

Poolesville High School

A Whole School Magnet

For Grades 9 through 12



17501 West Willard Road
Poolesville, MD 20837
301-972-7900

Applications available at:
www.montgomeryschoolsmd.org/curriculum/specialprograms



Rockville, Maryland

WELCOME TO POOLESVILLE HIGH SCHOOL

INTRODUCING THE WHOLE SCHOOL MAGNET

Montgomery County Public Schools has a twenty-five year track record of developing nationally recognized, rigorous instructional programs for highly motivated and capable students. Poolesville High School was recognized in *Newsweek* magazine as the #1 high school in the State of Maryland for the last three years. The programs at Poolesville High School are available for up-county students who test into the program as well as for students who reside in the Poolesville attendance area. The whole school magnet opens to all the promise of rigorous, engaging courses taught by inspired teachers. A whole school magnet is organized around instructional “houses” composed of small teams of teachers from multiple disciplines focused on a proven magnet course of studies. The whole school model engages and challenges students selected through an application process, as well as local school students interested in the magnet focus areas.

Magnet focus areas

- Global House (GH)
- Humanities House (HH)
- Independent Studies Program (ISP)
- Science, Math, Computer Science House (SMCSH)

FOUR HOUSES OF INSTRUCTION— YOU DECIDE

Students who are participating the application/screening process may only apply to the Global House, Humanities House and the Science, Math, Computer Science House. They may be invited to all three houses or any combination. These students must choose a single instructional house. Students who successfully complete the house courses designated with an asterisk (*) will earn a House Certificate of Achievement.

All other students benefit from an Independent Studies Program. During the 9th and 10th grade year students fulfill many graduation requirements much in the same way as college freshman and sophomores complete basic graduation requirements. When choosing courses for the junior year, students select a house focus to earn an ISP Certificate of Achievement based on the courses they select as juniors and seniors.



For more information please visit the MCPS special programs website:

www.montgomeryschoolsmd.org/curriculum/specialprograms

Or visit the Poolesville High School website:

www.montgomeryschoolsmd.org/schools/poolesvillehs/magnet/

GLOBAL ECOLOGY HOUSE

Science/Social Studies/Research/Field Studies

Global Ecology students have the opportunity to specialize in rigorous science and social studies curricula. Every student has the opportunity to—

- Study environmental issues through rigorous interdisciplinary science and social studies curriculum,
- Develop field, laboratory, and research skills in the sciences, and social sciences
- Cultivate an awareness of environmental citizenship.
- Complete an environmental senior project.

HUMANITIES HOUSE

English/Social Studies/Research

Humanities students have the opportunity to specialize in media productions, cultural and political studies, the arts, and communication with a focus on independent scholarship. Every student has the opportunity to—

- Pursue rigorous humanities curricula with an interdisciplinary connections
- Develop and refine skills in oral and written communication
- Work with peers to develop top quality multimedia products
- Complete an independent senior research project

INDEPENDENT STUDIES PROGRAM

Biological and Physical Science/Cultural and Political Studies/Music, Arts, Media Studies/Technology and Math Studies/Original Studies

Independent Studies Program students have the opportunity to specialize in their own focused plan of studies with a required field studies component and senior project presentation. Every Independent Studies Program student has the opportunity to—

- Pursue rigorous curricula with a career/college focus,
- Work with peers to solve investigations requiring research, problem-solving skills, and reflection and
- Explore a profession which intrigues and captivates.

SCIENCE, MATHEMATICS, COMPUTER SCIENCE HOUSE

Advanced Science, Math, Computer Science/Research

Science, Mathematics, and Computer Science students have the opportunity to specialize in rigorous mathematics and science curricula focused on problem-solving skills and research. Every Science, Mathematics, and Computer Science student has the opportunity to—




- Pursue rigorous science, mathematics, and computer science curricula focused on the problem-solving requirements of engineering,
- Develop and deepen skills in problem-solving, analysis, and laboratory investigations,
- Work with peers to solve mathematical, science, and engineering problems, and
- Complete an independent science research project linked to the student's interest.

All MCPS course descriptions can be found in the MCPS High School Course Bulletin or online at mcpscourses.org.

GLOBAL ECOLOGY HOUSE

Students choose from a range of courses in the Global Ecology House (GH).

Courses noted with an asterisk (*) must be successfully completed to earn the GH Certificate of Achievement.

	9	10	11	12
ENGLISH	English 9 (H)	English 10 (H)	English 11 (H) • AP English Language and Composition	English 12 (H) • AP English Literature
 SOCIAL STUDIES	GH US History (H)*	GH AP National State and Local Government*	GH AP World History*	Advanced Placement electives
 SCIENCE	GH Environmental Science—Biology (H)*	GH Environmental Science—Chemistry (H)*	• GH Env. Science—Physics (H)* or AP Physics B • Advanced Placement electives	• GH AP Environmental Science* • Advanced Placement electives
 HOUSE FOCUS	GH Foundations of Technology A/B*		Students must complete a total of 6 semesters of Global electives** during their junior and senior years	
MATHEMATICS	• Geometry (H) or Geometry Algebra 2 (H) or Algebra 2	• Precalculus (H) or Precalculus • Algebra 2 (H) or Algebra 2	• AP Calculus BC, AP Calculus AB or AP Statistics • Calculus with Applications • Precalculus (H) or Precalculus	• AP Calculus BC, AP Calculus AB • AP Statistics • Multivariable Calculus • Calculus with Applications
ELECTIVES	• Introduction to Engineering Design A/B (Project Lead The Way) • Fundamentals of Computer Science • Wildlife Biology, Anatomy & Physiology • Physical Education • Foreign Language—Spanish, French • Fine Arts	• Principles of Engineering (Project Lead The Way) • Physical Education • Health (.5) • Foreign Language—Spanish, French • Fine Arts	• Civil Engineering & Architecture (Project Lead The Way) • Physical Education • Foreign Language—Spanish, French • Fine Arts	• Engineering Design & Development (Project Lead The Way) • Physical Education • Foreign Language—Spanish, French • Fine Arts

 Courses may be linked and scheduled sequentially.




* Course is required for the GH Certificate of Achievement

** Any AP class in addition to the Global required AP coursework, Marine Biology, Cellular Physiology, Optics, Thermodynamics, Quantum Physics, Analytical Chemistry, Biochemistry, Intro. to Physical Chemistry, Intro to Genetic Analysis, PLTW courses, Research Project A, Internship (max. 2 semester credits), Materials Science, Robotics, Linear Algebra, Discrete Math

HUMANITIES HOUSE

Students can choose from a range of courses in the Humanities House (HH).

Courses noted with an asterisk (*) must be successfully completed to earn the Humanities Certificate of Achievement.

	9	10	11	12
 ENGLISH	Humanities English 9 (H)*	Humanities English 10 (H)*	AP English Language and Composition*	AP English Literature*
 SOCIAL STUDIES	Humanities US History (H)*	Humanities NSL Government AP*	Humanities AP World History*	AP Human Geography*
 HOUSE FOCUS	Criticism in the Humanities A/B*	<ul style="list-style-type: none"> Guided Research* (.5) Media Literacy* (.5) 	AP Art History*	
SCIENCE	Matter & Energy (H) or Biology (H)	Biology (H) or Chemistry (H)	<ul style="list-style-type: none"> Chemistry (H) Science elective 	<ul style="list-style-type: none"> Physics (H) Science elective
MATHEMATICS	<ul style="list-style-type: none"> Geometry (H) or Geometry Algebra 2 (H) or Algebra 2 	<ul style="list-style-type: none"> Precalculus (H) or Precalculus Algebra 2 (H) or Algebra 2 	<ul style="list-style-type: none"> AP Calculus BC, AP Calculus AB AP Statistics Calculus with Applications Precalculus (H) or Precalculus 	<ul style="list-style-type: none"> Multivariable Calculus AP Calculus BC, AP Calculus AB AP Statistics Calculus with Applications
ELECTIVES	<ul style="list-style-type: none"> Introduction to Engineering Design Physical Education Foreign Language—Spanish, French Fine Arts 	<ul style="list-style-type: none"> Law TV Production A (.5) Physical Education Health (.5) Foreign Language—Spanish, French Fine Arts 	<ul style="list-style-type: none"> Physical Education Foreign Language—Spanish, French Fine Arts English electives Social Studies electives 	<ul style="list-style-type: none"> Physical Education Foreign Language—Spanish, French Fine Arts English electives Social Studies electives Internship

 Courses may be linked and scheduled sequentially.

* Course is required for the Humanities Certificate of Achievement

INDEPENDENT STUDIES PROGRAM CERTIFICATE REQUIREMENTS

Freshmen and sophomores will be encouraged to take honors or AP classes, if appropriate. They will have opportunities to explore college and career pathways and to seek learning experiences outside of the classroom by participating in educational field trips. By the end of sophomore year, when they meet with their counselors, students should decide on a focused plan of study in one of the ISP *areas of focus*, to be completed in the junior and senior years.

Area of Focus	Requirement*—4.0 credits from the following courses**
Biological and Physical Science (BAPS)	Chemistry†, AP Chemistry†, Physics†, AP Physics†, Environmental Science†, AP Environmental Science†, AP Biology†, Anatomy and Physiology†, Earth Science, Forensic Science, Environmental Guided Research†, Cellular Physiology†, Genetics†, Marine Biology†, Analytical Chemistry†, Wildlife Biology, Internship
Cultural and Political Studies (CAPS)	Modern World History, AP World History†, AP Human Geography†, AP Economics, AP Literature†, AP Language & Composition†, AP NSL Government, AP Comparative Government, Comparative Religion, AP Art History, AP Psychology, Psychology, Ancient and Medieval History, Sociology, Philosophy, Law, Debate, Peace Studies, Foreign Language (level 3 or above), Internship
Music/Arts/ Media Studies (MAMS)	Band, Orchestra, Chorus, Guitar, Jazz Ensemble, Journalism, Theater, TV Production, Photography, Ceramics, Painting, AP Art History, Studio Art†, AP Studio Art†, Creative Writing, Yearbook, Media Literacy, Debate, Literature as Film, Web Design, Internship
Project Lead The Way (PLTW)	Introduction to Engineering (IED), Principles of Engineering (POE), Digital Electronics† (DE), Civil Engineering and Architecture† (CEA), Engineering Design and Development† (EDD)*
Technology and Math Studies (TAMS)	Computer Programming†, Discovering Programming†, Web Design†, Computer Graphics†, AP Computer Science†, Analysis of Algorithms†, Materials Science†, Statistics†, AP Statistics†, AP Calculus AB & BC†, Multivariable Calculus†, Internship, Materials Science, Robotics
Original Studies	Discuss with counselor or magnet coordinator your career of choice to develop the 4.0 credits required ††

* Not all courses will be offered every year. New courses may be added as well.

** Courses must be completed during their junior and senior year.

† Prerequisite required.

†† Includes programs offered at PHS and through MCPSS, such as: Thomas Edison High School of Technology, Fire/EMT Academy, AP/Honors Course, Internships, or College/Career Research and Development

SCIENCE, MATH, COMPUTER SCIENCE HOUSE-EXTENDED DAY

SMCSH has two different program certificates. The more prestigious certificate is the “Certificate of Achievement with Research.” The second option is a “Certificate of Achievement” which does not have a research component. Four years of math during grades 9–12 are required. Students must successfully complete at least BC Calculus to obtain either of the SMCSH certificates.

	9	10	11	12
ENGLISH	English 9 (H)	English 10 (H)	<ul style="list-style-type: none"> AP Language and Composition English 11 (H) 	AP English Literature
SOCIAL STUDIES	US History (H)	<ul style="list-style-type: none"> AP National State & Local Government National State & Local Government (H) 	<ul style="list-style-type: none"> AP World History Modern World History (H) 	Advanced Placement electives
SCIENCE	<ul style="list-style-type: none"> Advanced Science 1—Physics* Advanced Science 2—Chemistry* 	<ul style="list-style-type: none"> Advanced Science 3—Earth Science* Advanced Science 4—Biology* 	Students must complete a total of 6 semesters of SMCS electives** during their junior and senior years.	Students must complete a total of 6 semesters of SMCS electives** during their junior and senior years.
RESEARCH	<ul style="list-style-type: none"> Research and Experimentation for Problem Solving 1 A/B, (25)* 	<ul style="list-style-type: none"> SMCS’s Principles of Engineering* 	<ul style="list-style-type: none"> Research Design (.5)* and Research Project A* 	Research Project B (.5)
COMPUTER SCIENCE	<ul style="list-style-type: none"> Fundamentals of Computer Science A/B* 	<ul style="list-style-type: none"> Algorithms and Data Structures A/B* 	<ul style="list-style-type: none"> Analysis of Algorithms Computer Graphics Networking Software Design Writing Mobile Applications Intro to Artificial Intelligence Intro to Cyber Forensics/Security 	<ul style="list-style-type: none"> Introduction to Artificial Intelligence Computer Graphics Networking Software Design Writing Mobile Applications Intro to Cyber Forensics/Security
MATHEMATICS	<ul style="list-style-type: none"> Magnet Geometry* Magnet Precalculus A/B* or Magnet Functions A/B* 	<ul style="list-style-type: none"> Magnet Precalculus A/B Magnet Precalculus C/D Analysis 1 A/B or AP Calculus BC 	<ul style="list-style-type: none"> Magnet Precalculus C/D Analysis 1 A/B or AP BC Calculus Vector Calculus A/B or Multivariable Calculus A/B AP Statistics* (1.0) or Applied Statistics* (.5)/Linear Algebra (.5) 	<ul style="list-style-type: none"> Analysis 1 A/B or AP Calculus BC Vector Calculus A/B or Multivariable Calculus A/B Linear Algebra (.5) Discrete Math (.5)
ELECTIVES	<ul style="list-style-type: none"> Physical Education Foreign Language—Spanish, French Fine Arts 	<ul style="list-style-type: none"> Physical Education Health (.5) Foreign Language—Spanish, French Fine Arts 	<ul style="list-style-type: none"> Physical Education Foreign Language—Spanish, French Fine Arts 	<ul style="list-style-type: none"> Physical Education/Health Foreign Language—Spanish, French Fine Arts Internship

☛ Courses may be linked and scheduled sequentially.

* Course is required for the SMCS Certificate of Achievement

** Research Project B, Cellular Physiology, Optics, Thermodynamics, Quantum Physics, Analytical Chemistry, Biochemistry, Intro to Physical Chemistry, Intro to Genetic Analysis, Marine Biology, AP Chemistry, AP Biology, AP Physics B or C, Analysis of Algorithms, Computer Graphics, Software Design, Networking, Robotics, Materials Science, Linear Algebra, Discrete Math, Writing Mobile Applications, Intro to Cyber Forensics/Security

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Rockville, Maryland