

STEM Science, Technology, Engineering, and Mathematics (STEM)

The Science, Technology, Engineering, and Math Magnet Program (STEM) encourages students to become life-long learners and innovators through an interdisciplinary STEM environment that highlights the infinite applications of STEM in every aspect of the world today. Part of Anne Arundel County Public Schools' vision for Programs of Choice, STEM is located at Old Mill Middle South, Lindale Middle School, and Central Middle School. Students offered admission must successfully complete the Magnet Program Application Process. (For more information about the Magnet application process, visit www.aacps.org/magnet). STEM students will study both historic and contemporary developments in STEM research by using problem and project-based learning to consider, discuss, and solve real-world problems. With constant access to cutting-edge 21st Century technology as an important part of the classroom, students will engage in hands-on research and will be encouraged to see themselves as part of a larger community of STEM learners. Because this program weaves STEM topics throughout all subject areas, including Language Arts, Social Studies, World Language, and Art, students will always be asked to make connections between what they learn with other subjects and in the world outside of the classroom. Students will also have regular field excursions to visit STEM Business Partners, local colleges, and local universities. Through this real-world experience, students will meet professionals in the STEM fields and explore future STEM education and career paths.

R26 | STEM Computing & Automation 1 10002/0300

This course immerses students in the real world of computing via Problem-Project-based lessons. 40% of course time is spent in lab-based experiences and the remaining time focused on programmatic and/or relevant challenges. This course fosters critical thinking, problem solving, and collaboration. Each module weaves Mathematical Practices and 21st Century skills together with focused topics and will prepare and excite students for the high school Computer Science program, extra-curricular offerings, and a life-long appreciation for the world of computer science. Topics explored in this course are Scratch programming, Microsoft® Office Word & Excel, Robotics, and MinecraftEdu.

R27 | STEM Computing & Automation 2 10002/0300

This unique hands-on course immerses students in the real world of computing via Problem/Project based lessons. Most of the course time is spent in lab-based

experiences and the remaining time is focused on programmatic and/or relevant logic challenges. This course fosters critical thinking, problem solving, and collaboration. Students will employ the skills and knowledge gained in STEM Computing & Automation I to work in intermediate levels of programming, Microsoft® Office Excel & PowerPoint, Robotics (Sphero), and HTML programming.

R28 | STEM Computing & Automation 3 10002/0300

In this course students will employ the skills and knowledge gained in STEM Computing & Automation II to work in advanced levels of computer programming languages, such as Python and Java. Students will continue with advanced software applications such as Microsoft® Excel. Students will also apply advanced skills developed in the course to enhance their experience in automation, robotics (Lego Mindstorms), MinecraftEdu, Web design and Capstone project.