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

<table>
<thead>
<tr>
<th>Class</th>
<th>Montgomery Blair High School</th>
<th>Magnet Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seniors</td>
<td>612</td>
<td>93</td>
</tr>
<tr>
<td>Juniors</td>
<td>687</td>
<td>102</td>
</tr>
<tr>
<td>Sophomores</td>
<td>790</td>
<td>103</td>
</tr>
<tr>
<td>Freshmen</td>
<td>877</td>
<td>117</td>
</tr>
<tr>
<td>Total number of students:</td>
<td>2966</td>
<td>415</td>
</tr>
</tbody>
</table>

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 2016 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/HCL; MIT; NIH/NCATS; NIH/NHGRI; NIH/NHLBI; NIH/NIHIAID; NIH/NIML; NIH/NIBIB; NIH/NCI; NIH/NAAA; NIH/NCBI; NIH/NICHSD; 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.

<table>
<thead>
<tr>
<th>Distribution of Cumulative GPA’s, Weighted and Unweighted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>4.75 and above</td>
</tr>
<tr>
<td>4.50 - 4.74</td>
</tr>
<tr>
<td>4.25 - 4.49</td>
</tr>
<tr>
<td>4.00 - 4.24</td>
</tr>
<tr>
<td>3.75 - 3.99</td>
</tr>
<tr>
<td>3.50 - 3.74</td>
</tr>
<tr>
<td>3.25 - 3.49</td>
</tr>
<tr>
<td>3.00 - 3.24</td>
</tr>
<tr>
<td>2.75 - 2.99</td>
</tr>
<tr>
<td>Below 2.75</td>
</tr>
</tbody>
</table>

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)
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)
*Senior Seminar in Statistical Research

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