# Science, Mathematics and Computer Science Magnet Program

MONTGOMERY BLAIR HIGH SCHOOL



#### Application Timeline

- ► November 4: Applications Due
- ▶ December 3: Testing
  - ▶ December 4: Special Needs/Make-Up Testing
  - ▶ December 8: Make-Up Testing
  - ▶ Snow Dates one week later
- ▶ December 9: Teacher Recs Due (provide to teachers one month earlier)
- ► Early February: Notification Letters Mailed

#### Eligibility

- Must be a current 8<sup>th</sup> grade student
- Must complete Algebra 1 by the end of grade 8
- Must reside in Montgomery County within one of the following clusters at time of application:
  - DCC
  - ▶ NEC
  - ► BCC
  - Churchill
  - Walter Johnson

- Richard Montgomery
- ▶ Rockville
- Sherwood
- Whitman
- Wootton

#### Magnet vs. Honors/AP

- ► Interdisciplinary instruction
- ► Advanced coursework beyond Honors/AP
- ► Expectation of going beyond requirements
- ▶ Depth vs. Breadth
- ►Independent Research

#### Courses

- ▶ Mathematics
- ▶ Science
- ► Computer Science
- ►Interdisciplinary (Research and Engineering)
- ► Non-magnet Courses
  - ► Social Studies
  - ► English/Reading
  - ▶ Physical Education
  - ► Electives

#### Mathematics: Required Courses

Magnet Geometry A/B Precalculus A/B/C

Analysis 1 A/B

Electives

Precalculus A/B/C

Analysis 1 A/B

Analysis 2 A/B and/or Electives

Electives

Functions A/B

Analysis 1 A/B

Analysis 2 A/B and/or Electives

Electives

#### Mathematics: Elective Courses

Analysis 2

Linear Algebra

Advanced Geometry

Applied Statistics

Modeling and Simulation

Discrete Mathematics

Complex Analysis

Logic

Senior Seminar in Statistical Research

## Science: Required Courses and Electives

Advanced Advanced Advanced Advanced Science 3: Earth Science 2: Science 1: Physics Science 4: Biology Chemistry Space Systems Cellular Plate Tectonics / **Optics Thermodynamics** Astronomy Physiology Oceanography Introduction to Quantum Analytical Genetics Marine Biology Physical **Physics** Chemistry Chemistry Biological Organic Immunology Entomology Chemistry Chemistry

## Computer Science: Required Courses and Electives

Fundamentals of Computer Science A/B

Algorithms and Data Structures A/B

Fundamentals of Computer Science A

Algorithms and Data Structures A/B

Analysis of Algorithms

Analysis of Algorithms

Computer Graphics

Software Design

Modeling and Simulation

AI / LISP

3-D Computer Graphics

Computational Methods

## Interdisciplinary: Required Courses and Electives

Research and Experimentation 1 A/B

Principles of Engineering A (Grade 10) Principles of Engineering B (Grade 11)

Senior Research Project

Robotics

Material Science Origins of Science

#### Magnet Schedule

- ▶8 Classes 3:20 dismissal
- ▶ 5 Classes per day
- ► Core courses blocked in 9<sup>th</sup> grade
- ► Extracurricular activities
- ► Afternoon buses at 3:20 (M-F) and 4:45 (T-Th)

#### Student Support

- ► Academic Peers
- ►Study Hall
- ► Lunch Support
- ► Counseling & Career Center
- ► Academic Support
- ► College Admissions

#### Extracurricular Activities

AALEAD ABC Club

Africa Club

Art & Science Club Bible Fellowship Club

Biology Club

Bio-Science Club

Blair Bowling
Blair Crew

Diania Caranta Arana

Blair Sports Academy

Blair Network Communications

**Board Games Club** 

Ceramics Club

Chemistry Club

Chess Club

Computer Club

Cyber Security Club

**Economics Club** 

Envirothon

Film Club

Flag Squad

Forensics/Public Speaking Gay/Straight Alliance

Global Culture Club

Green Club

Hip-Hop Club Hispanic Club

I Care

Indian Club

International Cancer Alliance

International Club

InToneNation

Intramural Field Hockey

Intramural Floor Hockey
It's Academic

Japanese Club

Jewish Culture Club

Key Club

Korean Club

Learn a Language Club Leao Mindsorm Club

Latin Club

Linguistics Club

Marching Band

Martial Arts Club

Math Team

Minority Scholars Program

Mock Trial

Model United Nations

Montgomery Blair Players

Muggle Quidditch

Muslim Student Association

National Arts Honor Society

National French Honor Society

National Honor Society

National Science Honor

Society

National Spanish Honor

Society

No Labels Diversity Workshop

Ocean Science Bowl

One Act Plays

Peer Tutors

Philosophy Club

Photography Club

Physics Team

Pit Orchestra

Red Cross Club

Robotics Team

Rubik's Cube Club

Science Bowl

Shakespeare Club

Sign Language Club

Silver Chips

Silver Quill

Smart Snacks Club

Stage Crew

STEM Club

Step Club

Student Government

Association

Students for Global

Responsibility

Super Leaders

Theater Productions

Thespians Club

Tri-M

Ultimate Frisbee Club

Vietnamese Club

WEB Dubois Honor Society

Weight Training Club

Women's Advocacy

Yearbook

Yoga Club

Youth Ambassadors

Youth and Government

Youth for Music

#### Application

- ▶ Due November 4
- ► Application Packet
- ► Section 1: Biographical Information
- ► Section 2: Student Activities
- ► Section 3: Signature
- ► Section 4: Student Essay
- ▶ Teacher Recommendations

#### Testing

- ▶ December 3, 8:00-11:00 (Snow Date December 10)
- ▶ Mathematics
- ▶ Reading Comprehension
- ▶ Writing

#### Special Needs or Make-up Testing

- Special Needs Testing December 4, 8:00 11:00 @ Richard Montgomery HS (Snow date December 11)
- Special Needs Documentation
- Make-Up Testing: December 7 (Snow date December 14)

#### Selection Process

- ▶Student Information
- ► Selection Committee
- ▶ Decision Letters
- ▶ Appeals

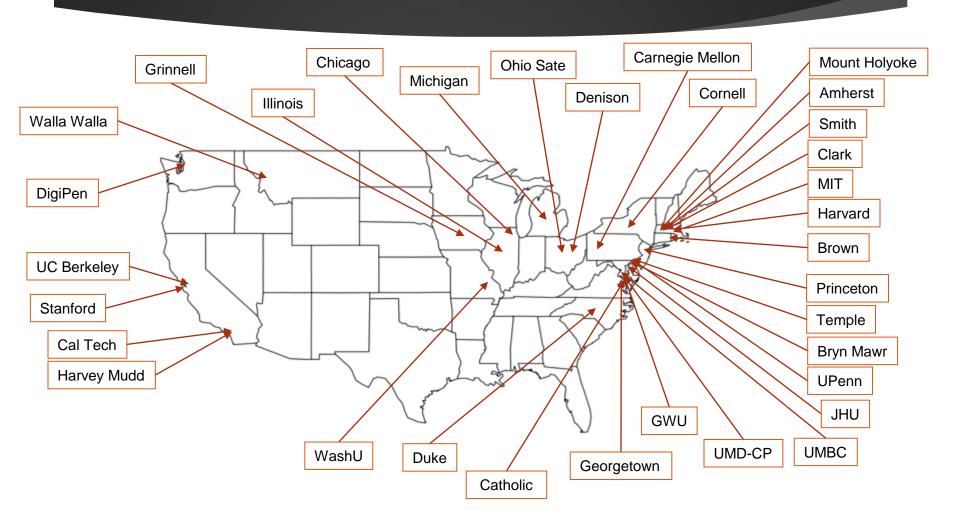
#### Student Population

- ► About 100 students per grade level
- ▶Students from over 30 middle schools
- ▶Students from about 15 different countries

#### Recent Accomplishments

- ► Excellence in Gifted & Talented Education Award, Maryland Department of Education
- ▶Thirty Eight National Merit Scholarship Semifinalists in class of 2017
- ▶2012, 2014 & 2016 Davidson Fellowship Winners
- ▶2010, 2011, 2012 & 2014 US Presidential Scholar Winners
- ▶Nine 2016 Intel Semi-finalists, Two finalists
- ▶Ten 2015 Siemens Competition Semi-finalists
- ▶2011, 2013, 2014 & 2015 Gold or Silver Medalists, International Physics Olympiad
- ▶2012, 2013, 2015 & 2016 Top Ten finish at American Regions Mathematics League
- ► Alumni selected as 2009 and 2014 MacArthur Fellows
- ▶Students competing at the national & international level in swimming, fencing, skating, wushu, skiing, chess, ...

#### Blair...Then Where?



#### Class of 2016 College Acceptances

- Amherst College
- Becker College
- Boston University
- Brandeis University
- Brown University
- Bryn Mawr College
- ,
- UC Berkeley
- UC Davis
- UCLA
- UC San Diego
- Cal Tech
- Carnegie Mellon
- Case Western Reserve
- Catholic University
- Champlain College
- University of Chicago
- Clark University
- University of Colorado
- Colombia University
- University of Connecticut
- Cornell University
- Dartmouth University
- Davidson College
- University of Delaware
- Denison College

- Dickenson College
- DigiPen
- Drexel University
- Duke University
- Emory University
- Embry-Riddle University
- ► Florida Inst. Of Technology
- Fordham University
- Georgetown University
- Georgia Tech
- Goucher College
- ▶ Grinnell College
- ► Hamilton College
- Harvard University
- Harvey Mudd College
- Haverford College
- Howard University
- University of Illinois
- Johns Hopkins University
- Julliard School
- Kenyon College
- Kettering University
- Macalester College
  - McDaniel College

- UMBC
- UMD College Park
- MIT
- University of Michigan
- University of Minnesota
- University of Mississippi
- Mount Holyoke College
- New England Conservatory of Music
- New York University
- ▶ UNC Chapel Hill
- North Carolina State Univeristy
- Northeastern University
- Northwestern University
- Oberlin College
- Ohio State University
- University of Pennsylvania
- Penn State
  - University of Pittsburgh
- Princeton University
- Purdue University
- Rensselaer Polytechnic
- Rice University
- University of Rochester
- Rochester Institute of Technology

- Rose-Hullman Institute of Technology
- St. Mary's College of MDSavannah College of Art and Design
- Scripps College
- Smith College
- University of Southern California
- Stanford University
- Syracuse Univeristy
- Temple University
- Tufts University
- Tulane University
- University of Utah
- Vanderbilt University
- University of Virginia
- Virginia Tech
- Wake Forest University
- Walla Walla University
- University of Washington
- Washington University in St. Louis
- George Washington University
- Whitman College
  - University of Wisconsin
- Worcester Polytechnic
- Yale University

... not only know the answers, but asks the questions?

... have not just good ideas, but wild and silly ones?

... answer questions with detail and elaboration?

# ... construct abstractions and draw inferences?

... initiate projects and create new designs?

# ... critique himself or herself?

#### Contact Information

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