or mentor or to study a current topic of interest.

- Senior Research Project A/B
- Guided Research A & B
- Research & Experimentation: Engineering Problem Solving in Robotics

Magnet Class of 2018

STANDARDIZED TEST DATA

(All scores reflect tests taken prior to September, 2017)

Merit Scholarship Semifinalists 44

PSAT Scores

Students Tested	Critical Reading Avg.	Math Avg.
101	719	744

Scholastic Aptitude Test (SAT) I Scores

Students Tested	Critical Reading Avg.	Math Avg.
95	744	787

ACT Scores

Students Tested	English	Math	Science	Reading	Composite
21	34	35	35	35	35

SAT II Scores

Students Tested	Test	Average
24	Biology M	733
6	Biology E	716
16	Chemistry	740
3	Chinese with Listening	770
1	French (reading only)	760
6	Literature	725
93	Mathematics Level 2	743
35	Physics	770
2	Spanish (reading only)	675
3	U. S. History	707
7	World History	735

Advanced Placement Test Data

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>Total</u>
Biology	0	0	2	14	13	29
Calculus BC	0	0	3	8	83	94
Chemistry	0	0	5	4	16	25
Chinese	0	0	0	0	6	6
Computer Sci.	0	1	5	11	85	102
Economics Micro	0	0	0	1	7	8
Economics Macro	0	1	0	1	6	8
English Language	0	0	11	32	54	97
Environmental Science	0	0	0	1	2	3
European History	0	0	0	0	1	1
French Language	0	0	0	0	3	3
Govt. & Pol US	0	1	10	19	70	100
Govt. Comparative	0	0	0	0	2	2
Human Geometry	0	0	1	0	2	3
Music Theory	0	0	0	0	1	1
Physics C-E&M	0	0	1	4	8	13
Physics C-Mech	0	0	0	2	18	20
Psychology	0	0	0	1	9	10
Spanish Language	0	0	0	6	11	17
Statistics	0	0	3	21	52	76
World History	<u>0</u>	<u>2</u>	<u>13</u>	<u>42</u>	<u>28</u>	<u>85</u>
Total	0	5	54	167	477	703