

MONTGOMERY COUNTY PUBLIC SCHOOLS

High School Course Catalog

2026-2027

For students graduating in
2030



2026–2027

Montgomery County Public Schools

HIGH SCHOOL COURSE CATALOG

FOR STUDENTS GRADUATING IN 2030



Montgomery County Public Schools
UNLEASHING POTENTIAL

© December 2024
Montgomery County Public Schools
Rockville, Maryland

Montgomery County Public Schools
UNLEASHING POTENTIAL

December 2025

Dear High School Students:

Montgomery County Public Schools (MCPS) is committed to ensuring that every student graduates from high school prepared for college and career success. Our high schools offer a wide variety of classes and programs designed to prepare you for the future challenges of college and the workplace. This 2026–2027 High School Course Catalog presents the extensive range of exciting courses and programs offered in high schools. Please use the information in the bulletin as you take the opportunity to discuss the academic and career paths you want to explore with your parents/guardians, teachers, and counselor. Counselors are available to advise you during the scheduling process to ensure you have the courses needed to graduate and to support you in the college/career process. These conversations will guide you as you select courses to plan a learning experience that will challenge and engage you. For additional information about the high school curriculum, please visit https://www.montgomeryschoolsmd.org/curriculum/highschool/index.aspx.

Each high school's website may be accessed at www.montgomeryschoolsmd.org/schools/ and can be another helpful resource in addition to the information in this catalog. The information presented on these sites provides an overview of each school, including detailed descriptions of application and career readiness programs of study offered in MCPS.

MCPS is fortunate to have highly skilled and dedicated teachers, principals, school counselors, and support staff at our high schools. Preparing you for your future as a productive citizen in a global society is a responsibility we take seriously. We invite you to commit yourself to your studies with the same zeal and enthusiasm.

I invite you to challenge yourself through rigorous courses that support your personal goals and dreams. As you prepare for the exciting and rewarding experiences ahead, I extend my best wishes for your continued growth and success.

Sincerely,

Thomas W. Taylor, Ed.D, M.B.A.
Superintendent of Schools

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Contents

ii Superintendent's Greeting

iv Preface

1 Introduction
- **1** Maryland Diploma Requirements
- 3 Course-Related Information
- 4 Grading and Reporting
- 6 Sample Student Planner
- 7 MCPS Countywide/Regional Programs
- 9 Student Online Learning/Elearning
- 10 Dual Enrollment: College Options

12 Departmental Course Offerings
- **12** Computer Science, Engineering, and Technology Education
- 14 English Language Arts and Reading
- 16 English Language Development (ELD)
- 17 Visual & Performing Arts
- 22 Health Education/Physical Education
- 24 Interdisciplinary and Research Courses
- 25 Mathematics
- 27 Science
- 30 Social Studies
- 33 World Languages
- 36 International Baccalaureate World Language Courses

37 Career Readiness Programs of Study (POS)
- **38** Arts, Media, and Communication
- **40** Business Management and Finance
- **44** Career Experiences and Internships
- **46** Construction and Development
- **53** Consumer Services, Hospitality, and Tourism
- **55** Education, Training, and Child Studies
- **56** Environmental Agriculture, and Natural Resources
- **57** Health and Biosciences
- **62** Information Technology and Cybersecurity
- **65** Law, Government, Public Safety and Administration
- **68** Manufacturing, Engineering, and Technology
- **69** Transportation Technologies

LEGEND OF COURSE TYPES

AL	Advanced-Level
AP	Advanced Placement
CM	Certificate of Merit
DP	Double Period
FA	Visual & Performing Arts
H	Honors
IB	International Baccalaureate
NCAA	NCAA Initial Eligibility Clearinghouse Approved Core Course
POS	Program of Study
NGSS	Next Generation Science Standards
TE	Technology Education
TP	Triple Period
🎓	Content-area Graduation Requirements

Preface

This catalog includes specific requirements for graduation. Students graduating in 2030 should keep this copy of the reference for graduation requirements.

The *2026–2027 Montgomery County Public Schools (MCPS) High School Course Catalog* provides students and parents/guardians with information about high school courses, programs, and career readiness programs of study. This catalog contains information about graduation requirements, required state assessments, internships, opportunities for dual enrollment in college, and special programs.

Course selection in high school is critical to the realization of career and higher-education goals. Students should talk to their teachers and school counselor about the courses they need to meet their individual goals.

MCPS offers several hundred interesting and rewarding courses that help prepare students for the demands of the postsecondary world of college and careers. The *2026–2027 MCPS High School Course Catalog* contains all approved courses offered in MCPS. Each MCPS high school offers a wide selection of these courses. Students and parents/guardians should work together to review the course offerings provided at their school, the graduation requirements, and other information in this catalog. Course descriptions and additional course information are at *http://coursecatalog.montgomeryschoolsmd.org/Home/Parents*.

Throughout this catalog, you will find URLs directing you to MCPS websites that contain course descriptions, program information, and Montgomery County Board of Education policies or MCPS regulations. In addition, students should review the *MCPS Student Code of Conduct, Student's Guide to Rights and Responsibilities in MCPS, Guidelines for Respecting Religious Diversity, and Guidelines for Student Gender Identity* found at *www.montgomeryschoolsmd.org/students/rights/* as well as your individual school's *Code of Conduct*.

All course catalog information is available online. To access the online course catalog, go to https://coursecatalog.montgomeryschoolsmd.org/



MARYLAND DIPLOMA REQUIREMENTS

The state of Maryland authorizes one diploma for all high school graduates, based upon successful fulfillment of four categories of requirements: enrollment, course credit, student service learning (SSL), and Maryland assessments. Students must satisfactorily complete four years beyond Grade 8 to meet the enrollment requirement. All other requirements are summarized in the table below. Please consult the online MCPS course catalog for 2026-2027 at *http://coursecatalog.montgomeryschoolsmd.org/Home/PlanningTools* or your school counselor for further information.

College and Career Readiness (CCR)

The *Blueprint for Maryland's Future Act*, House Bill 1372 (HB1372), passed in February 2021. The ultimate goal is to transform Maryland's education system into a world-class model that is competitive, both nationally and internationally, throughout the next ten years. The Blueprint includes the requirement that all middle and high school students receive individualized career advising services and be assessed for college and career readiness (CCR) in English and mathematics by the end of Grade 10, using a variety of measures identified by the state. The measures may include their unweighted grade point average, math grade in select courses, select dual enrollment college courses, AP/IB exam scores, industry recognized credentials, and math or English MCAP scores. Students who do not meet the CCR standard by the end of Grade 10 will be required to participate in a support pathway to enable their CCR status prior to high school graduation. School counselors and staff will work closely with students to determine the best support pathway for each student. All interested students in grades 9-12 will continue to have access to CCR pathways and courses in the following areas: Advance Placement (AP), Career and Technical Education (CTE), and/or International Baccalaureate (IB). In addition, high school students who meet the Montgomery College (MC) requirements for approved college courses, will have access to dual enrollment options.

Course Credits

Students shall be enrolled in Montgomery County Public Schools (MCPS) and have earned a minimum of 22 credits* that include the following (unless a preapproved MCPS alternative is satisfied):

MCPS GRADUATION REQUIREMENTS	
ENGLISH	**4 credits** of organized instruction in comprehension of literary and informational texts, writing, speaking and listening, language, and literacy, of which 1 credit shall be aligned with the Maryland Comprehensive Assessment Program (MCAP) for English.
VISUAL & PERFORMING ARTS	**1 credit** in dance, media arts, music, theatre, or visual art, or a combination of these.
HEALTH EDUCATION	**1 credit in** Honors Health Education A (0.5 credit) and Honors Health Education B (0.5 credit). Honors Health Education A is a prerequisite to Honors Health Education B
MATHEMATICS	**4 credits**, 1 including instruction in algebra aligned with the MCAP for algebra or 1 or more credits in subsequent mathematics courses for which Algebra 1 is a prerequisite, and 1 with the content standards for geometry. Students must be enrolled in a Math course each year in High School. This may result in students earning more than four credits in Math for graduation.
PHYSICAL EDUCATION	**1 credit**
SCIENCE	**3 Next Generation Science Standards (NGSS) credits,** including 1 life science credit aligned to the MCA for science, 1 physical science credit, and 1 credit in Earth/space science or an NGSS course with the topics of Earth/space science integrated.
SOCIAL STUDIES	**3 credits**, 1 U.S. History credit; 1 World History credit; and 1 National, State, and Local Government credit aligned with the MCA for government.
COMPUTER SCIENCE, ENGINEERING OR TECHNOLOGY EDUCATION (TE)	**1 credit** designated **TE**. Courses satisfying this requirement are designated in the course catalog and includes the study of computers and algorithmic processes or the application of knowledge, tools, and skills to solve practical problems and extend human capabilities.
ELECTIVES: The additional credits required for graduation may be fulfilled by 1 of the following three options	**OPTION 1**: **2 credits** of the same world language, which may include two credits of American Sign Language **AND 2 credits** in elective courses **OPTION 2**: Complete a state-approved program of study (POS) **AND a minimum of 0.5 credit** in elective courses or more depending on POS
STUDENT SERVICE LEARNING (SSL)	75 service-learning hours The SSL requirement is prorated for students enrolling or re-enrolling in MCPS after Grade 6.

Up-to-date graduation requirements by class may be found at *www.montgomeryschoolsmd.org/curriculum/graduation-requirements.aspx.*

Enrollment

Students must satisfactorily complete four years of school beyond Grade 8 (for exceptions, see Alternatives to Four-year Enrollment). Students must be enrolled in at least four high school credit courses (this includes dual enrollment options) to be considered full time.

Immunization Requirements

Students who enter Grade 7 in the 2025–2026 school year, or who were new to MCPS and in Grades 8–12, must receive one dose of the Tetanus-diphtheria-acellular pertussis (Tdap) vaccination and one dose of the Meningococcal conjugate vaccination (MCV4) before the first day of school. Students who do not have the required vaccinations within 20 days of starting school must demonstrate proof of vaccination, positive titer results, or proof of a vaccination appointment. These vaccinations are required by the state of Maryland for school attendance. Acceptable proofs of vaccinations are a computer-generated vaccination record from the student's health-care provider or the Maryland Department of Health Immunization Certificate (Form 896), found https://ww2.montgomeryschoolsmd.org/departments/forms/pdf/mdh_896_form.pdf, that is completed by the health-care provider. Additional information about immunization requirements can be found here: https://health.maryland.gov/phpa/OIDEOR/IMMUN/pages/back-to-school-immunization-requirements.aspx. These vaccines are widely available through pediatricians and at pharmacies. Eligible students may also receive these required shots at a local MCPS School Based Health and Wellness Center or by contacting the County's Immunization Program (240-777-1050) for more information.

Maryland Comprehensive Assessment Program

The Maryland Comprehensive Assessment Program (MCAP) consists of tests developed for or adopted by MSDE that are aligned with and measure a student's skills and knowledge as set forth in the content standards for specified courses. The term "MCAP" covers state and federal mandated assessments in English Language Arts/Literacy, Mathematics, Science, and Government at the high school level. Students take these

assessments as they complete the corresponding courses. MCAP also includes the Alternate Assessments for select students.

MARYLAND COMPREHENSIVE ASSESSMENT PROGRAM (MCAP) These assessment requirements are subject to change by Maryland State Department of Education (MSDE).	
ALGEBRA 1	Course credit earned in Algebra 1 **AND** • Take the Algebra 1 assessment
ENGLISH 10	Course credit earned in English 10 or equivalent, or English 10 for EMLs **AND** • Take the English Language Arts/Literacy assessment
GOVERNMENT	Course credit earned in National, State, and Local Government or equivalent **AND** • Take the Government End of Course (EOC) assessment. The EOC is 20% of the National, State, and Local (NSL) Government Semester B grade. AP Government students must take either the AP Government Exam or the MCAP Government EOC assessment.
SCIENCE	Course credit earned in Biology or equivalent, **AND** • Take the Life Science End of Course (EOC) assessment. The EOC is 20% of the Biology Semester B grade. AP Biology students must take the Biology EOC assessment.

[1] *Substitute Test: Students earning qualifying scores on substitute tests (AP/IB) will meet the MCA requirement in that content area.*

[2] *Transfer Credit: Students transferring from outside Maryland public schools may be eligible to meet some MCA content-area requirements with transfer credit.*

For additional information regarding MCPS graduation requirements visit *www.montgomeryschoolsmd.org/curriculum/graduation-requirements/*.

Promotion Regulation

MCPS Regulation JEB-RA, *Placement, Promotion, Acceleration, and Retention of Students* (*ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=264&policyID=JEB-RA&sectionID=10*), requires that high school students earn 5 credits each year in order to be promoted, including specific required credits in English, mathematics, science, and social studies, as indicated in the chart below.

End of:	Total Credits Needed for Promotion to Next Grade	TOTAL CREDITS IN REQUIRED COURSES				
		Math	English	Science	Social Studies	Other Courses—See Options Required for Graduation
Grade 9	5	1	1	0	0	3
Grade 10	10	2	2	1	1	4
Grade 11	15	3	3	2	2	5

Special Education Instruction

If a student has an Individualized Education Program (IEP), the student will continue to receive the identified special education services as they transition to high school. Students may receive instruction in a variety of service-delivery models in the high school setting to acquire skills and knowledge. The array of services could include, but is not limited to, consultation with special education personnel about instruction, direct service within the general education classroom, pull-out service in a resource room, direct service within a self-contained special education classroom, or some combination of the above. If you suspect that your child may have an educational disability and may require an evaluation, please contact the school counselor for information.

Section 504

A student with a disability may be considered for eligibility and accommodations under Section 504 of the Rehabilitation Act of 1973, if the student has a physical or mental impairment that substantially limits one or more major life activities. Teachers or parents/guardians may request an evaluation under Section 504 to determine if the student is eligible under Section 504. Each student who meets the eligibility criteria for accommodations under Section 504 will have a Section 504 Plan developed for that student to use in school. Please visit the MCPS website for more information *www.montgomeryschoolsmd.org/departments/ studentservices/Section-504/* or contact the Section 504 Coordinator at 240-987-8031.

Maryland High School Certificate of Program Completion

This certificate is awarded only to students with disabilities who cannot meet the requirements for a diploma, but who meet the standards set forth in the Code of Maryland Regulations §13A.03.02.09, and MCPS Regulation ISB-RA, *High School Graduation Requirements*, found at *ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=252&policyID=ISB-RA&sectionID=9*. All students will be considered diploma-bound and will be assessed and graded accordingly, unless and until an Individualized Education Program (IEP) team determines that a student meets the criteria to be determined eligible to participate in instruction and assessments aligned with alternate academic achievement standards and the IEP team obtains written consent from the parent/guardian.

Montgomery County Public Schools Certificate of Merit

In addition to the Maryland high school diploma, students who meet the following requirements may be awarded the MCPS Certificate of Merit, a diploma endorsement:

- **Advanced Courses—**Students must earn at least 12 credits in advanced courses designated by MCPS as applicable to the Certificate of Merit (CM). CM courses contribute to a weighted grade point average only when the course also is identified as Advanced Level (AL). All courses to be counted toward the Certificate of Merit must be taken for a letter grade.
- **Mathematics Requirement—**Students must successfully complete and/or receive credit for an MCPS Algebra 2 course.
- **Cumulative Grade Point Average—**Students must obtain at least a 3.0 unweighted cumulative grade point average.

Maryland Seal of Biliteracy

Maryland Seal of Biliteracy is awarded to high school graduates who can function in two or more languages and are equipped with the knowledge and skills to participate successfully in college, careers, and a diverse 21st century society. The Maryland Seal of Biliteracy is a diploma endorsement, authorized by Maryland law, that recognizes a student's high level of proficiency in listening, speaking, reading, and writing in one or more languages other than English. To receive a Maryland Seal of Biliteracy, a student must do the following:

- Meet one of the assessment requirements from MSDE's approved list of English Language Arts/Literacy assessments; **AND**
- Demonstrate Intermediate High proficiency in listening, speaking, reading, and writing in a language other than English, as measured by assessments that are aligned to ACTFL (the American Council on the Teaching of Foreign Languages) proficiency guidelines.

For more information about the approved assessments, please visit the website *https://marylandpublicschools.org/about/Documents/DCAA/World-Languages/Biliteracy/MSDE-Approved-World-Language-Assessments-for-Maryland-Seal-of-Biliteracy-A.pdf*

Courses and Credits

Each MCPS high school provides comprehensive program of studies that enables all students to earn required graduation credits. All high school courses are one semester long. All courses satisfying graduation requirements must be taken for a letter grade. Upon completion of each semester's work, students earn credit in each course taken—0.5 credits for successful completion of a single-period course, 1 credit for a

double-period course, and so on. Year-long courses usually have the same name for the two semesters with the title of the first semester followed by "A" or "1" and the second by "B" or "2." Generally, the first semester of a course is a prerequisite for the second semester.

Student Service Learning

The Student Service Learning (SSL) program in MCPS promotes a culture of student involvement and student responsibility through civic engagement. Service learning is a graduation requirement in Maryland. MCPS students must complete a minimum of 75 service-learning hours to graduate. They may begin fulfilling this requirement during the summer after Grade 5 and continue to accrue SSL hours through high school. Students who earn 240 or more SSL hours by the first Friday in April of their senior year will receive a *Certificate of Meritorious Service* and purple tassel at the time of graduation. Preparation, action, and reflection are the three phases of service learning that distinguish SSL from traditional volunteering and community-service efforts.

Service learning hours are earned through the following:

- **School Courses**—Successful completion of specific courses identified in this course catalog where the three phases of SSL achieve curricular objectives. The "Course Info" column indicates the number of SSL hours that students will earn per semester for successful completion of the course and the SSL project embedded into the course.
- **School Clubs**—Fully participating and completing the three phases of service learning in service activities promoted by school-sponsored clubs and organizations.
- **Community Organizations and Opportunities (must meet MCPS SSL guidelines)**—Fully participating in opportunities with community organizations following the MCPS SSL guidelines listed on the MCPS SSL website, found at *www.mcps-ssl.org*. MCPS SSL opportunities are identified on the Montgomery County Volunteer Center (MCVC) web page with the MCPS SSL icon, found at *www.montgomeryserves.org*. Students also may seek approval for other types of service learning by submitting MCPS Form 560-50, *Individual Student Service Learning Request*.

All in-person activities for which SSL hours are desired must occur in a public place and be supervised by an adult representative from a nonprofit, tax-exempt organization. Students may also engage in designated virtual/remote SSL opportunities under the sponsorship of an approved nonprofit organization or MCPS staff member. Parents/guardians and relatives may not supervise a student directly. One SSL hour is awarded for every one hour of service outside of the instructional day, with a maximum of 8 hours in a 24-hour period. MCPS Form 560-51, *Student Service Learning Activity Verification*, is required to document all activities for which SSL hours are desired. SSL FAQs and more information is available at the MCPS SSL website *www.mcps-ssl.org* and the MCVC website *www.montgomeryserves.org*. For individual SSL questions, please contact the SSL coordinator in any middle or high school. Visit https://bit.ly/SSLCoordinatorsMS or https://bit.ly/SSLCoordinatorsHS to find your SSL coordinator.

High School Credit for Middle School Students

High school credit courses taken in middle school are included on a high school transcript, but grade points are not calculated into the cumulative GPA. An automated process at the end of each semester will determine which courses to include or exclude resulting in the highest cumulative GPA. Transcripts and the Student Grade and Graduation Credit Report (SGGCR) generated after mid-February will reflect this GPA.

Middle school students must meet the same requirements as high school students by earning a final grade of A, B, C, or D each semester. Additional information is in MCPS Regulation IKC-RA, *Grade Point Averages (GPA) and Weighted Grade Point Averages (WGPA)*, found at *www.montgomeryschoolsmd.org/departments/policy/pdf/ikcra.pdf*.

Honors, Advanced-Level, Advanced Placement, and International Baccalaureate Courses

Honors **(H)**, Advanced-Level **(AL)**, Advanced Placement **(AP)**, and International Baccalaureate **(IB)** courses provide opportunities for students to pursue rigorous and challenging studies. Students seeking the **IB** diploma or the IB Career-related certificate must meet the requirements of the IB program in addition to the MCPS requirements for graduation. Teachers, counselors, and parents/guardians will work together to support each student's progress in these challenging courses.

- **Honors Courses—**Honors courses provide expectations and opportunities for students to engage in more rigorous and complex content and processes and to develop authentic products that reflect the student's understanding of key concepts. The curriculum in each Honors course includes appropriate adaptations for enriched learning to pursue in-depth studies that require abstract and higher-order thinking skills.
- AL Courses—Advanced level courses are courses designed to provide students with more rigorous and challenging academic experiences than standard courses. These courses move at a faster pace, explore topics in greater depth, and often require higher levels of critical thinking, independent work, and academic skills. Advanced-level courses may include higher level courses in a sequence of study, Honors, Advanced Placement (AP), International Baccalaureate (IB), Dual Enrollment, or other specialized courses that prepare students for high skilled careers, college-level work, and/ or advanced study in specific subjects.
- College Level(CL)/ Dual Enrollment—Students who successfully complete a college course for dual credit will receive 1 advance level credit on their high school transcript. Read more about Dual Enrollment on page 11.
- **AP Courses—**MCPS has developed courses that meet College Board guidelines to accompany the AP examinations. A qualifying score on an AP exam may earn the student college credit or advanced standing in the subject in college. All MCPS AP courses meet the requirements of and are approved by the College Board Audit Committee and include concepts and skills that help students prepare for the AP exams.
- **IB Courses—**MCPS offers the IB Diploma Program at eight high schools. In addition to seeking the full IB diploma, students can enroll in the individual IB courses. All MCPS IB courses meet the requirements of the International Baccalaureate and include inquiry, concepts, skills, and connections that prepare students to the IB exams.

COURSE-RELATED INFORMATION

Student Withdrawal from a Course

A student-initiated withdrawal may occur when the student and parent/guardian determine that withdrawal will be beneficial to the student. Additional information is in MCPS Regulation JEC-RA, *Student Withdrawals from Classes and School*, found at *ww2.montgomeryschoolsmd.org/departments/policy/pdf/jecra.pdf*. An eligible student's withdrawal (one who is 18 years of age or older or is emancipated) must be reviewed by the counselor and may be discussed with the parents/guardians. If the student is not an eligible student, the student's withdrawal request must be approved by the parent/guardian in writing, reviewed by the counselor, and discussed with the student to ensure that the student understands that withdrawing from the course may result in a possible delay in meeting graduation requirements. Then, the counselor's recommendation is forwarded to the principal for approval.

The student must be presented with alternatives to withdrawing from a course. The student may transfer into another course within the same subject area for which the student has had adequate academic preparation. If no such alternative is available, the student may transfer into an appropriate elective course. Administrators/designees have discretion to adjust student schedules if necessary and as appropriate.

- If a student withdraws from a course before the end of the 25th day of the semester, no notation is made on the student's permanent record or report card.
- If the student withdraws after the 25th school day of the semester in which the class begins, a notation of "W," or "Withdrew," the date of the withdrawal, and the average grade at the time of withdrawal will be entered on the permanent record, transcript, and report card.
- Should the student, with prior approval, transfer from an honors- or advanced-level course to an on-level course in the same subject area (IKC-RA course-level change) after the 25th school day of the semester, no notation is made on the student's permanent transcript, and appropriate credit is awarded for those courses completed successfully. The Office of Curriculum and Instructional Programs may designate approved on-level transfers for certain courses, which will be set forth in implementation guidance and available from school counselors.

Additional information about withdrawal and student eligibility for extracurricular activities is in MCPS Regulation IKC-RA, *Grade Point Averages (GPA) and Weighted Grade Point Averages (WGPA)*, found at *ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=227&policyID=IKC-RA&sectionID=9,* and in MCPS Regulation IQD-RA, *Academic Eligibility for High School Students Who Participate in Extracurricular Activities*, found at *ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=248&policyID=IQD-RA&sectionID=9*.

Other Provisions for Earning Credit

In addition to earning credits during the regular school day and year, students may earn high school credits through summer school, extended-day learning opportunities, work-experience programs, online courses, and college courses. **Advance permission from the principal or designee is required** in all cases involving other provisions for earning credit.

Online courses must be approved by MSDE and MCPS. See the list of online courses approved by MCPS for credit toward graduation at *www.montgomeryschoolsmd.org/departments/onlinelearning/*.

It is critical that students and their parents/guardians consult with academic advisors/counselors **prior to registering** for courses for which they intend to obtain credits to meet high school graduation requirements. More information about other provisions for earning credit are discussed in MCPS Regulation ISB-RA, *High School Graduation Requirements*, found at *ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=252&policyID=ISB-RA&sectionID=9*.

Alternatives to Four-year Enrollment

In recognition of the fact that four-year enrollment in a public high school may not serve the best interests of some students, alternatives are available. Requirements include advance permission from the principal or designee; an alternative plan developed, with enough lead time to allow a decision to be made at least one full semester prior to anticipated enrollment in a specific course or program; and a waiver. Approval may be made contingent on the student's acceptance to an approved college, career and technical education (CTE) or other postsecondary school program. Required forms, reasons for which waivers are approved, and additional information about alternatives to four-year enrollment are discussed in MCPS Regulation ISB-RA, *High School Graduation Requirements*, found at *ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=252&policyID=ISB-RA&sectionID=9*.

Taking Courses Not Available at the Student's Home School

Students who wish to take courses not available at their home school must apply through the counseling office at their home school.

Attendance

A commitment to school attendance, on the part of both students and parents/guardians, is an essential component of a high-quality learning experience. Parents/guardians and school personnel are expected to do everything possible to ensure each student's regular attendance. Students should attend all scheduled classes and approved educational activities and are responsible for completing all assigned work on time. Students should be enrolled in a full-day program or spend a comparable period of time in an alternative education program or activity approved by the student's parent/guardian and principal. See MCPS Regulation JEA-RA, *Student Attendance*, at *ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=258&policyID=JEA-RA&sectionID=10* and G*uidelines for the Continuing Education for Pregnant and Parenting Students*, at *ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=237&policyID=IOE-RA&sectionID=9*.

GRADING AND REPORTING

The Board of Education is committed to maintaining rigorous performance and achievement standards for all students and to providing a fair process for evaluating and reporting student progress that is understandable to students and their parents/guardians and relevant for instructional purposes. The Board Policy IKA, *Grading and Reporting* (*ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=224&policyID=IKA-RA&sectionID=9*), and accompanying MCPS Regulation IKA-RA, *Grading and Reporting* (*https://ww2.montgomeryschoolsmd.org/departments/policy/pdf/master%20ika-ra.pdf*), set forth expectations and guidance. The office of the Chief Academic Officer in the Division of Teaching and Learning publishes procedures at *www.montgomeryschoolsmd.org/info/grading/*

Procedures for Grading

Grading procedures will be applied consistently within and among schools. Grading practices must include clear and timely communication, alignment with curriculum, accurate reflection of student achievement, and fair representation of student performance. Grading practices must be fair and manageable and support effective teaching and learning. Grades on report cards reflect academic achievement in relation to course expectations, as outlined in the MCPS curriculum. Extra credit may not be used. Course specific procedures for grading are defined, used consistently, and explained clearly to students and parents/guardians in writing at the beginning of a semester or school year. Additional information about grading and reporting can be found at *https://ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=223&policyID=IKA§ionID=9*

Districtwide Assessments

Required assessments administered districtwide are one component of the body of evidence.

- A districtwide assessment is required to be given at designated times in identified grade levels and identified middle and high school courses.

Reporting Student Progress

Teachers will provide students and parents/guardians with information about achievement throughout the marking period. This feedback may take several forms, including the following:

- Report cards
- Interims/progress reports
- Online grade reports
- Parent conferences
- Informal methods of communication
- Teacher feedback

Credit/No Credit Grading Option

- The Credit/No Credit grading option may be used only in courses not specifically required for graduation by MSDE or MCPS.
- Courses taken using the Credit/No Credit option cannot be applied toward a Certificate of Merit.

Grade Point Average (GPA) and Weighted Grade Point Average (WGPA)

Only final course grades and credit reported on high school transcripts are used in determining GPA and WGPA, in accordance with the procedures set forth in MCPS Regulation IKC-RA, *Grade Point Averages and Weighted Grade Point Averages* (*ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=227&policyID=IKC-RA&sectionID=9*). To determine WGPA, an additional quality point will be added to grades of A, B, and C in all Honors, AL, and AP courses only.

A Marking Period Average (MPA), used in determining academic eligibility for interscholastic athletics, is shown on student report cards. The MPA is not cumulative and is not used to establish the GPA or WGPA. For information about conditions under which the MPA applies to interscholastic athletics, please see *https://ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=248&policyID=IQD-RA&sectionID=9*

MCPS does not rank students. See additional information about grading and reporting at *www.montgomeryschoolsmd.org/info/grading/*.

Repeating a Course to Earn a Higher Grade and Repeating a Portion of a Course (Credit Recovery)

Any student who completes a high school course may retake the course for a replacement grade. Eligible students may retake a portion of the course for credit recovery. Grades and credits for courses retaken will be treated as follows, for computing the GPA and WGPA: a) a course may be retaken, no matter the final grade; b) the highest of the grades received shall be entered on the student's transcript and shall be used for the purpose of computing GPA/WGPA; c) students may only replace a course with a course of the same or comparable course code, as authorized by the associate superintendent of Curriculum and Instructional Programs; or d) if space in a class is limited, students taking a course for the first time have priority for placement in the class over students retaking the course. Upon completion of the course, their official transcript and GPA/WGPA will reflect only the higher mark earned. Further information can be found in MCPS Regulation IKA-RA, *Grading and Reporting*, found at *ww2.montgomeryschoolsmd.org/departments/policy/detail.aspx?recID=224&policyID=IKA-RA&sectionID=9 and* MCPS Regulation IKC-RA, *Grade Point Averages (GPA) and Weighted Grade Point Averages (WGPA)*, found at *ww2.montgomeryschoolsmd.org/departments/policy/pdf/ikcra.pdf*, or by contacting the student's counselor or College and Career Readiness and Districtwide Programs, 240-740-4000.

School Library Media Programs

The school library is more than a place for books, it's a dynamic hub for learning and discovery. School Library Media Programs mission is to promote anti-racist and anti-bias information literacy education while ensuring equitable access to resources that empower students to develop a love of literature and succeed in their college and career goals.

In Maryland, the Code of Maryland Regulations (COMAR) requires every school to have a library media program that provides information literacy instruction and access to resources to students. MCPS' School Library Media Programs are designed to align with these state regulations. Here are some of the ways our program supports the school community:

The guiding principles for a robust school library media program:

- **Supporting Student Success:** Media center staff work to spark a passion for reading and help students with their personal and academic information needs. Through the media program, students learn critical thinking and research skills that are essential for today's world. By collaborating with teachers on research projects, students gain learning experiences that prepare them for college and beyond. Media staff also support instruction in digital citizenship, digital health, and digital safety, equipping students with the skills needed to navigate the online world ethically and responsibly.
- **Innovative Learning Environments:** School libraries are equipped with makerspaces and innovative spaces that offer applied, experiential, and engaging learning opportunities. These spaces are designed to inspire creativity and develop computational thinking and problem-solving strategies among students.
- **Equity and Diverse Representation:** Library media specialists utilize their expertise to build comprehensive physical and digital collections that ensure equity, accessibility, and diverse representation. This commitment ensures that all students and the school community have access to high-quality, inclusive resources.
- **Community Engagement:** The library is the heart of the school community. Media centers have a special role in connecting the school community with resources. The library can facilitate a variety of engaging programs and clubs for students and offer opportunities for student involvement. To learn more about current offerings, please ask your school's media specialist.

Academic Eligibility for Participation in Interscholastic Athletics

As a district committed to nondiscrimination, equity and cultural responsiveness, the Board of Education seeks to balance the state and collegiate expectations with its interest in making interscholastic sports, accessible to as many students as possible. Academic eligibility requirements for high school students participating in interscholastic sports are established in MCPS Regulation IQD-RA, *Academic Eligibility for High School Students Who Participate in Interscholastic Athletics*. Students who have a 2.0 average with no more than one failing grade in the previous marking period will be academically eligible to participate or practice during the next marking period. Eligibility standards become effective as of a student's second year in any high school, as initially determined by their marking period average in the fourth quarter of their first year of high school. Additional information about academic eligibility may be found in Board Policy IQD, *Extracurricular Activities* at *ww2.montgomeryschoolsmd.org/departments/policy/pdf/policy%20iqd%20english.pdf*, and MCPS Regulation IQD-RA, *Academic Eligibility for High School Students Who Participate in Interscholastic Athletics*, at *www2.montgomeryschoolsmd.org/siteassets/schools/high-schools/r-w/rmhs/uploadedfiles/athletics/academiceligibility20.pdf*.

National Collegiate Athletic Association (NCAA) Eligibility Center

The National Collegiate Athletic Association established the NCAA Eligibility Center to serve as the authorizing group for the final review and approval of core courses for freshmen college students who want to participate in intercollegiate athletics in NCAA Division I-A, I-AA, and II colleges and universities. The NCAA Eligibility Center Approved Core Courses are identified in the course catalog with the symbol NCAA. In all cases, the list of eligible courses available on the NCAA Eligibility Center website represents the final determination of acceptable core courses. To learn more about NCAA Approved Core Courses or about NCAA Freshmen Eligibility Standards, contact the local school resource counselor and visit the NCAA-IEC website at *www.ncaa.org/sports/2021/2/8/student-athletes-future.aspx*. Learn more about submitting student information at *www.ncaa.org/sports/2014/12/16/submitting-a-student-s-information.aspx*

Montgomery County Public Schools
Sample Student Planner

This is a sample pathway schedule that may be tailored to meet a student's individual needs. All students must take prescribed English, math, science, social studies, and other courses required for a Maryland high school diploma.

GRADE 9	GRADE 10	GRADE 11	GRADE 12
ENGLISH (4 credits)			
English 9/Honors	English 10/Honors/AP	English 11/Honors/IB/AP	English 12/Honors/IB/AP
MATHEMATICS (4 credits)			
Algebra 1, Geometry/Honors, ***or*** Algebra 2/Honors	Geometry/Honors, Algebra 2/Honors, ***or*** Precalculus/Honors/AP, ***or*** approved college course	Algebra 2/Honors, Precalculus/Honors/AP ***or*** AP Calculus AB/BC ***or*** Statistics ***or*** IB Math, ***or*** approved college course	Precalculus/Honors/AP, ***or*** IB Math, AP Calculus AB/BC ***or*** AP Statistics/College Level Math Beyond AP Calculus, ***or*** approved college course
SCIENCE (3 credits)			
Life Science Credit ***or*** Physical Science Credit ***or*** Earth/space Science Credit	Life Science Credit ***or*** Physical Science Credit ***or*** Earth/space Science Credit	Life Science Credit ***or*** Physical Science Credit ***or*** Earth/space Science Credit	[3]Elective (all content areas) ***or*** Elective Option Coursework
SOCIAL STUDIES (3 credits)			
U.S. History/Honors/AP or approved college course	National, State & Local Government/Honors/AP	Modern World History/ Honors/AP/IB History or approved college course	[3]Elective (all content areas) ***or*** Elective Option Coursework
FINE ARTS (1 credit)			
[3]Visual & Performing Arts (Dance/Music/Theatre/Media/ Visual Arts) or Elective (all content areas) or Elective Option Coursework	Visual & Performing Arts (Dance/Music/Theatre/Media/ Visual Arts) or Elective (all content areas) or Elective Option Coursework	[3]Visual & Performing Arts Graduation Credit ***or*** Elective Graduation Option	[3]Elective (all content areas) ***or*** Visual & Performing Arts Graduation Credit
COMPUTER SCIENCE, ENGINEERING OR TECHNOLOGY EDUCATION (TE) (1 credit)			
[2]Technology Education or Elective (all content areas) or Elective Option Coursework	[3]Elective (all content areas) ***or*** Elective Option Coursework	[3]Elective Coursework ***or*** Elective Graduation Option	[3]Elective Coursework ***or*** Elective Graduation Option
HEALTH EDUCATION AND PHYSICAL EDUCATION (1 credit each)			
Physical Education or Elective (all content areas) or Elective Option Coursework	Health Education or Elective (all content areas) or Elective Option Coursework	[3]Elective Coursework ***or*** Elective Graduation Option	[3]Elective Coursework ***or*** Elective Graduation Option
ELECTIVE OPTIONS Students can fulfill graduation requirements by one of the two options			
[1]World Languages Students must take two years of the same world language.	[1]World Languages Students must take two years of the same world language.	[3]Elective (all content areas) OR Elective Option Coursework	[3]Elective (all content areas) OR Elective Option Coursework
[4]Career Readiness POS	[4]Career Readiness POS	[4]Career Readiness POS	[4]Career Readiness POS

[1] **World Languages:** Choose from languages available at your school. Students may fulfill World Language graduation option in middle school.
[2] **Computer Science, Engineering or Technology Education (TE):** Students may fulfill Technology Education graduation requirement in middle school.
[3] **Electives:** Elective courses are available for all content areas, including visual & performing arts, technology education, and physical education. Elective coursework varies at each high school and include college courses offerings via dual enrollment.. Please check with the school for course availability.
[4] **Career Readiness POS:** Career Readiness POS varies at each high school and include college courses offerings via dual enrollment. l. Please check with the school for program availability.
[5] **Science:** Choose from courses approved for graduation credit to fulfill each category of science credit. Please check the science course options in catalog and approved college courses via dual enrollment.

MCPS COUNTYWIDE/REGIONAL PROGRAMS

MCPS offers a range of high school programs to meet the unique interests or programmatic needs of students. Programs are offered at the local high school level or through an application process at the regional or countywide level. These programs may include enriched/accelerated, thematic, career readiness, or dual enrollment.

Local School Programs

In addition to offering a comprehensive high school program, a number of high schools have created programs that integrate a specific focus or distinguishing theme with skills, concepts, and instructional strategies of some portion of a school's curriculum. The theme or focus becomes the vehicle for teaching the traditional high school curriculum in a fresh, interesting, and challenging way. All high schools offer a wide range of robust college and career programs that prepare students for college and the workforce. For additional information about local programs offered at a student's home school, please visit the home school website.

Career Readiness Programs of Study (POS)

Programs of Study **(POS)** are state-approved programs that satisfy the Career Readiness graduation option requirements and are designated by POS in this catalog. Each program is designed to help students acquire the specialized knowledge, skills, attitudes, and work habits required for employment and postsecondary education.

Students seeking to enroll in a POS with a work-based learning component may be required by the employer or sponsoring organization to provide appropriate documentation that may include a social security number and/or proof of citizenship/green card. Please review program information and POS requirements carefully for specific work-based learning component guidelines.

MCPS Regional Career Readiness Programs

Some career readiness POS are offered to high school students through a regional choice model, to ensure access to programs when not offered in the student's home school.

These programs are available at designated high schools and offer limited seats to students from designated regions of the county. Student participation is determined by an application process. Grades 8–11 students from designated regions of the county are eligible to apply to the following application programs:

- Fire Science and Rescue at Montgomery College Public Safety Training Academy
- Aviation Pilot Program at Col. Zadok Magruder HS
- Network Operations & Information Technology (P-TECH) at Clarksburg HS
- Project Lead The Way Biomedical at Gaithersburg HS, Rockville HS and Wheaton HS
- Project Lead The Way Engineering at Rockville HS and Wheaton HS
- Seneca Valley Regional Programs
- Navy Junior Reserve Officers Training (JROTC) at Gaithersburg, Kennedy, Paint Branch and Seneca Valley
- Army JROTC at Magruder
- MCPS Apprenticeship Maryland Program
- IEC Electrical School to Apprenticeship

These are just a few examples of the programming options available. Extensive information about MCPS career readiness programs of study is available online at *www.montgomeryschoolsmd.org/career-readiness/*. For a more complete list and information about the various special programs available to students entering high school and beyond, visit *www.montgomeryschoolsmd.org/curriculum/specialprograms/high/*. Families also access the OPTIONS booklet, also found on the special programs home page.

Regional College and Career Programs at Wheaton/Thomas Edison High School of Technology (TEHST) and Seneca Valley High School

Regional College and Career programs provide all MCPS students with the opportunity to co-enroll in advanced academic, technical, and career programs. The mission of college and career readiness programs is to provide students with state-of-the-art technological, academic, and interpersonal skills needed to achieve excellence in their chosen fields of study. The variety of career readiness programs offered allow students to explore and experience traditional and nontraditional career options and to prepare for college and a wide range of expanding and challenging postsecondary options. Students enroll in college and career readiness programs through their home school and take courses at both the home school and at the Regional College and Career Program location. Students may also be eligible to apply to a full-time comprehensive regional program at a college and career readiness programs location. Bus transportation is provided. All programs offered at Regional College and Career Program sites are state-approved and meet the career readiness graduation option requirements for students.

Foundations Programs

The Montgomery County Student Foundations Office serves as a liaison between the business/professional community and MCPS, by coordinating four separate nonprofit educational foundations that prepare students for a wide range of postsecondary options within the automotive, aviation, construction, information technology and computer science, and the hospitality and restaurant management industries. Programs provide instruction in classroom and laboratory settings with state-of-the-art technology and authentic, real-world experiences for students through rigorous curriculum, career programs of study, industry certification opportunities, community business partnerships, entrepreneurial projects,scholarships/awards, SSL hours, and articulation agreements through which students may earn college credit. Additional information is at *www.montgomeryschoolsmd.org/curriculum/foundations/* or contact the Foundations Office at 240-740-2050.

- **Automotive Trades Foundation Programs (ATF)—**ATF programs are located at
  - Damascus
  - Gaithersburg
  - Seneca Valley
  - Thomas Edison HS.

  The ATF hosts 3 student-run car sales each year and students have refurbished more than 2,000 vehicles to date. Some years students also renovate a vehicle to gift to a local charitable organization.
- **Aviation Pilot Program—**Located at Col. Zadok Magruder High School. This is a four year pilot program for either manned or unmanned (UAS) flight. Students must choose to make Magruder HS their home school to participate in this program. Bussing is available from Gaithersburg, Rockville, and Sherwood High Schools.
- **Construction Trades Foundations Program—**Construction Trades Foundation programs are located at
  - Thomas Edison High School of Technology, and
  - Seneca Valley HS.

  Students design, construct, and market student-built houses. Forty-three houses have been built and sold thus far in Montgomery County. Students currently are constructing the 44th home.
- **Information Technology and Computer Science Programs—**Information Technology programs in computer maintenance and networking (Network Operations) are located at
  - Clarksburg High School
  - Thomas Edison High School of Technology, and
  - Seneca Valley High School.

Students in these programs refurbish, market, and sell donated computers to the community and donate a lab each year to a deserving Montgomery County nonprofit organization.

IT Networking Academy (CISCO) are located at four high schools

- Damascus
- Quince Orchard
- Springbrook, and
- Wootton

Students in all programs can earn valuable industry-standard CompTIA certifications and college credits and can obtain internships in the IT field.

The Computer Science Pathway, which includes a robotics unit, is offered in 25 high schools. Students can take AP courses in the pathway as well as earn college credits and obtain internships.

Mobile Applications and Software Development Program of Study at Walter Johnson High School and Watkins Mill High School allows students to design and build a fully-functioning in Swift and XCode. Students can earn industry certification in App Development in Swift: Level 1.

The **Clarksburg Pathways in Network and Information Technology Program (P-TECH)** is a dual-enrollment program that allows students to earn both an MCPS high school diploma and an Associate of Applied Science (ASS) degree from Montgomery College, at no cost, while in high school. This program is offered exclusively at Clarksburg High School, and the only entry point for this program is at the beginning of ninth grade.

Academy of Information Technology (AOIT)—Web Design offers students opportunities to explore careers related to website development and database administration. This program is offered at schools currently offering AOIT with NAF: Damascus High School, Springbrook High School, Wheaton High School and Thomas S. Wootton High School.

- **Hospitality and Restaurant Management Program—**The Foundation for Hospitality & Restaurant Management (FHRM) was established to develop and engage the hospitality and restaurant industry to partner with MCPS in support of the Hospitality and Tourism Management POS and the Professional Restaurant Management POS. In collaboration with the business community, FHRM works with these programs to identify career-enriching experiences for students who want to study and learn about career opportunities within the hospitality industry.

The Visual Art Center (VAC) at Albert Einstein High School

The Visual Art Center (VAC) offers students a broad perspective of the fine arts and deepens their understanding of the opportunities for art-related careers through exposure to contemporary artists and artwork. This rigorous and comprehensive program, directed toward portfolio development, enables students to realize and achieve their full potential in visual art. Lessons consist of lectures, demonstrations, slide presentations, studio activities, assigned research and group critiques. Most graduating students study fine arts or commercial art at a higher level. Any student who resides in Montgomery County and is currently enrolled in Grades 8–11 is encouraged to apply for acceptance into this magnet program, if they are interested in a rigorous portfolio-development program. The VAC program is open to applicants from all high school clusters in the county. As of next school year, the VAC is not a part time program. Students must transfer to Einstein. Downcounty Consortium (DCC) resident students who have been assigned to Einstein through the choice process and have been accepted into the Visual Arts Center will be provided transportation from Consortia neighborhood stops. For more information, contact the MCPS Visual Arts Center at 240-740-2700 or go to *www.montgomeryschoolsmd.org/curriculum/specialprograms/high/magnet-art*.

High School Science/Mathematics/ Computer Science Magnet Program at Montgomery Blair HS and Poolesville HS

Recognizing that education is an individual experience that depends on the unique talents and interests of each person, the mission of the MCPS High School Science/Mathematics/Computer Science Magnet Program is to provide an environment in which each student's education is maximized by emphasizing the interrelationships among the disciplines, developing a repertoire of problem-solving techniques and pursuing both independent and collaborative research projects.

To realize this mission, the staff nurtures the special talents of its students, challenging them through a unique, diversified curriculum that fosters individualism, independent thinking, and self-confidence. Students construct their own knowledge base, learn problem-solving strategies that foster a multidisciplinary approach, and develop the ability to think precisely and creatively.

The curriculum is designed to enable each student to build a solid foundation in Grades 9 and 10. Core courses in these first two years include physics, chemistry, Earth science, biology, two years of computer science, two years of mathematics, and an interdisciplinary course—Research and Experimentation for Problem Solving. During their junior and senior years, students have opportunities to go beyond traditional high school offerings with more than 25 special courses and independent research projects, while still meeting MSDE requirements (e.g., enrollment in mathematics).

The International Baccalaureate (IB) Diploma Programs in MCPS

The International Baccalaureate Diploma Programme is a rigorous two-year program that challenges students to think critically, excel in their studies, and develop as global citizens, leading to a qualification that is recognized by universities around the world. To earn an IB diploma, students must take a challenging course of study and pass examinations in six academic subjects.

The IB Diploma programme is offered at the following schools:

- Albert Einstein High School (for students who attend Einstein HS)
- Bethesda-Chevy Chase High School (for students who attend B-CC HS)
- John F. Kennedy High School (Regional application and students in the DCC)
- Richard Montgomery High School (Countywide application and students who attend RMHS)
- Rockville High School
- Seneca Valley High School (for students who attend Seneca Valley HS)
- Springbrook High School (Regional application and students in the NEC)
- Watkins Mill High School (Regional application and students who attend WMHS)

The following IB programmes are application-based. The application process takes place in Grade 8.

- Richard Montgomery High School (Countywide)
- John F. Kennedy High School (Regional)
- Springbrook High School (Regional)
- Watkins Mill High School (Regional)

International Baccalaureate Career-related Programme (IB CP)

The International Baccalaureate® (IB) Career-related Programme (CP) is a framework of international education that incorporates the values of the IB into a unique programme addressing the needs of students engaged in career-related education. The CP is designed to prepare students for higher education, an internship or apprenticeship, and/or a position in a designated field of interest.

In addition to the IB Diploma Programme, the International Baccalaureate (IB) Career Programme is offered at

- Watkins Mill High School
- Rockville High School
- Seneca Valley High School

International Baccalaureate/Middle Years Programme (MYP)

The MYP is designed for students ages 11 to 16. It provides a framework of learning that encourages students to become creative, critical, and reflective thinkers. The MYP emphasizes intellectual challenge, encouraging students to make connections between their studies in traditional subjects and the real world. It fosters the developmental skills for communication, intercultural understanding, and global engagement—essential qualities for young people who are becoming global leaders. Students engage in research and acquire critical-thinking skills through all subject areas, as well as study a second language. MYP is authorized and offered as a whole-school program for Grades 9 and 10 at

- Bethesda-Chevy Chase High School
- John F. Kennedy High School
- Richard Montgomery High School
- Seneca Valley High School
- Springbrook High School
- Watkins Mill High School

The MCPS IB programme website, *https://www.montgomeryschoolsmd.org/curriculum/specialprograms/middle/middle-years/*, contains links to each school's program and admission process. Each high school offering an IB programme has individualized its program, providing unique selections from the IB electives and languages. Local school course listings will indicate those courses available at a given school.

Blair/Poolesville Courses and IB Courses

A sampling of courses are listed at the end of each departmental listing in this catalog and the Interdisciplinary and Research Courses section. To learn more, visit each school's website.

College Preparatory Pathways and Advanced Placement and International Baccalaureate

Please visit this page for more information about college and career readiness AP and IB pathway options. *https://docs.google.com/document/d/1XoZw5IF58yNJ57_OsWR3iFW1DMYTGJS_RLEnPBZ7ns8/edit?usp=sharing*

Other High School Application Programs

There are other competitive programs offered to MCPS students, with a limited number of seats that require students to complete an application and meet specific admission criteria. Programs include the Communications Art program at Blair HS, Global Ecology and the Humanities programs at Poolesville HS, the Leadership Training Institute at Kennedy HS, as well as PLTW Bioscience and PLTW Engineering Applications programs at Wheaton HS. Some programs accept applications countywide, while others accept applications from designated regions of the county. For more information about application programs offered in MCPS, visit *https://www.montgomeryschoolsmd.org/curriculum/specialprograms/high/*. Parents/guardians of current Grade 8 students are able to access and review all eligible high school application programs on the Synergy ParentVUE. The Grade 8 eligibility report is found in ParentVue and StudentVue. The High School Common App is found in ParentVue. All other applications are found on the High School Special Programs website. All applications require the student to have an MCPS Student ID to participate. Private school students may visit the special programs website to apply.

STUDENT ONLINE LEARNING/ ELEARNING

The MCPS Student eLearning program provides opportunities for students to take selected high school courses outside the traditional classroom setting. The program allows students access to online courses for acceleration, flexibility in scheduling, or to retake previously failed courses. Courses taught by MCPS teachers follow a blended learning model, requiring student attendance in synchronous, virtual class meetings and engagement in asynchronous instruction, classwork, and assessments. More information about student online learning/elearning is at *www.montgomeryschoolsmd.org/departments/onlinelearning/*.

ADDITIONAL LEARNING OPPORTUNITIES

George B. Thomas, Sr. Learning Academies

Budget dependent: Nine MCPS schools host The George B. Thomas, Sr. Learning Academy, Inc. programs on Saturday mornings (Saturday School), providing enrichment, tutoring, and mentoring for students in Grades Pre-K–12. The George B. Thomas, Sr. Learning Academy, Inc. was established in 1986 by the Mu Nu Chapter of Omega Psi Phi Fraternity, as an outgrowth of the Saturday School Initiative of Blacks United for Excellence in Education. Saturday Schools are open to all students, regardless of their home school. High school sites include Blair, Clarksburg, Einstein, Gaithersburg, Northwest, Paint Branch, Rockville, Springbrook, Wheaton and a virtual option. For more information about Saturday School tutoring and the George B. Thomas, Sr. learning academies, contact your local school or visit *www.saturdayschool.org*.



Dual Enrollment: College Options

MCPS and Montgomery College (MC) have partnered to provide college credit options for college ready students via dual-enrollment opportunities. College ready students may take approved college courses at their high school (if offered), on the college campus, or online. All MCPS students may participate in Dual Enrollment (DE) programmatic options that will allow them to complete at least two college courses at no cost during the fall and spring MC semesters depending on the identified DE option. Select degree programs will require the completion of more courses during the MC winter and/or summer semesters. All college courses taken and successfully completed will receive dual credit by counting toward college and high school credit. Approved higher level college credit courses will appear on the high school transcript as an advanced-level course, unless requested that it not be placed on the transcript during the enrollment process. There are special dual-enrollment programs that allow students the opportunity to earn an associate's degree from MC as well as a Maryland state diploma. More information about all dual enrollment programs is found below and at the following link: *www.montgomeryschoolsmd.org/curriculum/partnerships/dual-enrollment/*.

Early College

The Early College (EC) dual-enrollment program is offered at each MC campus, and provides qualified students with the opportunity to earn an associate's degree in a specific content area. Students apply to the EC program in the fall of 10th grade. Participating students will complete their 11th and 12th grade years of high school while simultaneously completing their first two years of college. The degree programs offered in the 2026-2027 school year are listed below by MC campus.

EARLY COLLEGE PROGRAMS	
Students from any MCPS high school may attend VMC	
Montgomery College, Germantown Campus	A.A. Business A.S. Biological Science A.A.S. Biotechnology A.A. Computer Science A.A.S. Cybersecurity
Montgomery College, Rockville Campus	A.A. Behavioral Health A.A. Business A.A. Business Analytics A.S. General Engineering A.S. Mathematics A.A.T. Elementary Education/Special Education A.S. Biological Science A.S. Chemistry and Biochemistry A.S. Data Science
Montgomery College, Takoma Park Campus	A.A.S Cloud Computing and Networking Technology A.A.S. Diagnostic Medical Sonography A.A.S. Physical Therapy Assistant A.A.S. Radiologic Technology A.A.S. Surgical Technology A.S. Biological Science A.S. Nursing A.A. Computer Science and Technologies
East County Education Center	A.A.S. Cybersecurity

For more information about the Early College program, please visit *www.montgomeryschoolsmd.org/curriculum/partnerships/early-college.aspx*.

Middle College

In collaboration with MC, MCPS offers a Middle College program at three high schools. The Montgomery College Middle College (MC2) program at Northwest and Northwood high schools and the P-TECH Middle College program is offered at Clarksburg High School. Each Middle College dual enrollment program prepares students to earn a Maryland state high school diploma and college credits toward an associate's degree. The college credits are earned through a combination of courses, including Advanced Placement courses and corresponding test scores, CLEP examinations, and/or MC courses. Students are supported through a progressive transition from a traditional high school experience, to a college-like experience on the high school campus, and finally to full college coursework and experience on the college campus. During this transition, students are provided with dedicated college preparation, including preparation for the college placement and admission assessments. Students will matriculate through a pathway toward an associate's degree, beginning in Grade 9. Students apply to the Middle College programs in the fall of 8th grade.

MIDDLE COLLEGE PROGRAMS	
Montgomery College Middle College (MC2) @ Northwest	Northwest High School
Montgomery College Middle College (MC2) @ Northwood	Northwood High School
Pathways In Network and Information Technology Program (P-TECH)	Clarksburg High School

For more information about Middle College programs, please visit *https://www.montgomeryschoolsmd.org/curriculum/partnerships/middle-college.aspx*.

Virtual Middle College Program

Virtual Middle College (VMC) is a Montgomery College (MC) and Montgomery County Public Schools (MCPS) joint academic initiative that provides qualified high school students with the opportunity to also enroll in an all-virtual college credit program at MC. As students progress through high school, they will take a combination of high school courses and online college courses that simultaneously count towards high school graduation requirements and an associate's degree. Students apply to the VMC program in the fall of 9th grade. Students from all MCPS high schools are eligible to participate. During the program, students are supported through a progressive transition from a traditional high school experience to online/virtual college courses.

To learn more about the program, visit: *https://www.montgomerycollege.edu/high-school-students/dual-enrollment/degree-and-pathway-programs/virtual-middle-college-program.html*.

VIRTUAL MIDDLE COLLEGE PROGRAMS	
Montgomery College Middle College (MC2) @ Northwest	A.A. Business A.A. Computer Science A.A. Information Sciences and Systems A.A.S. Criminal Justice A.A.S. Cybersecurity A.A.S. Early Childhood Education Technology A.A.S. Health Information Management A.A. General Studies

For more information about Middle College programs, please visit *https://www.montgomeryschoolsmd.org/curriculum/partnerships/middle-college.aspx*.

Jumpstart to College Pathway

The Jumpstart to College Pathway is an opportunity for high school students to earn college credits using dual enrollment opportunities available through our partnership with Montgomery College (MC) to

meet high school graduation requirements and begin their journey toward success in college and beyond.

Students taking advantage of the Jumpstart to College can take prescribed English, mathematics, science, social studies, and other courses required for a Maryland high school diploma.

- Advance level College course grades that appear on the high school transcript will count for advanced credit when calculated into the weighted GPA, just like Advanced Placement (AP) and honors courses.
- Each student's enrollment in any MC course is dependent on the student meeting all requirements, prerequisites, and assessment levels for the course as determined by MC.

For more information about Jump Start, please visit *https://www.montgomeryschoolsmd.org/curriculum/partnerships/jump-start.aspx*.





Computer Science, Engineering, and Technology Education

To prepare all students for demands of college, careers, and the rapidly changing 21st century workforce, MCPS provides a variety of engaging, hands-on offerings in computer science, engineering, and technology. In these courses, students apply mathematics, science, and technical knowledge while using computational and design thinking to innovate and solve relevant problems. The interdisciplinary nature of these technical subjects and a problem-based learning approach fosters creativity and critical thinking along with the communication and collaboration skills needed to thrive in the 21st century. MCPS utilizes external curriculum from national organizations such as Code.org, Apple, CISCO Networking Academy, Project Lead the Way (PLTW), and International Technology and Engineering Educators Association (ITEEA) to include experiences in coding, robotics, and engineering design processes.

Many MCPS computer science, engineering, and technology education courses, such as Foundations of Computer Science and Foundations of Engineering and Technology are designed to be accessible to students with no previous experience. For students who have taken technology-related courses in middle school or participated in related extracurricular experiences, consider beginning with AP Computer Science or a rigorous career readiness program such as an Information Technology program, Computer Science/Code.org, Mobile Applications and Software Development (Apple), or Project Lead the Way Engineering.

One credit in Technology Education is required for graduation. Courses that satisfy that requirement are listed below.

Foundations of Technology A/B
Foundations of Computer Science A/B
Foundations of Engineering & Technology A/B
Introduction to Engineering Design A/B
AP Computer Science Principles, TE A/B
IB Computer Science 1, TE A/B
Making for Engineers e4usa A/B

COMPUTER SCIENCE COURSES

Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/163* for course descriptions.

COURSE TITLE	COURSE CODE	COURSE INFO	CREDIT	PREREQUISITES
Foundations of Computer Science A/B TE	ITC2083 A/B	TE	0.5	
AP Computer Science Principles A/B TE	ITC2084 A/B	CM-AP TE	0.5	**Corequisite:** *Algebra I*
Computer Programming 1 A/B	ITC2024 A/B	CM-AL	0.5	**Corequisite:** *Geometry or Honors Geometry*
AP Computer Science Java A/B	ITC2007 A/B	CM-AP	0.5	*Computer Programming 1 A/B or AP Computer Science Principles A/B*
Computer Programming 3—Advanced Topics in Computer Science A/B	ITC2021 A/B	CM-AL	0.5	
Website Development A/B	ITC2025 A/B		0.5	
Web Tools and Digital Media, Advanced A/B	ITC2012 A/B	CM-AL	0.5	
Cybersecurity Capstone A/B	ITC2006 A/B or ITC2060 A/B	CM-AL	1.5 or 1.0	*AP Computer Science Java A/B or Network Operations 2 or Advanced Web Tools and Digital Media A/B*
Cybersecurity Fundamentals	ITC2074 A/B	CM-AL	0.5	

TECHNOLOGY EDUCATION & ENGINEERING COURSES				
Foundations of Technology A/B	TEC2000 A/B	TE	0.5	
Foundations of Engineering and Technology A/B	TEC2016 A/B	TE CM	0.5	
Introduction to Engineering Design A/B	TEC2017 A/B	TE CM	0.5	**Corequisite:** *Algebra I*
Advanced Design Applications A/B	TEC2007 A/B	CM-AL	0.5	*Completion of Basic Tech Ed credit*
Advanced Technological Applications A/B	TEC2008 A/B	CM-AL	0.5	*Completion of Basic Tech Ed credit*
Making for Engineers e4usa A/B	TEC2006 A/B	TE CM	0.5	

INTERNATIONAL BACCALAUREATE
COMPUTER SCIENCE AND TECHNOLOGY COURSES
Offered at: **Albert Einstein HS, Bethesda-Chevy Chase HS, John F. Kennedy HS, Richard Montgomery HS, Rockville HS, Seneca Valley HS, Springbrook HS, Watkins Mill HS**

COURSE TITLE	COURSE CODE	COURSE CODE	CREDIT	PREREQUISITES
IB Computer Science 1 A/B	ITC 2064 A/B	TE IB (AL)	0.5	*AP Computer Science Java A/B or Computer Programing 1 A/B*
IB Computer Science 2 A/B	ITC 2005 A/B	CM-IB	0.5	*IB Computer Science 1A/B*

Additional computer science and engineering courses may be found as part of the following Career Readiness Programs of Study and Countywide Application Programs:

- Computer Science/Code.org, see more on page 63
- Engineering, Project Lead the Way, see more on page 69
- IT Networking Academy (CISCO), see more on page 63
- Academy of Information Technology (AOIT)—Web Design, see more on page 64
- Network Operations at Clarksburg High School, Seneca Valley High School and Thomas Edison High School, see more on page 65
- Mobile Applications and Software Development (Apple) at Walter Johnson High School, see more on page 64
- P-TECH—Pathways in Networking and Information Technology at Clarksburg High School, see more on page 65
- Math, Science, and Computer Science Program at Montgomery Blair (see more at *https://old.mbhs.edu/departments/magnet/*) and Poolesville (see more at *www2.montgomeryschoolsmd.org/schools/poolesvillehs/magnet/smcs/*) high schools



English Language Arts and Reading

Four credits in English are required for graduation: English 9, English 10, English 11, and English 12. Courses that satisfy these requirements are described below. The goal of the English Language Arts program is to help students develop into literate, thoughtful communicators, capable of controlling language effectively as they negotiate an increasingly complex, information-rich world.

Aligned with the ELA Common Core State Standards, all English courses give students opportunities to refine specific skills and strategies in reading, writing, speaking, listening, and viewing to prepare them for the literacy demands of college and careers. Studying a variety of texts that are diverse in terms of cultural perspectives, time periods, and ideas about the human experience, students use evidence and reasoning to write increasingly complex arguments, analyses, and narratives. As they develop more nuanced perspectives, students appreciate literature and media as catalysts for inquiry and reflection, readying them to participate in a civil and democratic society.

LANGUAGE ARTS AND READING
Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/68* for course descriptions.

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
English 9 A/B	ENG2000 A/B	0.5	NCAA	
English 9, Honors A/B	ENG2001 A/B	0.5	CM-H NCAA	
English 10 A/B	ENG2002 A/B	0.5	NCAA	*English 9*
English 10, Honors A/B	ENG2003 A/B	0.5	CM-H NCAA	*English 9*
English 10 AP Seminar	ENG2092 A/B	0.5	CM-AP	*English 9*
English 11 A/B	ENG2004 A/B	0.5	NCAA	*English 10*
English 11, Honors A/B	ENG2005 A/B	0.5	CM-H NCAA	*English 10*
English 12 A/B	ENG2006 A/B	0.5	NCAA	*English 11*
English 12, Honors A/B	ENG2007 A/B	0.5	CM-H NCAA	*English 11*
AP English Language and Composition 1 A/B	ENG2031 A/B	0.5	CM-AP	*English 10*
AP English Literature and Composition 2 A/B	ENG2032 A/B	0.5	CM-AP	*English 11*
African American Literature	ENG2039	0.5		
Creative Writing A/B	ENG2048 A/B	0.5	CM-AL	*English 9*
Culture in Literature	ENG2033	0.5		
Graphic Novel Literature	ENG2040	0.5		
Myth and Modern Culture A/B	ENG2044 A/B	0.5		
Informative and Argumentative Speaking	ENG2069	0.5	CM-AL	*English 10*
Journalism A: Editing, Gathering, and Reporting the News	ENG2053A	0.5		
Journalism B: Advanced News Writing and Paper Production	ENG2053B	0.5		*Journalism A*
Techniques of Advanced Journalism	ENG2054	0.5	CM-AL	*Journalism A and B*
Publications Editing, Layout, and Business Management	ENG2055	0.5	CM-AL	*Journalism A*
Literature as Film	ENG2073	0.5		
Media in Society	ENG2072	0.5	CM-AL	
Oral Interpretation and Media Study	ENG2070	0.5	CM-AL	*English 10*
Television Production 1/2	ENG2095 ENG2096	0.5		
College Test Prep	NSS2000	0.5		
HS Developmental Reading 1	ENG2018	0.5		
HS Developmental Reading 2	ENG2052	0.5		
HS Developmental Reading SLIFE 1	ESL2073	0.5		*SLIFE Students only*
HS Developmental Reading SLIFE 2	ESL2074	0.5		*SLIFE Students only*
Shakespeare, Race, and Gender	ENG2086	0.5		*English 10*
Poetry as Universal Literature	ENG2091 A/B	0.5		*English 9*
Yearbook 1A/B	ENG2060 A/B	0.5		
Yearbook 2A/B	ENG2061 A/B	0.5		

LANGUAGE ARTS AND READING

Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/68* for course descriptions.

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER
College Prep Literacy	ENG2065	0.5
College Prep Literacy II	ENG2066	0.5
College Prep Literacy III	ENG2067	0.5
College Prep Literacy IV	ENG2068	0.5
Lights, Camera, Literacy! High School Edition	ENG2047	0.5

INTERNATIONAL BACCALAUREATE (IB) ENGLISH COURSES

Offered at: Albert Einstein HS, Bethesda-Chevy Chase HS, John F. Kennedy HS, Richard Montgomery HS, Rockville HS, Seneca Valley HS, Springbrook HS, Watkins Mill HS

COURSE TITLE	COURSE CODE	COURSE INFO	COURSE CREDIT BY SEMESTER
IB English Literature SL 1 A/B	ENG2036 A/B	CM-IB NCAA	0.5
IB English Literature SL 2 A/B	ENG2037 A/B	CM-IB NCAA	0.5
IB English Literature HL 1 A/B	ENG2093 A/B	CM-IB NCAA	0.5
IB English Literature HL 2 A/B	ENG2094 A/B	CM-IB NCAA	0.5
IB English Language & Literature SL 1 A/B	ENG2089 A/B	CM-IB NCAA	0.5
IB English Language & Literature SL 2 A/B	ENG2090 A/B	CM-IB NCAA	0.5
IB English Language & Literature HL 1 A/B	ENG2045 A/B	CM-IB NCAA	0.5
IB English Language & Literature HL 2 A/B	ENG2046 A/B	CM-IB NCAA	0.5



English Language Development (ELD) Program

The English Language Development (ELD) program provides high-quality English language development instruction aligned to grade-level content standards across English Language Arts, Mathematics, Science, and Social Studies. These courses focus on helping students develop the academic language proficiency needed to be able to engage with content knowledge, skills, and processes while effectively using language to interpret and express their learning in all core subject classes.

These courses are designed for the development of academic English through listening, reading, speaking and writing. Students learn how to apply functional language to effectively make sense of learning and communicate in grade-level core content classes.

Emergent Multilingual Learners (EMLs) will be scheduled into English classes designed to meet their level of academic language proficiency including EML-only, co-taught single and double periods. Students performing at ELP 1 or ELP 2, receive an additional Designated ELD class (Seminar) to receive intensive ELD. The English Language Proficiency (ELP) levels are directly correlated with the ELP levels 1.0-4.4 on the WIDA ACCESS test.

Visit: *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/69* for course descriptions

ENGLISH LANGUAGE DEVELOPMENT (ELD) PROGRAM			
COURSE TITLE	**COURSE CODE**	**COURSE CREDIT BY SEMESTER**	**PREREQUISITES/ COREQUISITES**
ELP Level 1 (sheltered English/ELD-double period):			
English 9 for EMLs I	ESL2060 A/B	0.5	**Corequisite:** *English Language Development Seminar for EMLs I ESL 2069 A/B*
English 10 for EMLs I	ESL2061 A/B	0.5	**Corequisite:** *English Language Development Seminar for EMLs I ESL 2069 A/B*
ELP Level 2 (sheltered English/ELD-double period):			
English 9 for EMLs II	ESL2063 A/B	0.5	**Corequisite:** *English Language Development Seminar for EMLs II ESL 2070 A/B*
English 10 for EMLs II	ESL2064 A/B	0.5	**Corequisite:** *English Language Development Seminar for EMLs II ESL 2070 A/B*
ELP Level 3-3.4 (sheltered English/ELD-double period):			
English 9 for EMLs III	ESL2066 A/B	0.5	**Optional:** *English Language Development Seminar for EMLs III ESL 2071 A/B*
English 10 for EMLs III	ESL2067 A/B	0.5	**Optional:** *English Language Development Seminar for EMLs III ESL 2071 A/B*
**For ELP3.5–ELP4.4 students can receive ELD instruction in a co-taught model or from a dually certified teacher in a mainstream English class. EMLs who are enrolled in Grade 11 and 12 must be enrolled in grade level English courses and can receive ELD instruction in one of the following ways; ELD instruction in an ELD seminar, ELD instruction from an ELD co-teacher in an English course or ELD instruction with an ELA teacher who is dual-certified in ELD.*			

Visual & Performing Arts

The purpose of the visual & performing arts curriculum is to open the minds of students to new and diverse worlds and cultures and enable them to creatively express themselves and value the multiple perspectives of others. Students are actively involved learners in the arts. Through their experiences in the arts, they become creative and critical problem solvers, independent and divergent thinkers, self-motivated workers, and innovators.

Students are led in an exploration of self, others, and the world in relation to the art forms. Students are given opportunities in the visual & performing arts to apply learning in new ways by connecting and integrating content across disciplines. The visual & performing arts—dance, media arts, music, theatre, and visual arts—provide each generation with knowledge of other cultures, past and present, and are among humanity's greatest aesthetic and intellectual achievements. The curricula in visual & performing arts courses are guided by four artistic processes identified in the new MCPS Frameworks: Creating, Performing/ Presenting, Responding, and Connecting; and are aligned to both the National Visual & Performing Arts and Maryland State Visual & Performing Arts standards.

The visual & performing arts encourage students to take intellectual risks and to think critically and creatively when presented with opportunities to make choices and to solve complex, open-ended problems with the possibility of multiple solutions. Excellence in the visual & performing arts is developed through continuous practice, craftsmanship, refinement, and reflection. The creative process encourages students to build resilience, perseverance, self-awareness, and a growth mindset. The visual & performing arts prepare students to engage meaningfully with others in an ever-changing world. The skills learned through study and practice of the visual & performing arts ensure students are equipped for future studies and careers.

One credit in Visual & Performing Arts is required for graduation: Courses that satisfy the visual & performing arts requirement are marked FA.

DANCE
Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/5* for course descriptions

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
Dance as Fine Art A/B	ART2000 A/B	0.5	FA	
Dance as Fine Art 2 A/B	ART2003 A/B	0.5	FA CM-AL	*Dance as Fine Art A/B*
Dance as Fine Art 3 A/B	ART2004 A/B	0.5	FA CM-AL	*Adv. Dance 2 A/B*
Dance as Fine Art 4 A/B	ART2179 A/B	0.5	FA CM-AL	*Adv. Dance 3 A/B*
Dance Company A/B	ART2010 A/B	0.5	FA CM-AL	
Ballet 1 A/B	ART2014 A/B	0.5	FA CM-AL	
Ballet 2 A/B	ART2015 A/B	0.5	FA CM-AL	*Ballet 1 A/B*
Choreography 1 A/B	ART2016 A/B	0.5	FA CM-AL	
Choreography 2 A/B	ART2180 A/B	0.5	FA CM-AL	
Hip Hop Dance A/B	ART2009 A/B	0.5	FA	
Jazz Dance 1 A/B	ART2011 A/B	0.5	FA	
Jazz Dance 2 A/B	ART2012 A/B	0.5	FA CM-AL	*Jazz Dance 1 A/B*
Jazz Dance 3 A/B	ART2013 A/B	0.5	FA CM-AL	*Jazz Dance 2 A/B*
Modern Dance A/B	ART2005 A/B	0.5	FA CM-AL	
Tap Dance 1 A/B	ART2006 A/B	0.5	FA	



DANCE

Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/5* for course descriptions

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
Adv Tap Dance 2 A/B	ART2007 A/B	0.5	FA CM-AL	*Tap Dance 1 A/B*
Adv Tap Dance 3 A/B	ART2008 A/B	0.5	FA CM-AL	*Adv. Dance 2 A/B*

MEDIA ARTS

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
Production & Performance A/B	ART2108 A/B	0.5	FA	

GENERAL MUSIC

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
Piano, HS 1 A/B	ART2071 A/B	0.5	FA	
Piano, HS 2 A/B	ART2072 A/B	0.5	FA CM-AL	*Piano, HS 1 A/B or permission of the instructor based on an audition*
Piano, HS 3 A/B	ART2073 A/B	0.5	FA CM-AL	*Piano, HS 2 A/B or permission of the instructor based on an audition*
Piano, HS 4 A/B	ART2074 A/B	0.5	FA CM-AL	*Piano, HS 3 A/B or permission of the instructor based on an audition*
Music Theory and Composition A/B	ART2075 A/B	0.5	FA	
Music Theory and Composition, AP	ART2076 A/B	0.5	FA CM-AP	*Permission of the instructor based on previous musical experience.*
Music Perspectives A/B	ART2078 A/B	0.5	FA CM-AL	
Guitar, HS 1 A/B	ART2082 A/B	0.5	FA	
Guitar, HS 2 A/B	ART2083 A/B	0.5	FA CM-AL	*Guitar, HS 1 A/B or permission of the instructor based on an audition*
Guitar, HS 3 A/B	ART2080 A/B	0.5	FA CM-AL	*Guitar, HS 2 A/B or permission of the instructor based on an audition*
Guitar, HS 4 A/B	ART2081 A/B	0.5	FA CM-AL	*Guitar, HS 3 A/B or permission of the instructor based on an audition*
Music Technology A/B	ART2084 A/B	0.5	FA	

CHORAL MUSIC

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
Chorus, HS 1 A/B	ART2087 A/B	0.5	FA	
Chorus, HS 2 A/B	ART2088 A/B	0.5	FA CM-AL	*Chorus, HS 1 A/B or permission of the instructor based on an audition, experience in previous ensembles and the need for a balanced ensemble.*
Chorus, HS 3 A/B	ART2089 A/B	0.5	FA CM-AL	*Chorus, HS 2 A/B or permission of the instructor based on an audition, experience in previous ensembles and the need for a balanced ensemble.*
Choir, Chamber A/B	ART2090 A/B	0.5	FA CM-AL	*Permission of the instructor based on an audition, experience in previous ensembles and the need for a balanced ensemble.*
Choir, Show A/B	ART2091 A/B	0.5	FA CM-AL	*Permission of the instructor based on an audition, experience in previous ensembles and the need for a balanced ensemble.*

INSTRUMENTAL MUSIC				
COURSE TITLE	**COURSE CODE**	**COURSE CREDIT BY SEMESTER**	**COURSE INFO**	**PREREQUISITES**
Beginning Band A/B	ART2092 A/B	0.5	FA	
Concert Band A/B	ART2093 A/B	0.5	FA	*MS Band 3 OR Beginning Band A/B OR based on an audition, experience in previous ensembles and instrumentation needs, OR permission of instructor based on audition.*
Symphonic Band A/B	ART2094 A/B	0.5	FA CM-AL	*Concert Band A/B OR based on an audition, experience in previous ensembles and instrumentation needs, OR permission of instructor based on audition.*
Wind Ensemble A/B	ART2154 A/B	0.5	FA CM-AL	*Symphonic Band A/B OR based on an audition, experience in previous ensembles and instrumentation needs, OR permission of instructor based on audition.*
Beginning Orchestra A/B	ART2096 A/B	0.5	FA	
Concert Orchestra A/B	ART2097 A/B	0.5	FA	*MS Orchestra 3 OR Beginning Orchestra A/B OR based on an audition, experience in previous ensembles and instrumentation needs, OR permission of instructor based on audition.*
Symphonic Orchestra A/B	ART2099 A/B	0.5	FA CM-AL	*Concert Orchestra A/B OR based on an audition, experience in previous ensembles and instrumentation needs, OR permission of instructor based on audition.*
Philharmonic Orchestra A/B	ART2155 A/B	0.5	FA CM-AL	*Symphonic Orchestra A/B OR based on an audition, experience in previous ensembles and instrumentation needs, OR permission of instructor based on audition.*
Jazz Lab Band A/B	ART2150 A/B	0.5	FA	*Concert Band A/B, OR Concert Orchestra A/B, OR based on an audition, experience in previous ensembles and instrumentation needs, OR permission of instructor based on audition.*
Jazz Ensemble A/B	ART2100 A/B	0.5	FA CM-AL	*Based on an audition, experience in previous ensembles and the need for a balanced ensemble.*
Color Guard	ART2177	0.5	FA	

THEATRE				
COURSE TITLE	**COURSE CODE**	**COURSE CREDIT BY SEMESTER**	**COURSE INFO**	**PREREQUISITES**
Theatre 1 A/B	ART2106 A/B	0.5	FA	
Theatre 2 A/B	ART2107 A/B	0.5	FA CM-AL	*Theatre 1 A/B, or permission of the instructor*
Stage Design A/B	ART2104 A/B	0.5	FA CM-AL	*Theatre 1 A/B, or permission of the instructor*
Musical Theatre A/B	ART2101 A/B	0.5	FA CM-AL	*Theatre 1 A/B, or permission of the instructor*
Advanced Acting A/B	ART2103 A/B	0.5	FA CM-AL	*Theatre 2 A/B, Stage Design A/B, Musical Theatre A/B, or permission of the instructor*
Play Directing A/B	ART2105 A/B	0.5	FA CM-AL	*Theatre 2 A/B, Stage Design A/B, Musical Theatre A/B, or permission of the instructor*

VISUAL ARTS				
COURSE TITLE	**COURSE CODE**	**COURSE CREDIT BY SEMESTER**	**COURSE INFO**	**PREREQUISITES**
Art History A/B	ART2052 A/B	0.5	FA	
Foundations of Art & Culture A/B	ART2001 A/B	1.0	FA	
Advanced Contemporary & Mixed Media 2	ART2020	0.5	FA CM-AL	*1.0 credit in Visual Art*
Advanced Animation 2 A/B	ART2061 A/B	0.5	FA CM-AL	*1.0 credit in Studio or Digital Art*
2–D STUDIO ART				
2-D Studio Art 1 A/B	ART2042 A/B	0.5	FA	
2-D Studio Art 2 A/B	ART2031 A/B	0.5	FA CM-AL	*2-D Studio Art 1 A/B*
Advanced Drawing 2	ART2019 A/B	0.5	FA CM-AL	*2-D Studio Art 1 A/B*
Advanced Painting 2 A/B	ART2043 A/B	0.5	FA CM-AL	*2-D Studio Art 1 A/B*
Advanced Printmaking 2 A/B	ART2044 A/B	0.5	FA CM-AL	*2-D Studio Art 1 A/B*
2-D Studio Art 3 A/B	ART2032 A/B	0.5	FA CM-AL	*2.0 credits in 2-D Studio Art Pathway*
2-D Studio Art 4 A/B	ART2033 A/B	0.5	FA CM-AL	*Advanced 2-D Studio Art 3 A/B*
CERAMICS & SCULPTURE				
Ceramics/Sculpture 1 A/B	ART2045 A/B	0.5	FA	
Ceramics/Sculpture 2 A/B	ART2046 A/B	0.5	FA CM-AL	*Ceramics/Sculpture 1 A/B*
Ceramics/Sculpture 3 A/B	ART2047 A/B	0.5	FA CM-AL	*Advanced Ceramics/Sculpture 2 A/B*
Ceramics/Sculpture 4 A/B	ART2048 A/B	0.5	FA CM-AL	*Advanced Ceramics/Sculpture 3 A/B*
DIGITAL ART				
Digital Art 1 A/B	ART2069 A/B	0.5	FA	
Digital Art 2 A/B	ART2070 A/B	0.5	FA CM-AL	*Digital Art 1 A/B*
Digital Art 3 A/B	ART2059 A/B	0.5	FA CM-AL	*Digital Art 2 A/B or Animation A/B*
Digital Art 4 A/B	ART2060 A/B	0.5	FA CM-AL	*Advanced Digital Art 3 A/B*
FUNCTIONAL FINE ART & CRAFT				
Functional Fine Art & Craft 1 A/B	ART2053 A/B	0.5	FA	
Functional Fine Art & Craft 2 A/B	ART2049 A/B	0.5	FA CM-AL	*Functional Fine Art & Craft 1 A/B*
Graphic Art & Design 1 A/B	ART2050 A/B	0.5	FA	
Graphic Art & Design 2 A/B	ART2051 A/B	0.5	FA CM-AL	*Graphic Art & Design 1 A/B*
Fashion Illustration 1 A/B	ART2022 A/B	0.5	FA	
Fashion Illustration 2 A/B	ART2030 A/B	0.5	FA CM-AL	*Fashion Illustration 1 A/B*
Fashion Production 1 A/B	ART2023 A/B	0.5	FA	
Fashion Production 2 A/B	ART2024 A/B	0.5	FA CM-AL	*Fashion Production 1 A/B*
Fashion Production 3 A/B	ART2151 A/B	0.5	FA CM-AL	*Fashion Production 2 A/B*
Fashion Production 4 A/B	ART2152 A/B	0.5	FA CM-AL	*Advanced Fashion Production 3 A/B*
PHOTOGRAPHY				
Darkroom Photography A/B	ART2037 A/B	0.5	FA	
Photography 1 A/B	ART2038 A/B	0.5	FA	
Photography 2 A/B	ART2039 A/B	0.5	FA CM-AL	*Photography 1 A/B or Darkroom Photography A/B*
Photography 3 A/B	ART2034 A/B	0.5	FA CM-AL	*Advanced Photography 2 A/B*
Photography 4 A/B	ART2035 A/B	0.5	FA CM-AL	*Advanced Photography 3 A/B*
ADVANCED PLACEMENT				

VISUAL ARTS				
COURSE TITLE	**COURSE CODE**	**COURSE CREDIT BY SEMESTER**	**COURSE INFO**	**PREREQUISITES**
AP Drawing A/B	ART2062 A/B	0.5	FA CM-AP	*3.0 credits in Studio Art or Digital Art*
AP Drawing A/B DP	ART2063 A/B	0.5	FA CM-AP	*3.0 credits in Studio Art or Digital Art*
AP Art History A/B	ART2054 A/B	0.5	FA CM-AP	
AP 2D Art & Design A/B	ART2064 A/B	0.5	FA CM-AP	*2.0 credits in Studio Art or Digital Art*
AP 2D Art & Design DP	ART2065	1.0	FA CM-AP	*2.0 credits in Studio Art or Digital Art*
AP 3D Art & Design A/B	ART2066 A/B	0.5	FA CM-AP	*2.0 credits in Ceramics/Sculpture or Functional Fine Art & Craft*
AP 3D Art & Design DP	ART2067	1.0	FA CM-AP	*2.0 credits in Ceramics/Sculpture or Functional Fine Art & Craft*
AP Photography A/B	ART2040 A/B	0.5	FA CM-AP	*Advanced Photography 2 A/B*
AP Photography A/B DP	ART2041 A/B	1.0	FA CM-AP	*Advanced Photography 2 A/B*
VISUAL ART CENTER (VAC)				
Visual Art Center 1 A/B	ART2068 A/B	0.5	FA CM	
Visual Arts Center 2 A/B	ART2055 A/B	0.5	FA CM	
AP Visual Art Center 3 A/B DP	ART2056 A/B	1.0	FA CM	
AP Visual Art Center 4 A/B DP	ART2057 A/B	1.0	FA CM	
AP Visual Art Center 4 A/B TP	ART2058 A/B	1.5	FA CM-AL	

INTERNATIONAL BACCALAUREATE (IB) FINE ARTS COURSES *Offered at:* **Albert Einstein HS, Bethesda-Chevy Chase HS, John F. Kennedy HS, Richard Montgomery HS, Rockville HS, Seneca Valley HS, Springbrook HS, Watkins Mill HS**				
COURSE TITLE	**COURSE CODE**	**COURSE CREDIT BY SEMESTER**	**COURSE INFO**	**PREREQUISITES**
IB Advanced Music 1 A/B	ART2079 A/B	0.5	FA CM-IB	*Permission of the instructor based on previous musical experience.*
IB Advanced Music 2 A/B	ART2128 A/B	0.5	FA CM-IB	*Permission of the instructor based on previous musical experience.*
IB Dance 1 A/B	ART2124 A/B	0.5	FA CM-IB	*Dance as a Fine Art*
IB Dance 2 A/B	ART2125 A/B	0.5	FA CM-IB	*IB Dance 1 A/B*
IB Film Studies 1 A/B	ART2110	0.5	FA CM-IB	
IB Film Studies 2 A/B	ART2111	0.5	FA CM-IB	*IB Film Studies 1 A/B*
IB Theatre 1 A/B	ART2126 A/B	0.5	FA CM-IB	*Theatre 2, Stage Design, Musical Theatre, or permission of the instructor*
IB Theatre 2 A/B	ART2127 A/B	0.5	FA CM-IB	*IB Theatre 1 A/B*
IB Art Design 1 A/B	ART2018 A/B	0.5	FA CM-IB	*1.0 credit in Visual Arts*
IB Art Design 2 A/B	ART2021 A/B	0.5	FA CM-IB	*IB Visual Arts 1 A/B*

Additional Visual & Performing Arts may be found as part local, countywide, or regional programs:

- The Visual Art Center (VAC) at Albert Einstein High School *www.montgomeryschoolsmd.org/schools/vac/*.
- Montgomery College Ensembles Partnership Program

Health Education/Physical Education

Health Education

***One credit in Health Education is required for graduation. HPE2047 A/B satisfies the one credit health education requirement.**

Health education provides students with the knowledge and skills necessary to help them make healthful decisions—both now and in the future. Through the implementation of an effective, comprehensive health education instructional program, students will develop the life skills to enhance their potential for academic success and healthier, happier, and more productive lives. Knowledge of accurate health information is essential. Practicing health-related skills in real-life situations and developing healthful behaviors are the ultimate goals of the program. Health Education aligns with Be Well 365 by emphasizing lifelong positive health-related attitudes and behaviors that promote self-reliance and self-regulation for all students.

HEALTH EDUCATION COURSES
Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/225* for course descriptions.

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
Health Education, Honors A	HPE2047A	0.5	CM-H	
Health Education, Honors B	HPE2047B	0.5	CM-H 5 SSL	*Health Education, Honors A*
Family Life and Human Development*	HPE2029	0.5		*Health Education, Honors A and B*
Human Behavior*	HPE2030	0.5	NCAA	*Health Education, Honors A and B*
First Aid*	HPE2034	0.5		*Health Education, Honors A and B*

Physical Education

One credit in Physical Education is required for graduation: Courses that satisfy these requirements are described below.

High School Physical Education promotes life-long wellness and prepares students for a physically active lifestyle. The students will extend skills and knowledge developed in middle school, but with a more concentrated focus on planning and implementing lifetime physical activity goals. The instruction is centered on mastery of self-improvement, provides students with choices and deemphasizes competition and peer comparisons. Integration of technology in to the grade-level outcomes enhances the experience of students. As students move toward career readiness the physical education program prepares them by ensuring they can set personal physical fitness and physical activity goals. Physical Education aligns with Be Well 365 by emphasizing problem-solving, decision-making, goal -setting, and relationship building skills.

PHYSICAL EDUCATION COURSES
Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/225* for course descriptions.

COURSE TITLE	COURSE CODE
Foundations of Personal Fitness and Sport	HPE2004
Leadership Opportunities in Physical Education	HPE 2003

Concentrated Physical Education (CPE)

These semester-long courses include instruction in two-three week units focused on personal improvement in a game category. The outcomes of these courses promote refinement of life skills such as self-management, problem-solving, and communication. Each course offers opportunities for student growth in health-enhancing fitness activities, movement skills and concepts, and personal and social responsibility as they relate to the CPE course that is selected. As an extension of Foundations of Personal Fitness and Sport, students will apply the knowledge of components and principles of health and skill-related fitness when creating a personal fitness plan directly related to the CPE activity selected. CPE courses are all one semester, 0.5 credit courses, as listed in the course table below. Check with your school for which classes are available.

CONCENTRATED PHYSICAL EDUCATION (CPE) COURSES
Prerequisite: *Foundation of Personal Fitness and Sport*

COURSE TITLE	COURSE CODE
CPE—Net Sports	HPE2011
CPE—Team Sports	HPE2012
CPE—Individual Sport	HPE2009
CPE—Lifetime Sport	HPE2010

Specialty Physical Education (SPE)

These semester-long courses offer in-depth instruction and planning for lifetime activity and fitness by applying and refining skills and concepts learned at the middle school level. Students will enjoy new lessons and application of skills in small-sided games and practice planning. Students

will be able to apply the knowledge acquired in early years and be able to develop personal fitness plans through analysis of health-and skill-related fitness skills and concepts. Students will have opportunities to apply movement skills to advanced tactics and concepts of the chosen activity. Students will be given leadership roles as an opportunity for growth in personal and social responsibility. As an extension of Foundations of Personal Fitness and Sport, students will apply their knowledge of components and principles of health and skill-related fitness when creating a personal fitness plan. Students will deepen their understanding of personal fitness plans and goal setting as they apply directly to the SPE activity selected.

SPE courses are all one semester, 0.5 credit courses, as listed in the course table below. Check with your school for which classes are available.

SPECIALTY PHYSICAL EDUCATION (SPE) COURSES **Prerequisite:** *Foundation of Personal Fitness and Sport*	
COURSE TITLE	**COURSE CODE**
SPE—Athletic Guidance and Training	HPE2014
SPE—Basketball	HPE2016
SPE—Dance	HPE2017
SPE—Floor/Street Hockey	HPE2018
SPE—Fitness	HPE2019
SPE—Flag Football	HPE2020
SPE—Lacrosse	HPE2021
SPE—Soccer	HPE2022
SPE—Ultimate	HPE2024
SPE—Volleyball	HPE2025
SPE—Weight/Strength Training & Conditioning	HPE2026
SPE—Yoga/Stretching	HPE2028



Interdisciplinary and Research Courses

Interdisciplinary and Research Courses are academic courses that provide students with a combination of academic and practical skills. The emphasis is on research and thinking skills as a culminating course that allows students to apply and take the skills to transfer and apply in a range of situations.

INTERNATIONAL BACCALAUREATE (IB) COURSES

Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/92* for course descriptions

Offered at: Albert Einstein HS, Bethesda-Chevy Chase HS, John F. Kennedy HS, Richard Montgomery HS, Rockville HS, Seneca Valley HS, Springbrook HS, Watkins Mill HS

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
IB Personal and Professional Skills 1 A/B	ITR 2002 A/B	0.5	CM-IB CDP	*For IB Career Programme Candidate Students only*
IB Personal and Professional Skills 2 A/B	ITR 2002 C/D	0.5	CM-IB	*For IB Career Programme Candidate Students only*
IB Theory of Knowledge 1 A/B	SOC2015	0.5	CM-IB NCAA	*For IB Diploma Programme Candidate students only*
IB Theory of Knowledge 2 A/B	SOC2016	0.5	CM-IB NCAA	*For IB Diploma Programme Candidate students only*

ADVANCED PLACEMENT (AP) CAPSTONE PROGRAM COURSES

Offered at: Blake HS, Churchill HS, Damascus HS, Northwest HS, Poolesville HS, Walter Johnson HS, Wheaton HS, Wootton HS

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
AP Seminar A/B	NSS2023 A/B	0.5	CM-AP
AP Research A/B	NSS2024 A/B	0.5	CM-AP

BLAIR AND POOLESVILLE MAGNET COURSES

Offered at: Montgomery Blair HS, Poolesville HS

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
Research and Experimentation for Problem Solving 1 A/B	TEC2009 A/B	0.5	CM-AL
Research and Experimentation for Problem Solving 2 A/B	TEC2010 A/B	0.5	CM-AL
Research Design	TEC2011	0.5	CM-AL
Research and Experimentation: Engineering for Problem Solving	ENR2001	0.5	CM-AL
Research Project A/B	ENR2004 A/B	0.5	CM-AL
Guided Research A/B	ENR2002 A/B	0.5	CM-AL



Mathematics

In the 21st century, a deep understanding of mathematics, and the ability to apply that understanding, is more important than it has ever been. In Montgomery County Public Schools (MCPS), students develop a deep understanding of mathematics by building a strong foundation of number sense at the elementary level before moving to more advanced content. MCPS believes that the course options available to students will prepare them for success in college and careers. Through opportunities to accelerate course offerings in grades 6-12, students are able to reach Advanced Placement courses, such as AP Calculus, or AP Statistics, by twelfth grade, regardless of the grade level for which they successfully completed Algebra 1. New minimum qualifications for admission to University System of Maryland colleges and universities include completion of Algebra 2 or a significant mathematics course with advanced content during senior year. The College and Career Readiness Act of 2013 established the statutory language found in Maryland Education Code Annotated 7-205.1. This statute established that "Beginning with students entering the 9th grade class of school year 2014–2015, each student shall enroll in a mathematics course in each year of high school that the student attends, up to a maximum of 4 years of attendance, unless in the 5th or 6th year a mathematics course is needed to meet a graduation requirement."

Four credits in mathematics, including 1 credit in algebra and 1 credit in geometry, are required for graduation. MSDE further specifies that students must earn credits in mathematics courses, including one with instruction in algebra aligned with the MCAP for algebra or one or more credits in subsequent mathematics courses for which Algebra I is a prerequisite; and one with instruction in geometry, aligned with the content standards for geometry.

Students must enroll in a mathematics-based course for each year they attend high school, up to a maximum of four years of attendance, unless in the fifth or sixth year a mathematics course is needed to meet a graduation requirement. This is required by MSDE, as well as by many colleges and universities to which MCPS students may want to apply. Students are advised to consult with their academic advisors/counselors to ensure they meet all mathematics graduation requirements, and to examine carefully any additional admission requirements that may be in effect at a prospective postsecondary school of interest.

MATHEMATICS COURSES
Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/234* for course descriptions

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES/COREQUISITES
Algebra 1 A/B	MAT2000 A/B	0.5	NCAA	
Related Mathematics A/B	MAT2001 A/B	0.5		**Corequisite:** *Algebra 1 A/B*
Geometry A/B	MAT2003 A/B	0.5	NCAA	
Geometry, Honors A/B	MAT2004 A/B	0.5	CM-H NCAA	
2 YR Algebra 2 A/B	MAT2015 A/B	0.5	CM NCAA*	*Algebra 1 A/B and Geo A/B or Honors Geo A/B*
2 YR Algebra 2 C/D	MAT2016 C/D	0.5	CM NCAA*	*2 YR Algebra 2 A/B or Algebra 2 A*
Algebra 2 A/B	MAT2011 A/B	0.5	CM NCAA	*Algebra 1 A/B and/or Geometry A/B*
Algebra 2, Honors A/B	MAT2012 A/B	0.5	CM-H NCAA	*Algebra 1 A/B and Geometry A/B or Honors Geometry A/B*
Statistics and Math Modeling (SAMM) A/B	MAT2044 A/B	0.5	CM NCAA	*Algebra 2 A/B or Honors Algebra 2 A/B*
Statistics, Honors A/B	MAT2046 A/B	0.5	CM-H NCAA	*Algebra 2 A/B or Honors Algebra 2 A/B*
AP Statistics, A/B	MAT2068 A/B	0.5	CM-AP NCAA	*Algebra 2 A/B or Honors Algebra 2 A/B*
Financial Mathematics A/B	MAT2034 A/B	0.5	NCAA 5 SSL	*Algebra 2 A/B or Honors Algebra 2 A/B*
Precalculus A/B	MAT2031 A/B	0.5	CM-AL NCAA	*Algebra 2 A/B or Honors Algebra 2 A/B*
Precalculus, Honors A/B	MAT2048 A/B	0.5	CM-H NCAA	*Algebra 2 A/B or Honors Algebra 2 A/B*
AP Precalculus, A/B	MAT2033 A/B	0.5	CM-AP NCAA	*Algebra 2 A/B or Honors Algebra 2 A/B*
Calculus with Applications A/B	MAT2049 A/B	0.5	CM-AL NCAA	*Precalculus A/B or Honors Precalculus A/B*
AP Calculus AB, A/B	MAT2040 A/B	0.5	CM-AP NCAA	*Precalculus A/B or Honors Precalculus A/B*
AP Calculus BC, A/B	MAT2041 A/B	0.5	CM-AP NCAA	*Honors Precalculus A/B*
Multivariable Calculus and Differential Equations A/B	MAT2038 A/B	0.5	CM-AL NCAA	*AP Calculus BC, A/B or Magnet Analysis 1 A/B*
Mathematical Approaches to Problem-Solving Tier 1 A/B	MAT2086 A/B	0.5	Tier 1 Math SLIFE Students Only	
Mathematical Approaches to Problem-Solving Tier 2 A/B	MAT2026 A/B	0.5	Tier 2 Math SLIFE Students Only	

*NCAA counts one year of 2 YR Algebra 2 as 0.5 credit

INTERNATIONAL BACCALAUREATE (IB) MATHEMATICS COURSES

Offered at: **Bethesda-Chevy Chase HS, Albert Einstein HS, John F. Kennedy HS, Richard Montgomery HS, Rockville HS, Seneca Valley HS, Springbrook HS, Watkins Mill HS**

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
IB Analysis Statistics/Calculus SL 1A/B	MAT2061 A/B	0.5	CM-IB NCAA	*Algebra 2 A/B and Geometry A/B or Honors Geometry A/B*
IB Analysis Statistics/Calculus HL 1A/B	MAT2063 A/B	0.5	CM-IB NCAA	*Algebra 2 A/B or Honors Algebra 2 A/B*
IB Analysis Statistics/Calculus SL 2A/B	MAT2062 A/B	0.5	CM-IB NCAA	*IB Analysis Statistics/Calculus SL 1A/B*
IB Analysis Statistics/Calculus HL 2A/B	MAT2064 A/B	0.5	CM-IB NCAA	*IB Analysis Statistics/Calculus HL 1A/B*
IB Applications Statistics/ Calculus SL 1A/B	MAT2081 A/B	0.5	CM-IB NCAA	*Algebra 2 A/B and Geometry A/B or Honors Geometry A/B*
IB Applications Statistics/ Calculus HL 1 A/B	MAT2083 A/B	0.5	CM-IB NCAA	*Algebra 2 A/B or Honors Algebra 2 A/B*
IB Applications Statistics/ Calculus SL 2 A/B	MAT2082 A/B	0.5	CM-IB NCAA	*IB Application Statistics/Calculus SL 1A/B*
IB Applications Statistics/ Calculus HL 2 A/B	MAT2084 A/B	0.5	CM-IB NCAA	*IB Application Statistics/Calculus HL 1A/B*

BLAIR AND POOLESVILLE MAGNET COURSES

Offered at: **Montgomery Blair HS, Poolesville HS**

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
Magnet Geometry A/B	MAT2008 A/B	0.5	CM-AL NCAA	*Algebra 1 A/B*
Magnet Precalculus A/B	MAT2029 A/B	0.5	CM-AL NCAA	*Magnet Geometry A/B or Honors Geometry A/B*
Magnet Precalculus C/D	MAT2030 C/D	0.5	CM-AL NCAA	*Magnet Precalculus A/B*
Magnet Functions A/B	MAT2036 A/B	0.5	CM-AL NCAA	*Magnet Geometry A/B or Honors Geometry A/B*
Magnet Analysis 1 A/B	MAT2037 A/B	0.5	CM-AL NCAA	*Magnet Precalculus C or Magnet Functions B*
Applied Statistics	MAT2039	0.5	CM-AL NCAA	*Magnet Analysis 1 A/B or AP BC Calculus A/B*
Discrete Mathematics	MAT2053	0.5	CM-AL NCAA	*Magnet Precalculus A/B/C/(D) or Magnet Functions A/B and Analysis of Algorithms or AP Computer Science*
Linear Algebra	MAT2054	0.5	CM-AL NCAA	*Magnet Analysis I A/B or AP BC Calculus A/B*
Complex Analysis	MAT2055	0.5	CM-AL NCAA	*Multivariable Calculus & Differential Equations*
Vector Calculus A/B	MAT2050 A/B	0.5	CM-AL NCAA	*Magnet Analysis I A/B*

Additional information may be found at

- Math, Science, and Computer Science Program at Montgomery Blair and Poolesville high schools

Science

3 Next Generation Science Standards (NGSS) credits, including life science aligned to the Life Science Maryland Integrated Science Assessment (LS MISA), physical science and one credit in Earth/space science or an NGSS course with the topics of Earth/space science integrated. Courses that satisfy those requirements are listed below.

The goal of the science program is for all students to achieve full scientific literacy through standards-aligned, problem-based instruction. Students apply content knowledge through scientific and engineering practices to solve relevant, non-routine problems. For high school graduation, each student must earn a minimum of 3 credits in science courses that are aligned to the Maryland Science Standards (Next Generation Science Standards) and approved for graduation credit. In selecting courses to meet the 3-credit requirement, students should seek a broad array of learning experiences that include experiences in each of the major disciplines of science.

Life Science [1,2]	• Biology A and B (Honors, AP, or IB)	
Physical Science[2] **or Integrated**	• Chemistry[3] A and B (Honors, AP, or IB) • Physics[3] A and B (Honors, AP, or IB)	• Astronomy with Physics[3] A and B • IB Sports Exercise and Health Science
Earth/Space Science[2] **or Integrated**	• Chemistry[3] A and B (Honors, AP, or IB) • Physics[3] A and B (Honors, AP, or IB) • Astronomy with Physics[3] A and B • AP Biology[3]	• AP Environmental Science A and B • IB Environmental Systems A and B • Earth Systems and Sustainability[4] A and B • IB Biology

[1]Beginning with the 2023–2024 school year, the Maryland Comprehensive Assessment for science and government will count as 20 percent of first time 9th graders final grade in the respective high school level science and government courses (Biology and NSL Government).
[2]Students in high school science magnet programs may complete these graduation requirements in NGSS-aligned, graduation credit approved magnet courses not listed in this course catalog. Consult your school course catalog for details.
[3]A single course may only be applied to fulfill a single disciplinary category as described in COMAR. Chemistry, Physics and Astronomy with Physics integrate physical science and Earth/space science disciplinary core ideas; completion of the course may fulfill either the physical science OR Earth/space science credit, not both.

ALTERNATIVE TO DISSECTION

Dissection is one of many instructional methods that may be used in laboratory science courses. Students/parents/guardians may request alternatives to dissection from the teacher. Alternatives may include such materials as videos, computer programs, models, charts, diagrams, and textbook overlays.

SCIENCE COURSES

Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/182* for course descriptions

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES/COREQUISITES
NGSS GRADUATION CREDIT APPROVED COURSES				
Astronomy with Physics A/B (NGSS)	SCI5085 A/B	0.5	NCAA	**Corequisite:** *Geometry A/B*
Biology A/B (NGSS)	SCI2000 A/B	0.5	NCAA	
Honors Biology A/B (NGSS)	SCI2001 A/B	0.5	CM-H NCAA	
Honors Biology A/B DP (NGSS)	SCI2108	1.0	CM-H NCAA	
AP Biology A/B (NGSS)	SCI2040 A/B	0.5	CM-AP NCAA	*Biology A/B* **Corequisite:** *Chemistry A/B*
AP Biology A/B (DP) (NGSS)	SCI2041 A/B	1.0	CM-AP NCAA	*Biology A/B* **Corequisite:** *Chemistry A/B*
Chemistry A/B (NGSS)	SCI2003 A/B	0.5	NCAA	*Algebra 1* **Corequisite:** *Geometry A/B*
Honors Chemistry A/B (NGSS)	SCI2004 A/B	0.5	CM-H NCAA	*Algebra 1 or Geometry A/B or Honors* **Corequisite:** *Algebra 1 or Geometry A/B or Honors*
Honors Chemistry A/B DP (NGSS)	SCI2107	1.0	CM-H NCAA	*Algebra 1 or Geometry A/B or Honors* **Corequisite:** *Algebra 1 or Geometry A/B or Honors*
AP Chemistry A/B (NGSS)	SCI2057 A/B	0.5	CM-AP NCAA	*Chemistry A/B* **Corequisite:** *Algebra 2 A/B*
AP Chemistry A/B (DP) (NGSS)	SCI2059 A/B	1.0	CM-AP NCAA	*Chemistry A/B and Algebra 2 A/B*
Earth Systems and Sustainability A/B* (NGSS)	SCI2110 A/B	0.5	NCAA	

SCIENCE COURSES

Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/182* for course descriptions

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES/COREQUISITES
AP Environmental Science A/B (NGSS)	SCI2046 A/B	0.5	CM-AP NCAA	*Biology A/B* **Corequisite:** *Chemistry A/B recommended*
Physics A/B (NGSS)	SCI2005 A/B	0.5	NCAA	**Corequisite:** *Geometry A/B*
Honors Physics A/B (NGSS)	SCI2006 A/B	0.5	CM-H NCAA	**Corequisite:** *Geometry A/B*
AP Physics 1 A/B (NGSS)	SCI2072 A/B	0.5	CM-AP NCAA	*Geometry* **Corequisite:** *Algebra 2*
AP Physics 2 A/B (NGSS)	SCI2073 A/B	0.5	CM-AP NCAA	*Physics 1, AP A/B* **Corequisite:** *Precalculus*
AP Physics C (MEM) A/B (NGSS)	SCI2065 A/B	0.5	CM-AP NCAA	*Physics A/B and Precalculus A/B*
AP Physics C (Mech) A/B (NGSS)	SCI2064 A/B	0.5	CM-AP NCAA	*Physics A/B and Precalculus A/B*
AP Physics C (Elec Mag) A/B (NGSS)	SCI2063 A/B	0.5	CM-AP NCAA	*Physics A/B and Precalculus A/B*
SCIENCE ELECTIVES				
Anatomy and Physiology A/B	SCI2060 A/B	0.5	CM-AL NCAA	*Biology A/B* **Corequisite:** *Chemistry A/B*
Astronomy A/B	SCI2068 A/B	0.5	NCAA	**Corequisite:** *Chemistry A/B*
Environmental Science A/B	SCI2047 A/B	0.5	NCAA	*Biology A/B*
Forensic Science A/B	SCI2069 A/B	0.5	CM-AL NCAA	*Biology A/B and Chemistry A/B or Physics A/B*
Horticultural Science A/B	AGB2000 A/B	0.5		*Biology A/B*
Internship, Science A/B	SCI2008 A/B	0.5	CM-AL	
Internship, Science A/B (DP)	SCI2009 A/B	1.0	CM-AL	
Molecular Biology A/B	SCI2045 A/B	0.5	CM-AL NCAA	*Biology A/B* **Corequisite:** *Chemistry A/B*
Nutrition Science A/B	SCI2026 A/B	0.5		*Biology A/B*
Honors Nutrition Science A/B	SCI2027 A/B	0.5	CM-H	*Biology A/B*
Wildlife Biology	SCI2043	0.5	NCAA	*Biology A/B*

INTERNATIONAL BACCALAUREATE (IB) SCIENCE COURSES

Offered at: **Bethesda-Chevy Chase HS, Albert Einstein HS, John F. Kennedy HS, Richard Montgomery HS, Rockville HS, Seneca Valley HS, Springbrook HS, Watkins Mill HS**

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO	PREREQUISITES
NGSS GRADUATION CREDIT APPROVED COURSES				
IB Biology SL 1 A/B (NGSS)	SCI2081 A/B	0.5	CM-IB NCAA	*MCPS/Honors or MCPSPIB Biology, Physics and/or Chemistry*
IB Biology SL 2 A/B (NGSS)	SCI2114 A/B	0.5	CM-IB NCAA	*MCPS/Honors or MCPSPIB Biology, Physics and/or Chemistry*
IB Biology HL 1 A/B (NGSS)	SCI2082 A/B	0.5	CM-IB NCAA	*MCPS/Honors or MCPSPIB Biology, Physics and/or Chemistry*
IB Biology HL 2 A/B (NGSS)	SCI2083 A/B	0.5	CM-IB NCAA	*MCPS/Honors or MCPSPIB Biology, Physics and/or Chemistry*
IB Chemistry SL 1 A/B (NGSS)	SCI2087 A/B	0.5	CM-IB NCAA	*MCPS/Honors or MCPSPIB Biology, Physics and/or Chemistry*
IB Chemistry SL 2 A/B (NGSS)	SCI2089 A/B	0.5	CM-IB NCAA	*MCPS/Honors or MCPSPIB Biology, Physics and/or Chemistry and IB Chemistry SL 1*
IB Chemistry HL 1 A/B (NGSS)	SCI2115 A/B	0.5	CM-IB NCAA	*MCPS/Honors or MCPSPIB Biology, Physics and/or Chemistry*
IB Chemistry HL 2 A/B (NGSS)	SCI2116 A/B	0.5	CM-IB NCAA	*MCPS/Honors or MCPSPIB Biology, Physics and/or Chemistry and IB Chemistry HL 1*
IB Environmental Systems A/B (NGSS)	SCI2090 A/B	0.5	CM-IB NCAA	
IB Physics SL 1 A/B (NGSS)	SCI2096 A/B	0.5	CM-IB NCAA	*MCPS, Honors, or AP Precalculus*
IB Physics SL 2 A/B (NGSS)	SCI2097 A/B	0.5	CM-IB NCAA	*MCPS, Honors, or AP Precalculus and IB Physics SL 1 A/B*
IB Physics HL 1 A/B (NGSS)	SCI2117 A/B	0.5	CM-IB NCAA	*MCPS, Honors, or AP Precalculus*
IB Physics HL 2 A/B (NGSS)	SCI2118 A/B	0.5	CM-IB NCAA	*MCPS, Honors, or AP Precalculus and IB Physics HL 1 A/B*
IB Sports, Health, and Exercise Science A/B (NGSS)	SCI2085 A/B	0.5	CM-IB NCAA	*MCPS/Honors or MCPSPIB Biology and Chemistry*

BLAIR AND POOLESVILLE MAGNET COURSES *Offered at:* Montgomery Blair HS, Poolesville HS				
COURSE TITLE	**COURSE CODE**	**COURSE CREDIT BY SEMESTER**	**COURSE INFO**	**PREREQUISITES**
NGSS GRADUATION CREDIT APPROVED COURSES				
Advanced Science 1, Physics DP (NGSS)	SCI2010	1.0	CM-AL NCAA	*Algebra 1*
Advanced Science 2, Chemistry DP (NGSS)	SCI2011	1.0	CM-AL NCAA	*Advanced Science 1, Physics*
Advanced Science 4, Biology A/B (NGSS)	SCI2013A/B	0.5	CM-AL NCAA	
Advanced Science 4, Biology DP (NGSS)	SCI2015	1.0	CM-AL NCAA	
SCIENCE ELECTIVES				
Advanced Topics in Earth Science A/B	SCI2020A/B	0.5	CM-AL NCAA	*Honors Biology and Chemistry*
Advanced Science 3, Earth Space Systems A/B	SCI2012A/B	0.5	CM-AL NCAA	
Advanced Science 3, Earth/Space Sciences DP	SCI2014	1.0	CM-AL NCAA	
Analytical Chemistry	SCI2018	0.5	CM-AL NCAA	*Advanced Science 2 or AP Chemistry*
Cellular Physiology	SCI2021	0.5	CM-AL NCAA	*Honors Biology and Honors Chemistry*
Entomology	SCI2029	0.5	CM NCAA	*Honors Biology*
Foundations of Immunology	SCI2054	0.5	CM-AL NCAA	*Honors Biology and Honors Chemistry*
Introductory Biological Chemistry	SCI2070	0.5	CM-AL NCAA	*Honors Biology and Honors Chemistry*
Introductory Genetic Analysis A/B	SCI2033 A/B	0.5	CM-AL NCAA	*Honors Biology and Honors Chemistry*
Introductory Physical Chemistry	SCI2036	0.5	CM-AL NCAA	*Advanced Science 2 or AP Chemistry*
Marine Biology	SCI2022	0.5	CM-AL NCAA	*Honors Biology and Honors Chemistry*
Materials Science	SCI2019	0.5	CM-AL NCAA	*Advanced Science 2 or AP Chemistry*
Optics	SCI2016	0.5	CM-AL NCAA	*Advanced Science 1 or Honors or AP Physics and AP Calculus BC or Analysis 1 A*
Organic Chemistry	SCI2037	0.5	CM-AL NCAA	*Honors Chemistry*
Origins of Science	SCI2025	0.5	CM-AL NCAA	
Quantum Physics	SCI2024	0.5	CM-AL NCAA	*Advanced Science 1 or Honors or AP Physics*
Thermodynamics	SCI2017	0.5	CM-AL NCAA	*Advanced Science 1 or Honors or AP Physics*

Additional information may be found at

- Math, Science, and Computer Science Program at Montgomery Blair and Poolesville high schools



Social Studies

Three credits in social studies are required for graduation, including 1 U.S. History credit, 1 National, State, and local Government credit, and 1 World History credit. Courses that satisfy those requirements are listed below.

U.S. History	• United States History A and B • AP United States History A and B
National, State, and Local Government	• National, State, and Local Government A and B • AP United States Government and Politics with NSL A and B
World History	• Modern World History A and B • AP World History • IB History 1 A and B

MCPS students will be engaged in rigorous, accessible, relevant, and inclusive social studies inquiry that utilizes primary sources--including multiple perspectives from historically marginalized voices--to develop their capacity to think critically, read closely, communicate clearly, and take action to improve their community, country, and world.

Students will develop and use the following skills throughout their study of American History, National, State, and Local Government, Modern World History, and elective courses:

- analysis of multiple sources, including primary sources that demonstrate multiple perspectives of historically marginalized voices;
- application of concepts and knowledge of the past to problem-solving real-world issues of the present; and
- communication of social studies concepts and knowledge using a variety of formats, with emphasis on analytic and argumentative writing.

The required social studies courses include state requirements for environmental literacy and financial literacy instruction.

Additional information regarding the MCPS Social Studies program can be found at *www.montgomeryschoolsmd.org/curriculum/socialstudies*.

SOCIAL STUDIES COURSES
Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/209* for course descriptions
A course is a prerequisite for a B course with the same title

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
United States History A/B	SOC2000 A/B	0.5	NCAA
Honors United States History A/	SOC2001 A/B	0.5	CM-H NCAA
AP United States History A/B	SOC2022 A/B	0.5	CM-AP NCAA
National, State, and Local Government A/B	SOC2003 A/B	0.5	NCAA 7 SSL/8 SSL
Honors National, State, and Local Government (NSL) A/B	SOC2004 A/B	0.5	CM-H NCAA 7 SSL/8 SSL
AP US Government and Politics (NSL) A/B	SOC2021 A/B	0.5	CM-AP 7 SSL/8 SSL
Modern World History A/B	SOC2006 A/B	0.5	NCAA
Honors Modern World A/B	SOC2007 A/B	0.5	CM-H NCAA
AP World History: Modern A/B	SOC2047 A/B	0.5	CM-AP NCAA
Asian/Pacific Islander/Desi/American Studies (APIDA)	SOC2094	0.5	NCAA
Comparative Religions	SOC2067	0.5	NCAA
Cultural Anthropology A/B	SOC2062 A/B	0.5	NCAA
Economics	SOC2052	0.5	NCAA
AP Macroeconomics	SOC2064	0.5	CM-AP NCAA
AP Microeconomics	SOC2065	0.5	CM-AP NCAA
Global Issues in the 21st Century A/B	SOC2071 A/B	0.5	NCAA
AP Comparative Government and Politics A/B	SOC2024 A/B	0.5	CM-AP NCAA
History of Africa South of the Sahara	SOC2030	0.5	NCAA
African American History	SOC2019	0.5	NCAA
Ancient and Medieval History	SOC2033	0.5	NCAA
African American History 2	SOC2020	0.5	NCAA
History of Ancient Mediterranean Civilizations	SOC2031	0.5	NCAA
American History Through Film History	SOC2089	0.5	NCAA
East Asian History	SOC2038	0.5	CM NCAA
European History	SOC2034	0.5	CM NCAA
European History A/B	SOC2036 A/B	0.5	CM NCAA

SOCIAL STUDIES COURSES

Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/209* for course descriptions
A course is a prerequisite for a B course with the same title

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
AP African American Studies A/B	SOC2101 A/B	0.5	CM-AP NCAA
AP European History	SOC2037 A/B	0.5	CM-AP NCAA
Hip Hop History and Culture	SOC2035	0.5	NCAA
Latin American History	SOC2028	0.5	NCAA
Medieval European History	SOC2032	0.5	NCAA
Russian History	SOC2029	0.5	NCAA
History of the Middle East	SOC2041	0.5	NCAA
World Military History	SOC2040	0.5	
Holocaust Studies	SOC2095	0.5	NCAA
AP Human Geography A/B	SOC2068 A/B	0.5	CM-AP NCAA
Humanities A/B	SOC2066 A/B	0.5	NCAA
International Human Rights 1	SOC2026	0.5	NCAA
International Human Rights 2	SOC2027	0.5	NCAA
Law 1	SOC2059	0.5	NCAA
Law 2	SOC2060	0.5	NCAA
LGBTQ+ Studies	SOC2087	0.5	NCAA
Model United Nations A/B	SOC2042 A/B	0.5	NCAA
Muslim Global Experiences	SOC2100	0.5	
Personal Finance	SOC2102	0.5	5 SSL
Philosophy	SOC2063	0.5	NCAA
Political Behavior and Psychology	SOC2088	0.5	NCAA
Positive Psychology	SOC2097	0.5	NCAA
Psychology 1/2	SOC2053 SOC2054	0.5	NCAA
AP Psychology A/B	SOC2069 A/B	0.5	CM-AP NCAA
Seminar in Peace Studies	SOC2086	0.5	CM-AL NCAA
Intro to Social Justice	SOC2091	0.5	NCAA
Sociology 1/2	SOC2055 SOC2056	0.5	NCAA
Student Leadership A/B	NSS2005 NSS2006	0.5	
Women's Studies A/B	SOC2051 A/B	0.5	NCAA
Hispanic/Latinx American Studies	SOC2099	0.5	NCAA

INTERNATIONAL BACCALAUREATE (IB) SOCIAL STUDIES COURSES

***Offered at:* Bethesda-Chevy Chase HS, Albert Einstein HS, John F. Kennedy HS, Richard Montgomery HS, Rockville HS, Seneca Valley HS, Springbrook HS, Watkins Mill HS**
A course is a prerequisite for a B course with the same title

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
IB Economics SL A/B	SOC2045 A/B	0.5	CM-IB NCAA
IB Geography SL A/B	SOC2073 A/B	0.5	CM-IB
IB Global Politics SL A/B	SOC2018 A/B	0.5	CM-IB
IB History 1 A/B	SOC2043 A/B	0.5	CM-IB NCAA
IB History Asia and Oceania 2A/B	SOC2109 A/B	0.5	
IB History Africa and Middle East 2A/B	SOC2110 A/B	0.5	
IB History Europe 2A/B	SOC2111 A/B	0.5	
IB History Americas 2A/B	SOC2112 A/B	0.5	
IB Psychology SL A/B	SOC2044 A/B	0.5	CM-IB NCAA

INTERNATIONAL BACCALAUREATE (IB) SOCIAL STUDIES COURSES

Offered at: **Bethesda-Chevy Chase HS, Albert Einstein HS, John F. Kennedy HS, Richard Montgomery HS, Rockville HS, Seneca Valley HS, Springbrook HS, Watkins Mill HS**

A course is a prerequisite for a B course with the same title

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
IB World Religions SL A/B	SOC2050 A/B	0.5	CM-IB
IB Business Management SL A/B	BMF2016 A/B	0.5	CM-IB
IB Philosophy SL A/B	SOC2046 A/B	0.5	CM-AL NCAA
IB Social Anthropology SL A/B	SOC2048 A/B	0.5	CM-AL NCAA

World Languages

Two credits in the same world language, which may include American Sign Language, may be used to complete Option 1 of elective credits required for graduation. If students select a world language to fulfill the Maryland diploma requirements, students must complete 2 credits in the same language.

The goal of the World Languages program is to prepare students to be linguistically and culturally competent in languages other than English. The ability to communicate in a culturally appropriate manner with speakers of other languages is the key to success in the increasingly diverse global community of the 21st century. As students develop proficiency in world languages and an understanding of the underlying values and beliefs of other cultures, they gain the skills that are essential to meaningful communication. World Languages courses must be taken in sequential order. The prerequisite for all courses, except 1A, is either successful completion of the preceding course or a local placement test.

MARYLAND SEAL OF BILITERACY

High school graduates who can function in two or more languages are equipped with the knowledge and skills to participate successfully in college, careers, and a diverse 21st century society. The Maryland Seal of Biliteracy is a diploma endorsement, authorized by Maryland law, that recognizes a student's high level of proficiency in listening, speaking, reading, and writing in one or more languages other than English. To receive a Maryland Seal of Biliteracy, a student must do the following:

- Meet one of the assessment requirements from MSDE's approved list of English Language Arts/Literacy assessments; AND
- Demonstrate Intermediate high proficiency in listening, speaking, reading, and writing in a language other than English, as measured by assessments that are aligned to ACTFL (The American Council on the Teaching of Foreign Languages) proficiency guidelines.

For more information about the approved assessments, please visit the website *https://www.montgomeryschoolsmd.org/curriculum/office/seal-of-biliteracy.aspx*.

WORLD LANGUAGES LEVEL 1

Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/70* for course descriptions

Students begin to learn to communicate orally and in writing in a culturally appropriate manner about topics related to daily life. They interpret basic information when listening and reading. Vocabulary and basic grammatical structures are taught within the context of these familiar topics. Culture is embedded throughout the course.

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
Arabic 1 A/B	WLG2003 A/B	0.5	NCAA
Chinese 1 A/B	WLG2021 A/B	0.5	NCAA
French 1 A/B	WLG2041 A/B	0.5	NCAA
Italian 1 A/B	WLG2071 A/B	0.5	NCAA
Japanese 1 A/B	WLG2081 A/B	0.5	NCAA
Spanish 1 A/B	WLG2131 A/B	0.5	NCAA

WORLD LANGUAGES LEVEL 2

Students expand their ability to communicate orally and in writing in a culturally appropriate manner about topics related to daily life. They interpret information when listening and reading. Vocabulary and grammatical structures are taught within the context of these topics. Culture is embedded throughout the course.

Prerequisite: *Level 1 of the language*

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
Arabic 2 A/B	WLG2012 A/B	0.5	NCAA
Chinese 2 A/B	WLG2022 A/B	0.5	NCAA
French 2 A/B	WLG2042 A/B	0.5	NCAA
Italian 2 A/B	WLG2072 A/B	0.5	NCAA
Japanese 2 A/B	WLG2082 A/B	0.5	NCAA
Spanish 2 A/B	WLG2132 A/B	0.5	NCAA

WORLD LANGUAGES LEVEL 3

Students continue to expand their ability to communicate orally and in writing in a culturally appropriate manner about a variety of familiar topics. They interpret detailed information when listening and reading. Vocabulary and more complex grammatical structures are taught within the context of these topics. Culture is embedded throughout the course.

Prerequisite: *Level 2 of the language*

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
Arabic 3 A/B	WLG2013 A/B	0.5	CM-AL NCAA
Honors Chinese 3 A/B	WLG2028 A/B	0.5	CM-H NCAA
Honors French 3 A/B	WLG2048 A/B	0.5	CM-H NCAA
Honors Italian 3 A/B	WLG2076 A/B	0.5	CM-H NCAA
Honors Japanese 3 A/B	WLG2088 A/B	0.5	CM-H NCAA
Honors Spanish 3 A/B	WLG2138 A/B	0.5	CM-H NCAA

WORLD LANGUAGES LEVEL 4

Students communicate orally and in writing with increased proficiency in a culturally appropriate manner about a range of topics. They interpret detailed and extended information when listening and reading. Vocabulary and complex linguistic structures are taught within the context of these topics. Culture is embedded throughout the course.

Prerequisite: *Level 3 of the language*

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
Honors Chinese 4 A/B	WLG2029 A/B	0.5	CM-H NCAA
Honors French 4 A/B	WLG2049 A/B	0.5	CM-H NCAA
Honors Italian 4 A/B	WLG2077 A/B	0.5	CM-H NCAA
Honors Japanese 4 A/B	WLG2089 A/B	0.5	CM-H NCAA
Honors Spanish 4 A/B	WLG2139 A/B	0.5	CM-H NCAA

WORLD LANGUAGES LEVEL 5

Students continue to increase their proficiency in communicating orally and in writing in a culturally appropriate manner about a broad range of topics. They interpret complex information when listening and reading. Vocabulary and a variety of complex linguistic structures are taught within the context of these topics. Culture is embedded throughout the course.

Prerequisite: *Level 4 of the language*

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
Chinese 5 A/B	WLG2025 A/B	0.5	CM-AL NCAA
French 5 A/B	WLG2045 A/B	0.5	CM-AL NCAA
Italian 5 A/B	WLG2075 A/B	0.5	CM-AL NCAA
Japanese 5 A/B	WLG2085 A/B	0.5	CM-AL NCAA
Spanish 5 A/B	WLG2135 A/B	0.5	CM-AL NCAA

WORLD LANGUAGES LEVEL 6

Students communicate at a high level of proficiency orally and in writing in a culturally appropriate manner about a broad range of topics. They interpret complex information when listening and reading. Vocabulary and a variety of complex linguistic structures are taught within the context of these topics. Culture is embedded throughout the course.

Prerequisite: *Level 5 of the language*

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
Chinese 6 A/B	WLG2026 A/B	0.5	CM-AL NCAA
French 6 A/B	WLG2046 A/B	0.5	CM-AL NCAA
Japanese 6 A/B	WLG2086 A/B	0.5	CM-AL NCAA
Spanish 6 A/B	WLG2136 A/B	0.5	CM-AL NCAA

AP WORLD LANGUAGES

These courses are for world languages students interested in college-level work. The courses link language and culture while developing students' proficiency in speaking, listening, reading, and writing. Students read, discuss, and react to a variety of texts orally and in writing in preparation for the AP examination.

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
AP Chinese Language and Culture A/B	WLG2038 A/B	0.5	CM-AP NCAA
AP French Language and Culture A/B	WLG2057 A/B	0.5	CM-AP NCAA
AP Italian Language and Culture A/B	WLG2078 A/B	0.5	CM-AP NCAA
AP Japanese Language and Culture A/B	WLG2090 A/B	0.5	CM-AP NCAA
AP Spanish Language and Culture A/B	WLG2152 A/B	0.5	CM-AP NCAA
AP Spanish Literature and Culture A/B	WLG2153 A/B	0.5	CM-AP NCAA
AP Latin A/B	WLG2018 A/B	0.5	CM-AP NCAA

SPANISH FOR SPANISH SPEAKERS

Spanish for Spanish Speakers provides language instruction for students with proficiency in Spanish, either because it is their first language or because it is spoken extensively in the home. Each course integrates history, culture, language, and connections related to the Spanish-speaking world.

Spanish for Spanish Speakers 3 A/B is an advanced-level course designed to prepare students for AP Spanish Language or AP Spanish Literature exam.

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
Spanish Literacy 1 A/B	WLG2150 A/B	0.5	
Spanish for Spanish Speakers 1 A/B	WLG2141 A/B	0.5	NCAA
Spanish for Spanish Speakers 2 A/B	WLG2142 A/B	0.5	NCAA
Spanish for Spanish Speakers 3 A/B	WLG2143 A/B	0.5	CM-AL NCAA

LATIN

As students progress through the sequence of Latin courses, they build a foundation of Latin vocabulary and grammar. They study aspects of Roman life and history and the works of major authors such as Cicero, Pliny, Horace, Ovid, Tibullus, or Plautus. In preparation for the AP Latin exam, students translate the Aeneid from Latin into English, analyzing Vergil's style as well as studying the cultural, social, and political context of the literature.

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
Latin 1 A/B	WLG2101 A/B	0.5	NCAA
Latin 2 A/B	WLG2102 A/B	0.5	NCAA
Latin 3 A/B	WLG2103 A/B	0.5	CM-AL NCAA
Honors Latin 3 A/B	WLG2106 A/B	0.5	CM-H NCAA
Latin 4 A/B	WLG2104 A/B	0.5	CM-AL NCAA
Honors Latin 4 A/B	WLG2017 A/B	0.5	CM-H NCAA
AP Latin A/B	WLG2018 A/B	0.5	CM-AP NCAA

AMERICAN SIGN LANGUAGE

Students use American Sign Language to communicate about daily life with basic vocabulary and simple grammatical structures. They explore the cultural and linguistic heritage of the Deaf community and its influence.

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
American Sign Language 1 A/B	WLG2001 A/B	0.5	NCAA
American Sign Language 2 A/B	WLG2002 A/B	0.5	NCAA
American Sign Language 3 A/B	WLG2003 A/B	0.5	CM-AL NCAA
American Sign Language 4 A/B	WLG2004 A/B	0.5	CM-AL NCAA

International Baccalaureate World Languages Courses

Level 2—Students receive intensive training in the basic foundations of the language to develop proficiency in both oral and written expression at the appropriate level. Students master the MCPS Level 2 modern foreign language curriculum and study the literature, culture, and civilization of countries where the target language is spoken.

Level 3—Students develop higher-level language skills and vocabulary needed for increased proficiency in oral and written expression, listening, and reading comprehension. Students master the MCPS Level 3 modern foreign language curriculum; are introduced to literary analysis; and study the literature, culture, history, and current events in countries where the target language is spoken.

Level 4—IB Level 4 foreign language courses comprise the first year of a two-year sequence to prepare students for the standard-level IB foreign language exam. Students strengthen their knowledge and fluency in oral and written language and broaden their understanding of culture and civilization. Composition objectives for specific writing assignments are correlated with the literature, culture, and civilization topics.

Level 5—Students complete their preparation for the standard-level IB foreign language and the Advanced Placement language exams. Emphasis is placed on reading comprehension, interpretation, analysis, and oral proficiency. Students analyze a wide variety of spoken and written materials and life and civilization in pertinent countries.

Level 6—IB Level 6 foreign language courses emphasize the composition of well-constructed extended essays and oral proficiency at the near-native level. Instruction emphasizes critical analysis of the structural and stylistic characteristics of works, increased oral and written proficiency, and continued in-depth study of the life and civilization of pertinent countries. Students are prepared for the higher-level IB exam.

Level 7—Students continue to develop their reading and writing skills in preparation for the IB higher-level language examination.

INTERNATIONAL BACCALAUREATE (IB) WORLD LANGUAGES COURSES
Visit *http://coursecatalog.montgomeryschoolsmd.org/CourseLists/Index/70* for course descriptions

COURSE TITLE	COURSE CODE	COURSE CREDIT BY SEMESTER	COURSE INFO
IB Arabic 3 A/B	WLG2201 A/B	0.5	CM-IB NCAA
IB Arabic 4 A/B	WLG2202 A/B	0.5	CM-IB NCAA
MCPSPIB Chinese 2 A/B	WLG2251 A/B	0.5	CM PREIB NCAA
MCPSPIB Chinese 3 A/B	WLG2252 A/B	0.5	CM PREIB NCAA
IB Chinese 3 A/B	WLG2203 A/B	0.5	CM-IB NCAA
IB Chinese 4 A/B	WLG2204 A/B	0.5	CM-IB NCAA
IB Chinese 5 A/B	WLG2205 A/B	0.5	CM-IB NCAA
IB Chinese 6 A/B	WLG2206 A/B	0.5	CM-IB NCAA
IB Chinese 7 A/B	WLG2207 A/B	0.5	CM-IB NCAA
MCPSPIB French 2 A/B	WLG2257 A/B	0.5	CM PREIB NCAA
MCPSPIB French 3 A/B	WLG2258 A/B	0.5	CM PREIB NCAA
IB French 4 A/B	WLG2208 A/B	0.5	CM-IB NCAA
IB French 5 A/B	WLG2209 A/B	0.5	CM-IB NCAA
IB French 6 A/B	WLG2210 A/B	0.5	CM-IB NCAA
IB French 7 A/B	WLG2211 A/B	0.5	CM-IB NCAA
IB Italian 4 A	WLG2216 A/B	0.5	CM-IB NCAA
IB Italian 5 A/B	WLG2217 A/B	0.5	CM-IB NCAA
IB Italian 6 A/B	WLG2218 A/B	0.5	CM-IB NCAA
IB Japanese 3 A	WLG2220 A/B	0.5	CM-IB NCAA
IB Japanese 4 A	WLG2221 A/B	0.5	CM-IB NCAA
IB Russian 3 A/B	WLG2224 A/B	0.5	CM-IB NCAA
IB Russian 4 A/B	WLG2225 A/B	0.5	CM-IB NCAA
MCPSPIB Spanish 2 A/B	WLG2266 A/B	0.5	CM PREIB NCAA
MCPSPIB Spanish 3 A/B	WLG2267 A/B	0.5	CM PREIB NCAA
IB Spanish 4 A/B	WLG2226 A/B	0.5	CM-IB NCAA
IB Spanish 5 A/B	WLG2227 A/B	0.5	CM-IB NCAA
IB Spanish 6 A/B	WLG2228 A/B	0.5	CM-IB NCAA
IB Spanish 7 A/B	WLG2229 A/B	0.5	CM-IB NCAA

Career READINESS
Get an Early Edge on YOUR FUTURE

Montgomery County Public Schools

Strong academics and real-world professional experiences so students can design their own future and stand out among the best.

WHAT ARE CAREER READINESS PROGRAMS?

Career readiness is an educational approach combining strong academics with technical skills and real-world professional experiences that gives students a competitive advantage for college and lifelong career success.

CAREER READINESS PROGRAMS COMBINE



COLLEGE CREDIT



INDUSTRY RECOGNIZED CREDENTIALS



TWO-YEAR ASSOCIATE'S DEGREE



INTERNSHIPS AND APPRENTICESHIPS

Each MCPS high school offers rigorous programs where students get a head start on reaching their career and college goals.

WHY CAREER READINESS?

MCPS recognizes that as the economy, the cost of college, and the labor market continue to change, a more comprehensive approach in high school is needed to ensure every graduate leaves prepared for their next step.

CAREER READINESS PROGRAMS HELP STUDENTS DESIGN THEIR OWN FUTURE BY

- Offering a combination of both college-level and career readiness courses at no cost.
- Providing relevant work based learning experiences (e.g. internships, apprenticeships) where students learn skills that make them more marketable to employers

STUDENTS WILL LEAVE HIGH SCHOOL WITH MORE OPTIONS AND BETTER EQUIPPED TO NAVIGATE CHANGES THAT INCLUDE

- Growth in IT, engineering, business management, health care, and other high-demand industries
- Higher college costs and more student debt
- More career opportunities for skilled technical workers with some level of postsecondary education

CAREER CLUSTERS

MCPS organizes career programming into 12 Career and Technical Education (CTE) Clusters. These career clusters will help direct you toward focused programs of study with high school plans to help you choose courses that align with your future goals.

- Arts, Media, and Communications
- Business Management and Finance
- Career and Research Development
- Construction and Development
- Consumer Services, Hospitality and Tourism
- Education Training and Child Studies
- Environmental, Agricultural and Natural Resources
- Health and Biosciences
- Information Technology and Computer Science
- Law, Government, Public Safety, and Administration
- Manufacturing, Engineering and Technology
- Transportation, Distribution, and Logistics

Montgomeryschoolsmd.org/Career-Readiness

EGPS • 0277.21

CAREER READINESS PROGRAMS OF STUDY (POS)

The Career Readiness Programs of Study (POS) are designed to prepare high school students for the 21st century global economy and its rapidly changing workforce needs. All programs are aligned to academic and technical skill standards to ensure students are adequately prepared for college and careers. Many POSs provide opportunities for students to earn industry recognized credentials, college credit, and/or work-based learning experience through internships or apprenticeships. MCPS high schools offer an extensive array of POSs for students. These state-approved programs satisfy the career development graduation requirement and are designed to help students acquire the specialized knowledge, skills, attitudes, and work habits required for postsecondary education and employment. Schools that offer specific POSs are included in the following section of the catalog. Schools listed are approved to offer a full POS; however, not all schools will offer all courses every year. For additional information about Career Readiness visit *www.montgomeryschoolsmd.org/career-readiness/*

Completion of a state-approved program of study (POS) may be used to complete Option 2 of elective credits required for graduation.

COLLEGE CREDIT AVAILABLE AT MC FOR MCPS STUDENTS WHO COMPLETE CAREER READINESS PROGRAMS OF STUDY

MCPS graduates who successfully complete select Career Readiness programs of study may earn free college credit after receiving grades of C or higher in courses articulated with Montgomery College (MC). Earned credits may be used toward an associate's degree at MC. For more information regarding the MC articulated credit and related programs of study, students should contact their high school counselor and visit *https://cms.montgomerycollege.edu/CTE/*. MC offers financial aid to help pay fees for qualifying students. Call 301-279-5000 at MC for college-related information, including information from the Financial Aid Office and an application packet. Students may also earn proficiency credit (PC) in select POS via an assessment or portfolio review offered by MC. Through the PC process, the grade earned on the assessment or after the portfolio review may be placed on the MC college transcript and may transfer to four year institutions.

Students are advised that there are additional options for earning college credit while an MCPS student. For more information about these opportunities, visit *www.montgomeryschoolsmd.org/curriculum/partnerships/dual-enrollment.aspx*.

PROGRAMS OF STUDY IN ARTS, MEDIA, AND COMMUNICATIONS

• AUDIOVISUAL COMMUNICATIONS AND BROADCAST TECHNOLOGIES POS

BROADCAST MEDIA POS VIDEO PRODUCTION (4 CREDITS)
Offered at: James Hubert Blake HS, John F. Kennedy HS, Northwood HS, Paint Branch HS, Quince Orchard HS, Winston Churchill HS

The Audiovisual Communications and Broadcast Technologies program prepares individuals to apply technical knowledge and skills to the production of radio, television, and digital media program, and related operations. The program includes instruction in sound, lighting, and camera operation and maintenance; power and feed control; studio operations; production preparation; broadcast engineering; related computer applications; and specialized applications such as news, entertainment, live talk, sports, commercials, and taping. The program comprises a foundation course, two courses focused on a specific specialization in audiovisual communications production, and a final culminating course.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	AMC2007 A/B	**Introduction to Interactive Media A/B**	0.5	
2	AMC2004 A/B	**Video Production A/B**	0.5	
3	AMC2005 A/B	**Electronic Video Field Production A/B**	0.5	
MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS				
4	AMC5120	**Dual Enrollment Arts Media and Communications**	0.5	CM-AL
	AMC2009	**Internship, Arts Media and Communications (1 credit)**	0.5	CM-AL
	AMC2008 A/B	**Guided Research, Arts, Media and Communications**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Adobe Certified Associate Suite (Certiport)
  - » After Effects; Animate
  - » Dreamweaver
  - » Illustrator
  - » InDesign
  - » Photoshop
  - » Premiere Pro
- Montgomery College—4 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/television.aspx*.

• INTERACTIVE MEDIA PRODUCTION POS

INTERACTIVE MEDIA PRODUCTION POS (4 CREDITS)
Offered at: **James Hubert Blake HS, Gaithersburg HS, Quince Orchard HS**

Interactive Media Production (IMP) provides students with a strong foundation in arts and communication, with particular emphasis on design, graphic and media communications, interactive technologies, and project development. Throughout the program, students produce an assortment of three-dimensional models, two-dimensional animations, layered images, streaming media, and web pages. They also will use a variety of software applications to design "apps" and develop video games.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	AMC2007 A/B	**Introduction to Interactive Media A/B**	0.5	
2	AMC2016 A/B	**Game Development A/B**	0.5	
3	AMC2017 A/B	**Advanced Game Development A/B**	0.5	CM-AL
4	AMC2008 A/B	**Guided Research—Arts, Humanities, Media, and Communications A/B**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Adobe Certified Associate Suite (Certiport)
  - » After Effects; Animate
  - » Dreamweaver
  - » Illustrator
  - » InDesign
  - » Photoshop
  - » Premiere Pro
- Unity Certified User Certification (Certiport)
  - » Artist
  - » Programmer
  - » VR Development

- Community College of Baltimore County (CCBC)—12 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/television.aspx*.

• GRAPHIC COMMUNICATIONS POS

GRAPHIC COMMUNICATIONS (6 CREDITS)
Offered at: **Thomas Edison HS of Technology**

Students learn a variety of graphic design, imaging, and print-related skills to provide a foundation for all aspects of the graphic communications industry. Students use the latest in digital imagery, design, and production with computer technology, including advanced photo editing, presentation software, illustration and drawing software, digital video hardware and editing software, and multimedia and web design. Layout, design, and composition activities as well as offset lithographic production and binding techniques, are included in the program.

Students learn processes such as 35 mm continuous tone photography and screen printing of cards, posters, and T-shirts.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	AMC2018 A/B	**Graphic Design & Digital Media TP A/B**	1.5	15 SSL
2	AMC2019 A/B	**Advanced Graphic Design & Applications TP A/B**	1.5	CM-AL 15 SSL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Adobe Certified Associate Suite (Certiport)
  - » After Effects; Animate
  - » Dreamweaver
  - » Illustrator
  - » InDesign
  - » Photoshop
  - » Premiere Pro

- Montgomery College—7 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/printed.aspx*.

PROGRAMS OF STUDY IN BUSINESS MANAGEMENT AND FINANCE

NAF ACADEMY OF FINANCE (4 CREDITS)

Offered at: **Albert Einstein HS, Paint Branch HS, Col. Zadok Magruder HS, Northwest HS**

The NAF Academy of Finance is a national network of education, business, and community leaders who work together to ensure high school students are college, career, and future ready. In this program, students receive intensive coursework in economics, finance, and business principles.

For more information, visit *www.naf.org*.

	REQUIRED COURSEWORK IN THIS SEQUENCE		COURSE CREDIT BY SEMESTER	COURSE INFO
1	BMF2018	**NAF Principles of Finance**	0.5	
2	BMF2006	**Banking and Credit**	0.5	
3	BMF2030 A/B	**NAF Accounting A/B**	0.5	
4	BMF2005	**Financial Planning**	0.5	CM-AL
5	BMF2019	**NAF Applied Finance**	0.5	
	MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS SETS			
6	BMF2080 BMF2079	**AP Macroeconomics BMF** **AP Microeconomics BMF**	0.5 0.5	CM-AL NCAA CM-AL NCAA
	BMF2020 BMF2008	**NAF Entrepreneurship** **International Finance**	0.5 0.5	CM-AL CM-AL
	ADDITIONAL OPPORTUNITIES			
7	BMF2029	**NAF Internship (1 credit needed)**	0.5	

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Quickbooks Certified User Desktop Certification (Intuit); Quickbooks Certified User Online Certification (Intuit)

- Montgomery College—16 credits
- University of Maryland Eastern Shore—6 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/finance.aspx*



• PROGRAMS OF STUDY IN BUSINESS, MANAGEMENT, AND FINANCE

ACCOUNTING AND FINANCE (3–4 CREDITS)

Offered at: **Montgomery Blair HS, Gaithersburg HS, Col. Zadok Magruder HS, Northwest HS**

The Business, Management, and Finance programs of study focus on three pathways. Each program pathway includes rigorous academics, broad industry knowledge and skills, and exposure to careers within the field.

Students in all pathways will be required to take two foundation courses—Principles of Business Management and Entrepreneurship and Principles of Accounting and Finance. All students will learn effective decision-making techniques in financial management, business communication, problem solving, teamwork, and networking skills. Human resource topics such as diversity in the workplace, ethics, employer/employee rights, discrimination, accountability, time management, and setting priorities will be covered.

Upon completion of the two foundation courses, students are required to complete two additional courses in their selected program of study. These include Business Management, Accounting, Marketing, or Business Administrative Services. The final course in the Business Management, Accounting, and Marketing pathways includes options for a capstone course, dual enrollment, internship, or the opportunity to take Advanced Placement Economics.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BMF2026 A/B	**Entrepreneurship and Business Management 1 A/B**	0.5	
2	BMF2009 A/B	**Accounting A/B**	0.5	
3	BMF2010 A/B	**Advanced Accounting A/B, Honors**	0.5	CM-H
ADDITIONAL OPPORTUNITIES				
4	BMF2027	**Internship, Business Management and Finance (1.0 credit needed)**	0.5	CM-AL
	BMF2022 A/B	**Accounting & Finance and Entrepreneurship Capstone A/B**	0.5	CM-AL
	BMF2080	**AP Macroeconomics BMF**	0.5	CM-AL NCAA
	BMF2079	**AP Microeconomics BMF**	0.5	CM-AL NCAA
	BMF5100 BMF5102 BMF5103 BMF5108	**Dual Enrollment Course Options (1.0 credit needed)**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Quickbooks Certified User Desktop Certified (Intuit); Quickbooks Certified User Online Certification (Intuit)

- Montgomery College — 11 credits
- University of Maryland Eastern Shore — 9 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/accounting.aspx*



BUSINESS MANAGEMENT (3–4 CREDITS)

Offered at: **Montgomery Blair HS, James Hubert Blake HS, John F. Kennedy HS, Gaithersburg HS, Northwood HS, Sherwood HS**

The Business, Management, and Finance programs of study focus on three pathways. Each program pathway includes rigorous academics, broad industry knowledge and skills, and exposure to careers within the field.

Students in all pathways will be required to take two foundation courses—Principles of Business Management and Entrepreneurship and Principles of Accounting and Finance. All students will learn effective decision-making techniques in financial management, business communication, problem solving, teamwork, and networking skills. Human resource topics such as diversity in the workplace, ethics, employer/employee rights, discrimination, accountability, time management, and setting priorities will be covered.

Upon completion of the two foundation courses, students are required to complete two additional courses in their selected program of study. These include Business Management, Accounting, Marketing, or Business Administrative Services. The final course in the Business Management, Accounting, and Marketing pathways includes options for a capstone course, dual enrollment, internship, or the opportunity to take Advanced Placement Economics.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BMF2026 A/B	**Entrepreneurship and Business Management 1 A/B**	0.5	
2	BMF2009 A/B	**Accounting A/B**	0.5	
3	BMF2004 A/B	**Advanced Business Management A/B**	0.5	CM-AL
ADDITIONAL OPPORTUNITIES				
4	BMF2027	**Internship, Business Management and Finance (1.0 credit needed)**	0.5	CM-AL
	BMF2021 A/B	**Business Management and Entrepreneurship Capstone A/B**	0.5	CM-AL
	BMF2080	**AP Macroeconomics BMF**	0.5	CM-AL NCAA
	BMF2079	**AP Microeconomics BMF**	0.5	CM-AL NCAA
	BMF5100 BMF5102 BMF5103 BMF5108	**Dual Enrollment Course Options (1.0 credit needed)**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Quickbooks Certified User Desktop Certification (Intuit); Quickbooks Certified User Online Certification (Intuit)

- Montgomery College — 10 credits
- University of Maryland Eastern Shore — 6 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/business-management.aspx*



MARKETING (3–4 CREDITS)

Offered at: **Montgomery Blair HS, James Hubert Blake HS, Gaithersburg HS, Northwood HS**

The Business, Management, and Finance programs of study focus on three pathways. Each program pathway includes rigorous academics, broad industry knowledge and skills, and exposure to careers within the field.

Students in all pathways will be required to take two foundation courses—Principles of Business Management and Entrepreneurship and Principles of Accounting and Finance. All students will learn effective decision-making techniques in financial management, business communication, problem solving, teamwork, and networking skills. Human resource topics such as diversity in the workplace, ethics, employer/employee rights, discrimination, accountability, time management, and setting priorities will be covered.

Upon completion of the two foundation courses, students are required to complete two additional courses in their selected program of study. These include Business Management, Accounting, Marketing, or Business Administrative Services. The final course in the Business Management, Accounting, and Marketing pathways includes options for a capstone course, dual enrollment, internship, or the opportunity to take Advanced Placement Economics.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BMF2026 A/B	**Entrepreneurship and Business Management 1 A/B**	0.5	
2	BMF2009 A/B	**Accounting A/B**	0.5	
3	BMF2025 A/B	**Marketing**	0.5	
ADDITIONAL OPPORTUNITIES				
4	BMF2028 A/B	**Advanced Marketing A/B**	0.5	CM-AL
	BMF2027	**Internship, Business Management and Finance (1.0 credit needed)**	0.5	CM-AL
	BMF2021 A/B	**Business Management Capstone A/B**	0.5	CM-AL
	BMF2080	**AP Macroeconomics BMF**	0.5	CM-AL NCAA
	BMF2079	**AP Microeconomics BMF**	0.5	CM-AL NCAA
	BMF5100 BMF5102 BMF5103 BMF5108	**Dual Enrollment Course Options (1.0 credit needed)**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Quickbooks Certified User Desktop Certification (Intuit); Quickbooks Certified User Online Certification (Intuit)

- Montgomery College — 10 credits
- University of Maryland Eastern Shore — 6 credits

Additional program information can be found at *http://coursecatalog.montgomeryschoolsmd.org/publications/HSCourseCatalog2024.pdf*



CAREER EXPERIENCES AND INTERNSHIPS

• APPRENTICESHIP MARYLAND POS

APPRENTICESHIP MARYLAND (4 CREDITS)				
The Apprenticeship Maryland Program is based on a partnership among eligible employers, MCPS, students and parents. The program is for students ages 16 and up, and is designed to lead to sustainable employment and further education, based on selected career pathways. The program consists of at least 1 credit of related classroom instruction and a workplace component of at least 450 hours. The workplace component is a paid (at least minimum wage) mentored, on-the-job, work experience with a written student rating/work-based learning plan. Students can find Apprenticeship opportunities on the Work Based Learning Navigator software through their Clever login. On-the-job training/Work Based Learning Hours required per credit: .5 credit= 75 hours, 1.0 credit= 150 hours.				
REQUIRED COURSEWORK IN THIS SEQUENCE			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	WBL2022 (1 credit needed)	**Apprenticeship Related Instruction**	0.5	CM-AL
2	WBL2019	**Apprenticeship Work Based Learning 1 DP**	1.0	CM-AL
3	WBL2020 A/B	**Apprenticeship Work Based Learning 2 SP**	0.5	CM-AL
4	WBL2021	**Apprenticeship Work Based Learning 3 DP**	1.0	CM-AL

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/apprenticeship/*

• CAREER READINESS EDUCATION ACADEMY (CREA)

The Career Readiness Education Academy + (CREA+) is an academic and career readiness program for older Emergent Multilingual Learners (EMLs) in MCPS. Students in CREA have the opportunity to prepare for the GED exam and earn industry certifications in their chosen field of study. Students are referred to CREA+ if they are at least 18 years old and unlikely to meet graduation requirements before turning 21 and/or if they are interested in pursuing an alternative pathway to a high school diploma via GED preparation. CREA+ offers evening programs at Thomas Edison High School of Technology. Classes are offered Monday through Friday from 6:00–9:00 p.m. Students study a career pathway and participate in an ELD class, math class, and GED preparation classes. Students enroll at their home school, but attend all classes with the CREA program. These courses are open only to EMLs enrolled in the CREA program and admission must be determined by the CREA intake team. The courses are offered at Thomas Edison High School of Technology. Additional information is available at *https://www.montgomeryschoolsmd.org/curriculum/eld/instruction/crea/*.

The + program is offered to high school students who need to enroll in a credit recovery program after school in order to graduate on time. High school students sign up for the + program through their school counselor and then attend class from 2:45 to 4:15 after which they take their school's activity bus home. Courses are determined based on the needs of the particular students and the Edmentum curriculum is used to track student progress towards completing the targeted credits. Additional information is available at *https://www.montgomeryschoolsmd.org/curriculum/eld/instruction/crea/*

CAREER READINESS EDUCATION ACADEMY (CREA)	
COURSE TITLE	**COURSE CODE**
CREA ELD 1 and 2	ESL2051
CREA Pre-GED RLA	ESL2016
CREA Math 1 and 2	ESL2052
CREA Pre-GED Math	ESL2053
CREA GED Preparation	ESL2050
CREA Automotive Topics DP	ESL2054
CREA Found Construction DP	ESL2057
CREA Hospitality Tour DP	ESL2058
CREA Restaurant Mgmt DP	ESL2059
CREA ELD 1	ESL2046
CREA ELD 2	ESL2047
CREA Found Electricity	ESL2056
CREA Math 1	ESL2048
CREA Math 2	ESL2049
CREA HVAC DP	ESL2072
CREA Nail Technology	ESL2045

• INTERNSHIPS

INTERNSHIP REQUIREMENTS (1–3 CREDITS)
Internship is an additional programmatic elective that provides students with experiential learning related to their future education and chosen career field. Each internship requires an identified sponsor, verification of hours and sponsor evaluations. Note: If a student needs an internship to complete a CTE Program of Study (POS), the course on their schedule should be the course code related to that specific CTE POS (the course code can be repeated to match the number of internship hours the student is working). Students can find Internship opportunities on the Work Based Learning Navigator software through their Clever login. Students may be required by the sponsoring organization to provide appropriate documentation. This may include a social security number and/or proof of citizenship. Hours required per semester: Single-period : .5 credit = 75 hours, Double-period: 1.0 credit = 150 hours and Triple-period: 1.5credits = 225 hours

	CAREER EDUCATION EXPERIENCES AND INTERNSHIPS		COURSE CREDIT BY SEMESTER	COURSE INFO
1	WBL2014 A/B	**Internship SP, Repeatable**	0.5	CM-AL
2	WBL2015 A/B	**Internship DP, Repeatable**	1.0	CM-AL
3	WBL2016 A/B	**Internship TP, Repeatable**	1.5	CM-AL

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/internships.aspx*.



• CARPENTRY

CONSTRUCTION AND DEVELOPMENT—CARPENTRY (4 CREDITS) Offered at: : ONLY at Thomas Edison				
The Carpentry program provides students with opportunities to learn about the home-building industry. Participants in this program master a variety of construction skills. Students apply their knowledge and skills by participating in the student-built house project. Students who complete this program are eligible to receive credit at Montgomery College in the Construction Technology program, as well as industry-recognized credentials through the National Center for Construction Education and Research.				
		REQUIRED COURSEWORK—POS OPTIONS	**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
		MUST ALIGN WITH EDISON ACCEPTANCE LETTER		
1	CON2004 AND CON2005A	**Introduction to Carpentry DP *AND*** **Carpentry 1A SP**	1.0 0.5	10 SSL 5 SSL
2	CON2006B	**Carpentry 1B TP**	1.5	15 SSL
3	CON2030A	**Carpentry 2A TP**	1.5	CM-AL
		ADDITIONAL OPPORTUNITIES		
	CON2030B	**Carpentry 2B TP**	1.5	CM-AL
	CON5055	**Dual Enrollment**	1.0	CM-AL
	CON2036	**Internship, Carpentry**	0.5	CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER Level 1 & 2; OSHA-10				

CONSTRUCTION AND DEVELOPMENT—CARPENTRY (4 CREDITS) *Offered at:* : ONLY at Seneca Valley				
		REQUIRED COURSEWORK—POS OPTIONS	**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	CON2018 A/B	**Construction Technology A/B (SP)**	0.5	5 SSL
2	CON2005 A/B	**Carpentry 1 A/B (SP)**	0.5	5 SSL
3	CON2020 A/B	**Carpentry 2 A/B (DP)**	1.0	CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER Level 1 & 2; OSHA-10				



• CONSTRUCTION ELECTRICITY

CONSTRUCTION AND DEVELOPMENT—ELECTRICITY (4 CREDITS) *Offered at:* : ONLY at Thomas Edison				
The Construction Electricity program provides students with opportunities to learn about the residential and commercial building industry. Participants master a variety of electrical skills and develop workplace competencies through authentic experiences. Students apply their knowledge and skills to the student-built house project. Students who complete this program are eligible to receive credit at Montgomery College in the Construction Technology program, as well as industry-recognized credentials through the National Center for Construction Education and Research.				
REQUIRED COURSEWORK—POS OPTIONS			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
		MUST ALIGN WITH EDISON ACCEPTANCE LETTER		
1	CON2002 AND CON2003A	**Introduction to Electricity DP *AND* Electricity 1A SP**	1.0 0.5	10 SSL
2	CON2045B	**Electricity 1B TP**	1.5	15 SSL
3	CON2025A	**Electricity 2A TP**	1.5	CM-AL
ADDITIONAL OPPORTUNITIES				
	CON2025B	**Electricity 2B TP**	1.5	CM-AL
	CON5055	**Dual Enrollment**		CM-AL
	CON2038	**Internship, Electricity**		CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER Level 1 & 2; OSHA-10				

CONSTRUCTION AND DEVELOPMENT—ELECTRICITY (4 CREDITS) *Offered at:* : ONLY at Seneca Valley				
REQUIRED COURSEWORK—POS OPTIONS			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	CON2018 A/B	**Foundations of Building and Construction Technology A/B (SP)**	0.5	5 SSL
2	CON2022 A/B	**Electricity 1 A/B (SP)**	0.5	5 SSL
3	CON2024 A/B	**Electricity 2 A/B (DP)**	1.0	CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER Electrical Level 1 & 2; OSHA-10				



• PRINCIPLES OF ARCHITECTURE AND CAD TECHNOLOGY

CONSTRUCTION AND DEVELOPMENT—PRINCIPLES OF ARCHITECTURE & CAD TECHNOLOGY (4 CREDITS)

Offered at: **: ONLY at Thomas Edison**

The Principles of Architecture and Computer-Assisted Drafting (CAD) Technology is a two-year program that provides an opportunity for students to complete a design pathway. Designing and engineering of physical structures from original concept to complete architectural and engineering plans that include using AutoCAD software are the major elements of the program. Upon graduation, students will be capable of furthering their education in a number of careers in the construction industry that are related to developing, designing, constructing, and maintaining the built environment. Students who complete this program are eligible to receive credit at Montgomery College in the Architectural Technology program.

REQUIRED COURSEWORK—POS OPTIONS			COURSE CREDIT BY SEMESTER	COURSE INFO
1	CON2042	**Architectural Drafting Techniques TP**	1.5	
2	CON2007	**Computer-Assisted Drafting (CAD) Technology: Architectural Applications TP**	1.5	
3	CON2008	**Residential Design Studio TP**	1.5	CM-AL
4	CON2009	**Advanced CAD Applications TP**	1.5	CM-AL
ADDITIONAL OPPORTUNITIES				
	CON5055	**Dual Enrollment**		CM-AL
	CON2037	**Internship, Principles of Architecture and CAD Technology**		CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Autodesk AutoCAD Certified User and Autodesk Revit Certified User; OSHA-10
- LEED Green Associate Credential



• HEATING AND AIR CONDITIONING

CONSTRUCTION AND DEVELOPMENT—HEATING AND AIR CONDITIONING (4 CREDITS) *Offered at:* : ONLY at Thomas Edison				
The Heating and Air Conditioning program prepares students for the challenges and demands of an exciting and technical career. Students learn a variety of basic and advanced heating, ventilating, and air conditioning (HVAC) principles in a combination of classroom and work-site experiences. An integral part of the instructional program is participation in the student-built house project. Students completing this program are eligible to receive credit at Montgomery College in the Construction Technology program, as well as industry—recognized credentials through the National Center for Construction Education and Research.				
REQUIRED COURSEWORK—POS OPTIONS			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
		MUST ALIGN WITH EDISON ACCEPTANCE LETTER		
1	CON2000 AND CON2001A	**Introduction to HVAC (DP)** ***AND*** **HVAC 1A SP**	1.0 0.5	10 SSL 5 SSL
2	CON2043B	**HVAC 1 B TP**	1.5	15 SSL
3	CON2013A	**HVAC 2A TP**	1.5	CM-AL
ADDITIONAL OPPORTUNITIES				
	CON2013B	**HVAC 2B TP**	1.5	CM-AL
	CON5055	**Dual Enrollment**		CM-AL
	CON2039	**Internship, HVAC**		CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER Level 1 & 2; OSHA-10				

CONSTRUCTION AND DEVELOPMENT—HVAC (4 CREDITS) *Offered at:* : ONLY at Seneca Valley				
REQUIRED COURSEWORK—POS OPTIONS			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	CON2018 A/B	**Foundations of Building and Construction Technology A/B (SP)**	0.5	5 SSL
2	CON2001 A/B	**HVAC 1 A/B (SP)**	0.5	5 SSL
3	CON2044 A/B	**HVAC 2 A/B (DP)**	1.0	CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER HVAC Level 1 & 2; OSHA-10				



• MASONRY

CONSTRUCTION AND DEVELOPMENT—MASONRY (4 CREDITS) *Offered at:* : ONLY at Thomas Edison				
The Masonry program provides opportunities for students to learn a variety of skills related to brick and block construction. Students gain practical work experience by participating in the student-built house project. By completing this program, students are eligible to receive credit at Montgomery College in the Construction Technology program, as well as industry-recognized credentials through the National Center for Construction Education and Research. An approved apprenticeship program, and/or a career as a brick mason also are options for students who complete this program.				
REQUIRED COURSEWORK—POS OPTIONS			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
		MUST ALIGN WITH EDISON ACCEPTANCE LETTER		
1	CON2034 AND CON2035A	**Introduction to Masonry DP *AND*** **Masonry 1A SP**	1.0 0.5	10 SSL 5 SSL
2	CON2035B	**Masonry 1B TP**	1.5	15 SSL
3	CON2017A	**Masonry 2A TP**	1.5	CM-AL
ADDITIONAL OPPORTUNITIES				
	CON2017B	**Masonry 2B TP**	1.5	CM-AL
	CON5055	**Dual Enrollment**		CM-AL
	CON2040	**Internship, Masonry**		CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER Level 1 & 2; OSHA-10				

CONSTRUCTION AND DEVELOPMENT—MASONRY (4 CREDITS) *Offered at:* : ONLY at Seneca Valley				
REQUIRED COURSEWORK—POS OPTIONS			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	CON2018 A/B	**Foundations of Building and Construction Technology A/B (SP)**	0.5	5 SSL
2	CON2035 A CON2046 B	**Masonry 1 A (SP)** **Masonry 1 B (SP)**	0.5	5 SSL
3	CON2047 A/B	**Masonry 2 A/B (DP)**	1.0	CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER Masonry Level 1 & 2; OSHA-10				



• PLUMBING

CONSTRUCTION AND DEVELOPMENT—PLUMBING (4 CREDITS) *Offered at:* : ONLY at Thomas Edison				
The plumbing program provides students with opportunities to learn the installation, maintenance, and repair of many different types of pipe systems. Plumbers install and repair the water, waste disposal, drainage, and gas systems in homes and commercial and industrial buildings. Students apply their knowledge and skills in the construction of a student-built house project. By completing this program, students are eligible to receive credit at Montgomery College in the Construction Technology program, as well as industry-recognized credentials through the National Center for Construction Education and Research.				
	REQUIRED COURSEWORK—POS OPTIONS		COURSE CREDIT BY SEMESTER	COURSE INFO
		MUST ALIGN WITH EDISON ACCEPTANCE LETTER		
1	CON2026 AND CON2027A	**Introduction to Plumbing DP *AND*** **Plumbing 1A SP**	1.0 0.5	10 SSL 5 SSL
2	CON2027B	**Plumbing 1B TP**	1.5	15 SSL
3	CON2029A	**Plumbing 2A TP**	1.5	CM-AL
		ADDITIONAL OPPORTUNITIES		
	CON2029B	**Plumbing 2B TP**	1.5	CM-AL
	CON5055	**Dual Enrollment**		CM-AL
	CON2041	**Internship, Plumbing**		CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER Plumbing Level 1 & 2; OSHA-10				

CONSTRUCTION AND DEVELOPMENT—PLUMBING (4 CREDITS) *Offered at:* : ONLY at Seneca Valley				
	REQUIRED COURSEWORK—POS OPTIONS		COURSE CREDIT BY SEMESTER	COURSE INFO
1	CON2018 A/B	**Foundations of Building and Construction Technology A/B (SP)**	0.5	5 SSL
2	CON2027 A CON2048 B	**Plumbing 1 A (SP)** **Plumbing 1 B (SP)**	0.5	5 SSL
3	CON2049 A/B	**Plumbing 2 A/B (DP)**	1.0	CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NCCER Masonry Level 1 & 2; OSHA-10				



• CONSTRUCTION DESIGN AND MANAGEMENT

CONSTRUCTION AND DEVELOPMENT—CONSTRUCTION DESIGN AND MANAGEMENT (4 CREDITS)

Offered at: **: ONLY at Seneca Valley**

A four-course, project-based CTE Program of Study. Project-based learning (PBL) is a dynamic classroom teaching method in which students actively explore real-world problems and challenges to acquire a deeper knowledge about the subject matter. Students gain knowledge and skills by completing and revising projects that address complex questions, problems, or challenges. The instructor doubles as a facilitator, working with students to frame worthwhile questions, structuring meaningful tasks, coaching both knowledge development and social skills, and carefully assessing what students have learned from the experience. PBL also creates opportunities for groups of students to collectively gather information and think critically, thus developing essential collaboration skills required in the workplace.

Students will develop an understanding of the built world through the design and construction process. Each course uses the project-based learning approach to advance students' understanding of the design-build-maintain process. Advanced architectural drafting and design skills are developed through lab-based instruction using Autodesk software tools (AutoCAD and Revit Architecture). Throughout the program, students will develop a portfolio to demonstrate knowledge of each phase of the design and construction management process. Students will also have the opportunity to earn industry certification in AutoCAD and/or Revit.

REQUIRED COURSEWORK—POS OPTIONS			COURSE CREDIT BY SEMESTER	COURSE INFO
1	CON2050 A/B	**Introduction to Construction Design and Management A/B**	0.5	
2	CON2051 A/B	**Principles of Construction Design A/B**	0.5	
3	CON2064 A/B	**Advanced Design and 3D Modeling A/B**	0.5	CM-AL
4	CON2052 A/B	**Advanced Construction Management A/B**	0.5	CM-AL
ADDITIONAL OPPORTUNITIES				
	CON5055	**Dual Enrollment**		CM-AL
	CON2065	**Construction Design & Mgmt Internship**		CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Autodesk AutoCAD Certified User and Autodesk Revit Certified User
- Procore
- LEED Green Associate

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/engineering.aspx*.



• PROGRAMS OF STUDY IN CONSUMER SERVICES, HOSPITALITY, AND TOURISM

• COSMETOLOGY

COSMETOLOGY (9 CREDITS)
Offered at: **Gaithersburg HS, Thomas Edison HS of Technology**

Cosmetology is the art and science of care of the hair, skin and nails. This is a three-year program that requires 1,500 hours of instruction and prepares the student to take the Maryland State Board of Cosmetology examination for a cosmetologist license.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	EDU2016 A/B	**Cosmetology 1 A/B TP**	1.5	15 SSL
2	EDU2018 A/B	**Cosmetology 2 A/B TP**	1.5	15 SSL
3	EDU2017 A/B	**Cosmetology 3 A/B TP**	1.5	15 SSL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Maryland State Cosmetologist License

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/cosmetology.aspx*.

• HOSPITALITY AND TOURISM MANAGEMENT (HTM)

HOSPITALITY AND TOURISM MANAGEMENT (3 CREDITS)
Offered at: **Albert Einstein HS, Col. Zadok Magruder HS, Rockville HS, Seneca Valley HS, Sherwood HS, Springbrook HS, Walter Johnson HS, Watkins Mill HS, Thomas Edison HS of Technology**

The Hospitality and Tourism Management pathway is nationally recognized and developed by industry experts, including members of the American Hotel, Lodging Association, which offer the Certified Hospitality and Tourism Specialist credential. Students enrolled in the program build business and management skills related to the lodging and tourism industry.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	CHT2017 A/B	**Principles of Hospitality and Tourism A/B**	0.5	5 SSL
2	CHT2025 A/B	**Hospitality and Tourism Management A/B**	0.5	5 SSL
3	CHT2005	**Internship, Hospitality and Tourism Management**	0.5	CM-AL 5 SSL
ADDITIONAL ELECTIVE OPPORTUNITY (NOT PART OF PROGRAM COMPLETER)				
1	CHT2019 A/B	**Marketing Hospitality A/B (at Walter Johnson HS only)**	0.5	5 SSL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certifications: Hospitality Tourism Specialist (HTS); ServSafe Manager
- Postsecondary Credentials: Montgomery College Articulation credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/hospitality.aspx*.

• HOSPITALITY MANAGEMENT

HOSPITALITY MANAGEMENT (4 CREDITS)
Offered at: **Sherwood HS**

The 2026-2027 school year will be the last year MCPS will offer Hospitality Management (HTM) as a Program of Study. Students currently enrolled in Level 1 will be able to complete the HTM Program of Study during the 2026-2027 school year. New students will not be permitted to enroll.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	CHT2004 A/B	**Culinary Essentials A/B**	0.5	
2	CHT2001	**Internship, Human and Consumer Services, Hospitality and Tourism (repeatable, a minimum of 2.0 credits required)**	0.5	

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certifications: National ProStart Certificate of Achievement; ServSafe
- Postsecondary Credentials: Many postsecondary schools offer up to 12 credits for students entering with their ProStart credentials

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/hospitality-management.aspx*.

• PROFESSIONAL RESTAURANT MANAGEMENT

PROFESSIONAL RESTAURANT MANAGEMENT (4 CREDITS)				
The Professional Restaurant Management program provides students with the opportunity to explore many career opportunities available in the food-service industry. Students develop skills for employment based on industry standards. Students learn safety and sanitation principles, professional food-handling techniques, and quantity preparation through the use of commercial equipment and systems technology. Nutrition, menu planning, food cost control, and workplace skills are emphasized throughout the program. The American Culinary Federation (ACF) has certified this program and ACF outcomes have been infused into the curriculum, providing industry-based experiences. Students have opportunities to take the ServSafe Manager and the National Occupational Competency Testing Institute examinations for certification.				
REQUIRED COURSEWORK—ONE YEAR OPTION ***Offered at:* Thomas Edison HS of Technology**			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	CHT2029A	**Professional Restaurant Management 1A**	0.5	5 SSL
1	CHT2027A	**Intro to Professional Cooking A**	1.5	15 SSL
2	CHT2029B	**Professional Restaurant Management 1B**	0.5	5 SSL
2	CHT2028B	**Professional Cooking B**	1.5	CM-AL 15 SSL
REQUIRED COURSEWORK—TWO YEAR OPTION—DOUBLE PERIOD ***Offered at:* Damascus HS & Paint Branch HS**			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	CHT2003 A/B	**Professional Restaurant Management DP 1 A/B**	1.0	10 SSL
2	CHT2009 A/B	**Professional Restaurant Management DP 2 A/B**	1.0	CM-AL 10 SSL
ADDITIONAL ELECTIVE OPPORTUNITIES AT PAINT BRANCH HS ONLY (NOT PART OF PROGRAM COMPLETER)				
1	CHT2010 A/B	**Food Trends and Technology A/B**	0.5	
2	CHT2002 A/B	**Professional Restaurant Management 1 A/B**	0.5	5 SSL
3	CHT2006 A/B	**Professional Restaurant Management 2 A/B**	0.5	5 SSL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• Certifications: Certified Fundamentals Cook (CFC) certification; ServSafe Manager				

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/restaurant-management.aspx*.



PROGRAMS OF STUDY IN EDUCATION, TRAINING, AND CHILD STUDIES

• CHILD DEVELOPMENT ASSOCIATE PRESCHOOL PROGRAM

CHILD DEVELOPMENT ASSOCIATE PRESCHOOL PROGRAM (4–6 CREDITS)

Offered at: **Bethesda Chevy-Chase HS, Clarksburg HS, Damascus HS, Gaithersburg HS, Col. Zadok Magruder HS, Montgomery Blair HS, Northwest HS, Northwood Hs, Paint Branch HS, Quince Orchard HS, Rockville HS, Seneca Valley HS, Sherwood HS, Walt Whitman HS, Walter Johnson HS, Watkins Mill HS, Wheaton HS, and Thomas S. Wootton HS**

This program prepares students for further education and careers in early childhood education. Students will be prepared to take the Child Development Associate (CDA) exam, ready for a verification visit conducted by an employee of the Council of Professional Recognition and possess a complete CDA professional portfolio.

	REQUIRED COURSEWORK IN THIS SEQUENCE		COURSE CREDIT BY SEMESTER	COURSE INFO
1	EDU2029 A/B	**Child Growth and Development**	0.5	5 SSL
2	EDU2031 A/B	**Learning Environment for Preschoolers**	0.5	CM-AL 5 SSL
3	EDU2032 A/B	**Child Development Associate: Portfolio/Internship A/B**	0.5	CM-AL
	MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS			
4	EDU2028	**Child Development Associate Internship (3 credits needed—Equivalent to 480 hours)**	1.5	CM-AL *(Repeatable for credit)*
	OR			
	EDU5110	**CDA Dual Enrollment**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Child Development Associate: Preschool Certification
- ParaPro Certification
- Montgomery College: Up to 6 credits
- Anne Arundel Community College: Up to 6 credits
- 480 internship hours required for Child Development Associate Certificate.

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/childdev.aspx*.

• TEACHER ACADEMY OF MARYLAND POS

TEACHER ACADEMY OF MARYLAND PROGRAM (4 CREDITS)

Offered at: **James Hubert Blake HS, John F. Kennedy HS and Springbrook HS**

The Teacher Academy of Maryland is an instructional program that aligns with the Interstate Teacher Assessment and Support Consortium (InTASC) and the Maryland Essential Dimensions of Teaching (EdoTs). This program is based on the outcomes of the Maryland Associate of Arts in Teaching (A.A.T.) degree, which aligns with the National Council for the Accreditation of Teacher Education (NCATE) standards.

	REQUIRED COURSEWORK IN THIS SEQUENCE		COURSE CREDIT BY SEMESTER	COURSE INFO
1	EDU2000 A/B	**Human Growth and Development Through Adolescence**	0.5	5 SSL
2	EDU2010 A/B	**Teaching as a Profession**	0.5	CM-AL
3	EDU2009 A/B	**Foundation of Curriculum and Instruction**	0.5	CM-AL
4	EDU2014	**Internship TAM (1 credit needed)**	0.5	CM-AL 5 SSL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Students have opportunities to earn college credits from the following colleges:
  - » Bowie State University - 3 credits
  - » Coppin State University - 3 credits
  - » Frostburg State University - 6 credits
  - » Hood College - 3 credits,
  - » Morgan State University 3 credits
  - » Notre Dame of Maryland University - 9 credits
  - » St. Mary's College of Maryland - 3 credit
  - » Salisbury University - 3 credit
  - » Stevenson University - 6 credits
  - » Towson University -3 credits
- Students may earn the following certifications:
  - » ParaPro
  - » PraxisCORE

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/arts-in-teaching.aspx*

PROGRAMS OF STUDY IN ENVIRONMENTAL AGRICULTURE, AND NATURAL RESOURCES

• CURRICULUM FOR AGRICULTURAL SCIENCE EDUCATION (CASE)

CURRICULUM FOR AGRICULTURAL SCIENCE EDUCATION (CASE) (4 CREDITS) *Offered at:* **Northwood HS**				
This program prepares students for careers in agriculture and environmental resources related fields. Agriculture resources are diversified industries with nearly unlimited career opportunities. The CASE program will prepare students for postsecondary education in the field of environmental science, technology, and policy, applied agriculture, plant science, and so much more. Many jobs in the industry are hands-on, provide the opportunity to work outdoors and require the use of technology. F				
REQUIRED COURSEWORK IN THIS SEQUENCE			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	AGB2015 A/B	**Agriculture, Food, and Natural Resources (AFNR) A/B**	0.5	
2	AGB2016 A/B	**Principles of Agriculture Science—Natural Resources and Ecology (NRE) A/B**	0.5	
3	AGB2017 A/B	**Environmental Science Issues**	0.5	
4	AGB2018 A/B	**Agricultural Research and Development**	0.5	
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• Students may earn 3 credits from the University of Maryland (Institute of Applied Agriculture)				

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/case.aspx*.

• CERTIFIED PROFESSIONAL HORTICULTURIST (CPH)

CERTIFIED PROFESSIONAL HORTICULTURIST (CPH) (3–4 CREDITS) *Offered at:* **Damascus HS**				
This program prepares students for careers in horticulture related fields. Horticulture is a diversified industry with nearly unlimited career opportunities. Many jobs in the industry are hands-on, provide the opportunity to work outdoors and require the use of technology.				
REQUIRED COURSEWORK IN THIS SEQUENCE			**COURSE CREDIT BY SEMESTER**	
1	AGB2007 A/B	**Foundations of Horticulture A/B**	0.5	
2	AGB2002 A/B	**Plant Production A/B**	0.5	CM-AL
3	AGB2008 A/B	**Landscape Design and Management A/B**	0.5	
ADDITIONAL OPPORTUNITIES				
4	AGB2001 A/B	**Guided Research - Environmental Agricultural and Natural Resources A/B**	0.5	
	AGB2010	**Internship-Environmental, Agricultural, and Natural Resources**	0.5	
	SCI5081	**Dual Enrollment Course Option Advance Science**	1.0	CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• Maryland Certified Professional Horticulturist Program				

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/horticulture.aspx*

PROGRAMS OF STUDY IN HEALTH AND BIOSCIENCES

• HEALTHCARE PROFESSIONS

HEALTHCARE PROFESSIONS CERTIFIED NURSING ASSISTANT OPTION (4 CREDITS)

Offered at: **Thomas A. Edison HS of Technology, John F. Kennedy HS, Paint Branch HS, Sherwood HS**

The Academy of Health Professions uses project and problem-based learning, clinical experiences, and classroom and lab instruction to teach students about the high-demand field of health care. Students are introduced to basic health-care knowledge and skills through two foundation courses: Foundation of Medicine and Health Science and Structures and Functions of the Human Body. Opportunities for students to apply foundational course knowledge to real-life health-care situations are offered through specialized course options such as Fundamentals of Pharmacy, Physical Rehabilitation Science, and Certified Nursing Assistant with Clinical Applications.

Students will have the opportunity to earn state and/or nationally recognized certifications and/ or college credit through articulation agreements with local colleges. Students may choose from several options for program completion. These may include enrollment in a postsecondary institution or internship. Students are strongly encouraged to complete four years of science. At a minimum, students should take biology and chemistry while enrolled in the program.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BHP2015 A/B	**Foundations of Medicine and Health Science A/B**	0.5	
2	BHP2014 A/B	**Structures and Functions of the Human Body A/B**	0.5	
3	BHP2010 A/B	**AHP Specialty Certified Nursing Assistant A/B DP**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certified Nursing Assistant 1 (CNA-1) (Maryland Board of Nursing)
- Stevenson University—4 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/health.aspx*

HEALTHCARE PROFESSIONS PHARMACY TECHNICIAN OPTION (4 CREDITS)

Offered at: **Clarksburg HS, Col. Zadok Magruder HS, Seneca Valley HS**

The Academy of Health Professions uses project and problem-based learning, clinical experiences, and classroom and lab instruction to teach students about the high-demand field of health care. Students are introduced to basic health-care knowledge and skills through two foundation courses: Foundation of Medicine and Health Science and Structures and Functions of the Human Body. Opportunities for students to apply foundational course knowledge to real-life health-care situations are offered through specialized course options such as Fundamentals of Pharmacy.

Students will have the opportunity to earn state and/or nationally recognized certifications and/ or college credit through articulation agreements with local colleges. Students may choose from several options for program completion. These may include enrollment in a postsecondary institution or internship. Students are strongly encouraged to complete four years of science. At a minimum, students should take biology and chemistry while enrolled in the program.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BHP2015 A/B	**Foundations of Medicine and Health Science A/B**	0.5	
2	BHP2014 A/B	**Structures and Functions of the Human Body A/B**	0.5	
3	BHP2001 A/B	**Fundamentals of Pharmacy A/B**	0.5	CM-AL
MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS				
4	BHP2011 A/B	**Allied Health Internship A/B**	0.5	CM-AL
	BHP5123	**Dual Enrollment Course Option**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certified Pharmacy Technician (ExCPT)
- Stevenson University—4 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/health.aspx*

HEALTHCARE PROFESSIONS PHYSICAL REHABILITATION SCIENCE OPTION (4 CREDITS)

Offered at: Clarksburg HS, John F. Kennedy HS

The Academy of Health Professions uses project and problem-based learning, clinical experiences, and classroom and lab instruction to teach students about the high-demand field of health care. Students are introduced to basic health-care knowledge and skills through two foundation courses: Foundation of Medicine and Health Science and Structures and Functions of the Human Body. Opportunities for students to apply foundational course knowledge to real-life health-care situations are offered through specialized course options such as Physical Rehabilitation Science.

Students will have the opportunity to earn state and/or nationally recognized certifications and/ or college credit through articulation agreements with local colleges. Students may choose from several options for program completion. These may include enrollment in a postsecondary institution or internship. Students are strongly encouraged to complete four years of science. At a minimum, students should take biology and chemistry while enrolled in the program.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BHP2015 A/B	**Foundations of Medicine and Health Science A/B**	0.5	
2	BHP2014 A/B	**Structures and Functions of the Human Body A/B**	0.5	
3	BHP2009 A/B	**Physical Rehabilitation Science A/B**	0.5	CM-AL
MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS				
4	BHP2011 A/B	**Allied Health Internship A/B**	0.5	CM-AL
	BHP5123	**Dual Enrollment Course Option**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certified Personal Trainer (CPT)
- Stevenson University—4 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/health.aspx*

HEALTHCARE PROFESSIONS CERTIFIED CLINICAL MEDICAL ASSISTANT OPTION (4 CREDITS)

Offered at: **Clarksburg HS, Col. Zadok Magruder HS, John F. Kennedy HS, Paint Branch HS, Seneca Valley HS, Sherwood HS, Thomas Edison High School of Technology, Watkins Mill HS**

The Academy of Health Professions uses project and problem-based learning, clinical experiences, and classroom and lab instruction to teach students about the high-demand field of health care. Students are introduced to basic health-care knowledge and skills through two foundation courses: Foundation of Medicine and Health Science and Structures and Functions of the Human Body. Opportunities for students to apply foundational course knowledge to real-life health-care situations are offered through specialized course options such as Certified Clinical Medical Assistant.

Students will have the opportunity to earn state and/or nationally recognized certifications and/ or college credit through articulation agreements with local colleges. Students may choose from several options for program completion. These may include enrollment in a postsecondary institution or internship. Students are strongly encouraged to complete four years of science. At a minimum, students should take biology and chemistry while enrolled in the program.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BHP2015 A/B	**Foundations of Medicine and Health Science A/B**	0.5	
2	BHP2014 A/B	**Structures and Functions of the Human Body A/B**	0.5	
3	BHP2019 A/B	**Certified Clinical Medical Assistant**	0.5	CM-AL
MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS				
4	BHP2011 A/B	**Allied Health Internship A/B**	0.5	CM-AL
	BHP5123	**Dual Enrollment Course Option Advanced Science**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certified Clinical Medical Assistant (CCMA)
- Stevenson University—4 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/health.aspx*

BIOMEDICAL SCIENCES/HEALTH PROFESSIONS (BIOMED/HP) PROGRAM (4 CREDITS)

Offered at: : Wheaton HS, Thomas Edison High School of Technology

The Biomedical Sciences/Health Professions (Biomed/Hp) Program combines the foundational curriculum of Project Lead the Way Inc., Biomedical Sciences with the specialized pathway and capstone options of the Academy of Health Professions program. This program uses project and problem-based learning, clinical and internship experiences, and classroom and lab instruction to teach students about the field of healthcare. Students are introduced to healthcare knowledge and skills through two foundation courses: Principles of Biomedical Science and Human Body Systems.

Students will have the opportunity to earn state and/or nationally recognized certifications and/or college credit through articulation agreements with local colleges. Students may choose from several options for program completion. These may include enrollment in a postsecondary institution or internship. Students are strongly encouraged to complete four years of science. At a minimum, students should take biology and chemistry while enrolled in the program.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BHP20222 A/B	**Principles of Biomedical Sciences**	0.5	
2	BHP2000 A/B	**Human Body Systems**	0.5	
3	BHP2020 A/B	**Certified Clinical Medical Assistant (BIOMED/HP)**	0.5	CM-AL
MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS				
4	BHP2021A/B	**Certified Nursing Assistant (BIOMED/HP)**	1.0	CM-AL
	BHP2011 A/B	**Allied Health Internship A/B**	0.5	CM-AL
	BHP5123	**Dual Enrollment Course Option Advanced Science**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certified Clinical Medical Assistant (CCMA)
- Certified Nursing Assistant 1 (CNA-1) (Maryland Board of Nursing)

- Stevenson University—4 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/biomedical.aspx*

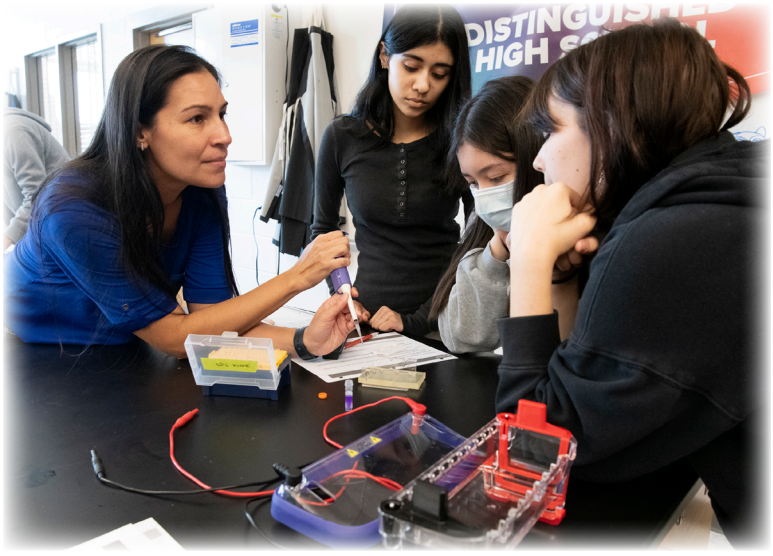


• PROJECT LEAD THE WAY (PLTW), BIOMEDICAL SCIENCES

PLTW BIOMEDICAL SCIENCES (4 CREDITS) *Offered at:* Gaithersburg HS, Rockville HS, Wheaton HS				
Biomedical sciences explores the wide variety of healthcare and science career options, and equips students with the knowledge and skills necessary to succeed in any post-secondary biomedical sciences or pre-professional programs.				
REQUIRED COURSEWORK			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	BHP20222 A/B	**Principles of Biomedical Sciences**	0.5	
2	BHP2000 A/B	**Human Body Systems**	0.5	
3	BHP2016 A/B	**Medical Interventions**	0.5	CM-AL
CAPSTONE COURSE				
4	BHP2008 A/B	**Biomedical Innovations**	0.5	CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• Biotechnology Aptitude and Competency Exam (BACE) • Students may earn transcripted credit from Stevenson University upon completion of the program.				

• BIOTECHNOLOGY

BIOTECHNOLOGY (3 CREDITS) *Offered at:* Northwest HS				
Biotechnology provides an intensive hands-on laboratory program for students utilizing the latest lab equipment and computer technology to investigate the intricacies of protein/DNA science. Biotechnology is the application of concepts from biochemistry, genetics, and molecular biology.				
REQUIRED COURSEWORK IN THIS SEQUENCE			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	BHP2002 A/B	**Molecular Biotechnology—DP**	0.5	NCAA
2	BHP2004 A/B	**Biotechnology, Special Topics**	0.5	NCAA
3	BHP2005 A/B	**Guided Research in Biosciences**	0.5	CM-AL
ADDITIONAL COURSES				
	BHP2003 A/B	**Biosciences Internship**	0.5	CM-AL
See example here: *https://docs.google.com/document/d/1rh_ssLnpHmWrjpS7bIdDqeqphrkne8BY1Bc4FZY_rC4/edit*				
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• Biotechnology Aptitude and Competency Exam (BACE) • An Articulation agreement with Montgomery College is being updated.				



HEALTHCARE PROFESSIONS ALLIED HEALTH INTERNSHIP OPTION (4 CREDITS)

Offered at: **Clarksburg HS, Col. Zadok Magruder HS, John F. Kennedy HS, Paint Branch HS, Seneca Valley HS, Sherwood HS, Thomas Edison High School of Technology, Watkins Mill HS**

Health professions students have the opportunity to enhance their educational experience and fulfill program requirements by enrolling in Allied Health Internship or Dual Enrollment courses. These options allow students to gain hands-on experience in real-world healthcare settings while earning academic credit. Whether through internships that provide practical training or dual enrollment courses that offer advanced coursework, students can tailor their education to align with their career goals and expedite their progress in completing their program of study.

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BHP2015 A/B	**Foundations of Medicine and Health Science A/B**	0.5	
2	BHP2014 A/B	**Structures and Functions of the Human Body A/B**	0.5	
3	BHP2011 A/B	**Allied Health Internship A/B**	0.5	CM-AL
4	BHP2011 A/B	**Allied Health Internship A/B**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Stevenson University—4 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/health.aspx*

HEALTHCARE PROFESSIONS DUAL ENROLLMENT OPTION (4 CREDITS)

Offered at: **Clarksburg HS, Col. Zadok Magruder HS, John F. Kennedy HS, Paint Branch HS, Seneca Valley HS, Sherwood HS, Thomas Edison High School of Technology, Watkins Mill HS**

REQUIRED COURSEWORK IN THIS SEQUENCE			COURSE CREDIT BY SEMESTER	COURSE INFO
1	BHP2015 A/B	**Foundations of Medicine and Health Science A/B**	0.5	
2	BHP2014 A/B	**Structures and Functions of the Human Body A/B**	0.5	
3	BHP5123	**Dual Enrollment Course option Adv. Science**	1.0	CM-AL
4	BHP5123	**Dual Enrollment Course option Adv. Science**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Stevenson University—4 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/health.aspx*



PROGRAMS OF STUDY IN INFORMATION TECHNOLOGY AND CYBERSECURITY

• IT NETWORKING ACADEMY (CISCO)

IT NETWORKING ACADEMY (CISCO) (3 CREDITS)
Offered at: Damascus HS, Gaithersburg HS, Quince Orchard HS, Springbrook HS, Thomas S. Wootton HS

The CISCO networking POS provides a comprehensive foundation of microcomputer and network technologies in preparation for earning international industry credentials. Hands-on laboratory experiences train students as entry-level technicians in the field of IT, and for advanced studies in engineering and IT in colleges, universities, and the military. Articulated college credits may be earned through successful completion of the program.

	REQUIRED COURSEWORK IN THIS SEQUENCE		COURSE CREDIT BY SEMESTER	COURSE INFO
1	ITC2075 A/B ***OR*** ITC2077 A/B	**Cybersecurity Essentials *OR* IT Essentials—Cisco**	0.5	
2	ITC2078 A/B ***OR*** ITC2079 A/B	**Introduction To Network—Cisco *OR* NDG Linux Essentials—Cisco**	0.5	CM-AL
3	ITC2080 A/B ***OR*** ITC2076 A/B	**Switching,Routing and Wireless Essentials—Cisco *OR* CyberOps Associate**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

Student are required to pass one or more of the following:
- CompTIA ITF, CompTIA A+, CompTIA Network+, CISCO CCST, CISCO CCNA Routing and Switching, CompTIA Security+, LP Linux Essentials, CompTIA Linux+, CISCO CCNA Cyber Ops, CompTIA PenTest+, NAFTrack Certification
- CISCO Academy programs may articulate credit in related CISCO programs through specific articulation agreements by institution—Anne Arundel CC, Baltimore City CC, Chesapeake CC, CCBC–Catonsville, Harford CC, Howard CC, Montgomery College, and Prince George's CC

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/cisco-academy.aspx*

• COMPUTER SCIENCE/CODE.ORG

COMPUTER SCIENCE/CODE.ORG (3 CREDITS)
Offered at: **All high schools**

The Computer and Information Sciences program focuses on various aspects in computing, computer science, robotics, and information science and systems. Students can take two AP courses in the pathway, Cybersecurity, and earn college credit in dual enrollment and obtain internships. This program is offered at all comprehensive high schools. Schools with AOIT–IT Programming follow the Computer Science/Code.org sequence.

	REQUIRED COURSEWORK IN THIS SEQUENCE		COURSE CREDIT BY SEMESTER	COURSE INFO
1	ITC2024 A/B	**Computer Programming 1**	0.5	CM-AL
2	ITC2007 A/B	**AP Computer Science JAVA A/B**	0.5	CM-AP
	MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS			
3	ITC2074 A/B	**Cybersecurity Fundamentals**	0.5	CM-AL
	ITC2060 A/B ***OR*** ITC2006 A/B	**Cybersecurity Capstone DP** ***OR*** **Cybersecurity Capstone TP**	1.0 ***OR*** 1.5	CM-AL
	ITC2005 A/B	**IB Computer Science 2**	0.5	CM-AL
	ITC2021 A/B	**Advanced Topics Computer Science A/B**	0.5	CM-AL
	ITC2008	**Internship Information Technology**	0.5	CM-AL
	ITC5104	**Dual Enrollment**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- NAFTrack Certification (only for AOIT Programs)
- Montgomery College—up to 9 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/computer-science.aspx*

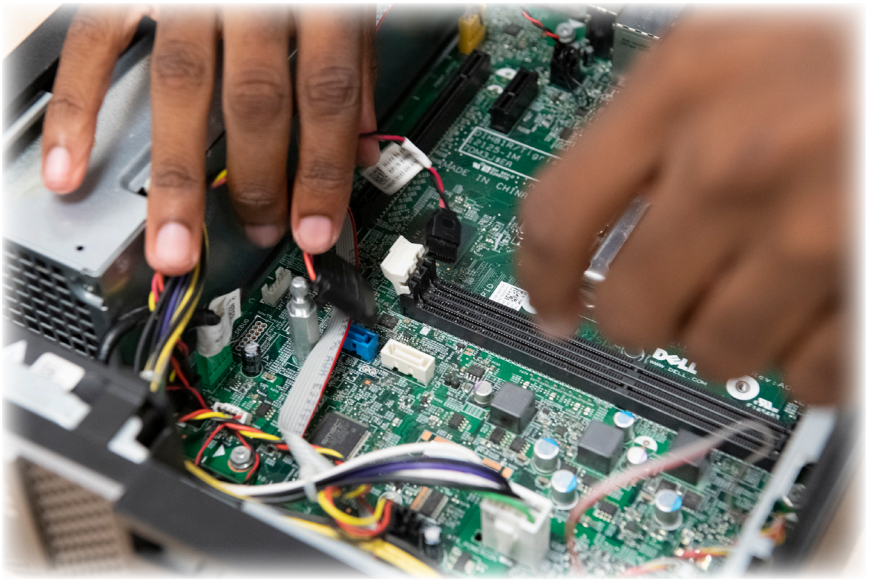
• MOBILE APPLICATIONS AND SOFTWARE DEVELOPMENT (APPLE)

MOBILE APPLICATION AND SOFTWARE DEVELOPMENT (APPLE) PROGRAM OF STUDY (3 CREDITS) *Offered at:* Walter Johnson HS, Watkins Mill HS				
The Develop in Swift curriculum is intended for high school students to explore designing and building a fully-functioning app of their own. (Certification: App Development in Swift: Level 1) As they develop new skills, students will master key coding concepts and can even earn AP college credit or an industry-recognized certification for their knowledge of Swift and XCode. Students who earn certification can share a digital badge with their professional networks to convey their preparedness for industry.				
REQUIRED COURSEWORK IN THIS SEQUENCE			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	ITC2073 A/B	**AP CS Principles in Swift A/B**	0.5	CM-AP
2	ITC2066 A/B	**Fundamentals of App Development 1 A/B**	0.5	CM-AL
3	ITC2067 A/B	**Advanced App Development 2 A/B**	0.5	CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• Certification: App Development in Swift: Level 1				

• NAF ACADEMY OF INFORMATION TECHNOLOGY-WEB DESIGN

ACADEMY OF INFORMATION TECHNOLOGY (AOIT)—WEB DESIGN (3 CREDITS) *Offered at:* Springbrook HS, Wheaton HS, Thomas S. Wootton HS				
Web Design offers students opportunities to explore careers related to website development and database administration.				
REQUIRED COURSEWORK IN THIS SEQUENCE			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	ITC2025 A/B	**Website Development**	0.5	
2	ITC2024 A/B ***OR*** ITC2012 A/B	**Computer Programming 1** ***OR*** **Advanced Web Tools and Digital Media A/B**	0.5	CM-AL
MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS				
3	ITC2008	**Internship Information Technology**	0.5	CM-AL
	ITC5104	**Dual Enrollment**		CM-AL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• NAFTrack Certification • Montgomery College—up to 9 credits				

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/information-technology.aspx*



NETWORK OPERATIONS (3 CREDITS)

Offered at: **Clarksburg HS, Seneca Valley HS, Thomas Edison HS**

The Network Operations program of study offers students an opportunity to learn technical and problem-solving skills, while providing a comprehensive foundation of microcomputer and network technologies. Preparation for international industry credentials validate the knowledge students have attained. Hands-on laboratory experiences train students as entry-level technicians in the field of IT as well as for advanced studies in engineering and IT in colleges, universities, and the military. Articulated college credits may be earned through successful completion of the program. It is recommended that students have taken at least one previous computer science course before starting this program. Recommended prior courses: Foundations of Computer Science, AP Computer Science Principles.

	REQUIRED COURSEWORK IN THIS SEQUENCE		COURSE CREDIT BY SEMESTER	COURSE INFO
1	ITC2038 A/B ***OR*** ITC2039 A/B ***OR*** ITC2062 A/B	**Network Operations 1 Practicum A/B (Edison HS)*** ***OR*** **Network Operations 1 A/B DP (Clarksburg HS)** ***OR*** **SV Network Operations 1 A/B (Seneca Valley HS)**	0.5 ***OR*** 1.0 ***OR*** 0.5	5 SSL/10 SSL
2	ITC2037 A/B ***OR*** ITC2040 ***OR*** ITC2063 A/B ***OR*** ITC2085 A/B	**Network Operations 1 Theory DP (Semester A* Edison HS)*** ***OR*** **Network Operations 2 DP (Semester B* Edison HS)** ***OR*** **SV Network Operations 2 A/B DP (Seneca Valley HS)** ***OR*** **Network Operations 2 A/B SP (Clarksburg HS)**	1.0	CM-AL 10 SSL
	ADDITIONAL OPPORTUNITIES			
	ITC2074 A/B	**Cybersecurity Fundamentals**	0.5	CM-AL
	ITC2060 A/B ***OR*** ITC2006 A/B	**Cybersecurity Capstone DP** ***OR*** **Cybersecurity Capstone TP**	1.0 ***OR*** 1.5	CM-AL
	ITC2028	**Network Operations Internship**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Students are required to pass one or more of the following: CompTIA ITF, CompTIA A+, CompTIA Network+, CompTIA Linux+, CompTIA Security+, CompTIA PenTest+
- Montgomery College—6 to 9 credits

* course taken concurrently at Edison HS

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/network-operations.aspx*

P-TECH PATHWAYS IN NETWORK AND INFORMATION TECHNOLOGY (3 CREDITS)

Offered at: **Clarksburg HS**

Clarksburg's P-TECH Pathways in Network and Information Technology is a dual-enrollment program that enables participating students to earn both an MCPS high school diploma and an associate of applied science (AAS) degree from Montgomery College for FREE, while in high school. Students will complete their high school diploma credits while earning the AAS degree in four to six years. The AAS degree ensures that students will meet industry expectations and gain technical skills and workplace competencies as well as industry certifications. Skills acquired include software and hardware installation, network and security configuration, forensics fundamentals, virtualization, and cloud computing.

Note: this program is offered exclusively at Clarksburg High School by application, and the only entry point for this program is at the beginning of ninth grade. *In addition to Clarksburg High School, a limited number of students in Grade 8 from the following high school clusters are eligible to apply: Damascus, Gaithersburg, Magruder, Northwest, Quince Orchard, Poolesville, Seneca Valley, and Watkins Mill.*

	REQUIRED COURSEWORK IN THIS SEQUENCE		COURSE CREDIT BY SEMESTER	COURSE INFO
1	ITC2072 A/B	**P-TECH Network Operations 1 DP**	1.0	10 SSL
2	ITC2065 A/B	**Introduction to Cloud Computing [MC NWIT 105]**	1.0	CM-AL
3	ITC2061 A/B	**P-TECH Network Operations 2**	0.5	CM-AL 5 SSL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Students are required to pass one or more of the following: CompTIA ITF, CompTIA A+, CompTIA Network+, CompTIA Linux+, CompTIA Security+, CompTIA PenTest+
- Cloud Computing and Network and Information Technologies AAS, Montgomery College

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/pathways-technology.aspx*

PROGRAMS OF STUDY IN LAW, GOVERNMENT, PUBLIC SAFETY AND ADMINISTRATION

• FIRE SCIENCE AND EMT

FIRE SCIENCE AND EMT PROGRAM (6 CREDITS)

While the program is open to all MCPS students: Students are required to take a Civil Service written exam and go through the Fire Department selection process. Selected students will then be required to pass an occupational medical exam and clear a background check prior to being accepted into the High School Cadet program.

The Fire Science and Emergency Medical Technician (EMT) program prepares juniors and seniors for a variety of careers in fire prevention, management, and emergency medical technology. Students will divide their time between their home high school and the Public Safety Training Academy which is located at 8751 Snouffer School Road, Gaithersburg, MD 20879. During the program, students are expected to maintain 90 percent attendance and a minimum grade of 70 percent on all assessments. Students are required to complete the required hours that lead to certification and take five industry recognized certification exams. The program culminates with the opportunity to receive college credit. Rising Grade 11 students will apply to the Fire & Rescue 1 course and rising Grade 12 students will apply to the Emergency Medical Technician course.

REQUIRED COURSEWORK			COURSE CREDIT BY SEMESTER	COURSE INFO
1	PGS2013 A/B	**Fire and Rescue 1 A/B TP**	1.5	CM-AL
2	PGS2017 A/B	**Fire and Rescue 2 A/B/Emergency Medical Technician A/B TP**	1.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certifications:
  - » Emergency Medical Technician ((National and Maryland Standard - NREMT, MIEMSS) at the BLS Level
  - » Fire Fighter I Certification
  - » Fire Fighter II Certification
  - » Hazardous Materials Operations
- Postsecondary Credentials:
  - » Montgomery College- Up to 12 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/fire.aspx*



• JUSTICE, LAW, AND SOCIETY

JUSTICE, LAW, AND SOCIETY (3 CREDITS)
Offered at: **Montgomery Blair HS, Northwood HS, Springbrook HS, Quince Orchard HS**

The Justice, Law, and Society program prepares students for further education and careers in law enforcement, legal services, and government and public administration. Students develop critical-thinking skills by solving real-world problems and analyzing public policy related to law, law enforcement, and government. Students use information technology to access, analyze, and evaluate legal research and produce legal documents. Students develop oral and written communication skills for use in presenting legal research and legal documents. Students demonstrate knowledge of the American legal system, including the study of diverse areas of law, causes of crime, and the role of law enforcement through case studies, interviews with industry representatives, and community-service projects. These courses are career education electives.

	REQUIRED COURSEWORK		COURSE CREDIT BY SEMESTER	COURSE INFO
1	PGS2000 A/B	**Justice, Law, and Society, Introduction A/B**	0.5	
2	PGS2001 A/B	**Law and the Administration of Justice A/B**	0.5	
3	PGS2002 A/B	**Contemporary Issues in Justice, Law, and Society A/B**	0.5	CM-AL
		ADDITIONAL OPPORTUNITIES		
4	PGS2027	**Internship—Law, Government, Public Safety, and Administration**	0.5	CM-AL
	PGS2028 A/B	**Guided Research- Law, Government, Public Safety, and Administration**	0.5	CM-AL
	PGS5056	**Dual Enrollment (1 credit required)**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Montgomery College 3 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/justice.aspx*

• LAW ENFORCEMENT AND LEADERSHIP

LAW ENFORCEMENT AND LEADERSHIP (4 CREDITS)
Offered at: **Thomas Edison High School of Technology, Seneca Valley HS**

The Law Enforcement and Leadership program prepares students for careers and/or further education in the fields of criminal justice, law enforcement, law, and public safety. The program includes 3 credits of academic coursework and a Capstone experience. Students develop critical-thinking skills and learn about principles, policies, and practices related to law enforcement and criminal justice. They learn traditional academic content while also participating in simulations, structured debates, and inquiry projects. Students develop oral and written communication skills in presenting criminal justice-related research. Through a combination of visiting experts and academic field trips, students learn from a variety of law enforcement and legal professionals real-life applications of course content. Students examine the criminal justice system--and potential careers within--at the local, state, and federal levels.

	REQUIRED COURSEWORK		COURSE CREDIT BY SEMESTER	COURSE INFO
1	PGS2004 A/B ***OR*** PGS2007 A/B	**Foundations of Law Enforcement A/B SP or DP**	0.5 1.0	
2	PGS2005 A/B ***OR*** PGS2022 A/B	**Law Enforcement and Emergency Preparedness A/B SP or DP**	0.5 1.0	
3	PGS2006 A/B ***OR*** PGS2008 A/B	**Administration of Law and Justice A/B SP or DP**	0.5 1.0	CM-AL
		MUST TAKE ONE OF THE FOLLOWING CAPSTONE OPTIONS		
4	PGS2009 A/B	**Law Enforcement Guided Research A/B**	0.5	CM-AL
	PGS2010 A/B	**Law Enforcement Internship A/B**	0.5	CM-AL
	PGS5056 A/B	**Dual Enrollment Law Enforcement and Leadership A/B**	1.0	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Montgomery College 3 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/law-enforcement.aspx*

• JUNIOR RESERVE OFFICERS TRAINING CORP (JROTC)

JUNIOR RESERVE OFFICERS TRAINING CORP (JROTC) (3 CREDITS) *Naval Science Offered at:* Gaithersburg HS, John F. Kennedy HS, Paint Branch HS, Seneca Valley HS				
The Junior Reserve Officers' Training Corps (JROTC) program is a character and leadership-development program that is a cooperative effort between the U.S. Armed Forces and the high schools to produce successful students and citizens. MCPS offers programs associated with the Army and the Navy. The purpose of JROTC is to instill in U.S. students the values of citizenship, service to the United States, and personal responsibility and a sense of accomplishment.				
REQUIRED COURSEWORK			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	JR02000 A/B	**Naval Science 1 A/B**	0.5	5 SSL
2	JR02001 A/B	**Naval Science 2 A/B**	0.5	5 SSL
3	JR02002 A/B	**Naval Science 3 A/B**	0.5	5 SSL
ADDITIONAL OPPORTUNITIES				
	JR02003 A/B	**Naval Science 4 A/B**	0.5	5 SSL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• Armed Services Vocational Aptitude Battery Exam (ASVAB)				

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/jrotc.aspx*

JUNIOR RESERVE OFFICERS TRAINING CORP (JROTC) (3 CREDITS) *Army JROTC Offered only at:* Col. Zadok Magruder HS				
The Junior Reserve Officers' Training Corps (JROTC) program is a character and leadership-development program that is a cooperative effort between the U.S. Armed Forces and the high schools to produce successful students and citizens. MCPS offers programs associated with the Army and the Navy. The purpose of JROTC is to instill in U.S. students the values of citizenship, service to the United States, and personal responsibility and a sense of accomplishment.				
REQUIRED COURSEWORK			**COURSE CREDIT BY SEMESTER**	**COURSE INFO**
1	JR02004 A/B	**Army JROTC 1 A/B**	0.5	5 SSL
2	JR02005 A/B	**Army JROTC 2 A/B**	0.5	5 SSL
3	JR02006 A/B	**Army JROTC 3 A/B**	0.5	5 SSL
ADDITIONAL OPPORTUNITIES				
	JR02007 A/B	**Army JROTC 4 A/B**	0.5	5 SSL
AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS				
• Armed Services Vocational Aptitude Battery Exam (ASVAB)				

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/jrotc.aspx*



PROGRAMS OF STUDY IN MANUFACTURING, ENGINEERING, AND TECHNOLOGY

• PROJECT LEAD THE WAY (PLTW), ENGINEERING

PROJECT LEAD THE WAY ENGINEERING

Offered at: **B-CC, Clarksburg, Magruder, Paint Branch, Poolesville, Quince Orchard, Rockville, Seneca Valley, Sherwood, Springbrook, Walt Whitman, Watkins Mill, Wheaton**

The Project Lead the Way Engineering pathway is a national engineering program that teaches students to apply science, math, and technical knowledge to solve complex, open-ended problems in a real-world context. Courses to be taken in sequence.

	REQUIRED COURSEWORK		COURSE CREDIT BY SEMESTER	COURSE INFO
1	TEC2017 A/B	**Introduction to Engineering Design (IED)—Corequisite—Algebra 1**	0.5	TEC CM-AL
2	ENR2016 A/B	**Principles of Engineering (POE)**	0.5	CM-AL
	MUST TAKE ONE OF THE FOLLOWING CONCENTRATOR COURSES *(May take more than one)*			
3	ENR2026 A/B	**Aerospace Engineering**	0.5	CM-AL
	ENR2009 A/B	**Civil Engineering and Architecture**	0.5	CM-AL
	ENR2013 A/B	**Computer Integrated Manufacturing**	0.5	CM-AL
	ITC2047 A/B	**AP Computer Science Principles PLTW**	0.5	CM-AL
	ENR2014 A/B	**Digital Electronics**	0.5	CM-AL
	ENR2008 A/B	**Environmental Sustainability**	0.5	CM-AL
	CAPSTONE COURSE			
4	ENR2015 A/B	**Engineering Design and Development (EDD)**	0.5	CM-AL
	ADDITIONAL OPPORTUNITIES			
	ENR2025	**Internship, Engineering Technology**	0.5	

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Students have opportunities to earn college credit from Rochester Institute of Technology for each course and may earn industry certifications.

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/engineering.aspx*



PROGRAMS OF STUDY IN TRANSPORTATION TECHNOLOGIES

• AVIATION AND AEROSPACE

AVIATION PILOT (4 CREDITS)

Offered at: **Magruder HS**

Aviation and Aerospace is a full-time program, beginning in Grade 9, for students interested in flight and aircraft systems. Invitation is by application only in the fall of Grade 8 for this four year program. The pilot pathway introduces students to safety, aerodynamics, aircraft systems, instrumentation, flight physiology and flight planning. Students can work toward obtaining a private pilot's license. The upper-level courses in the pathway will prepare students for postsecondary education, Federal Aviation Administration Part 107 certification exams, and careers in the aviation and aerospace industry. This program is guided by the Aircraft Owners and Pilots Association (AOPA).

	REQUIRED COURSEWORK (IN SEQUENCE)		COURSE CREDIT BY SEMESTER	COURSE INFO
1	TRN2027	**Principles of Aviation and Aerospace**	0.5	
2	TRN2026	**Exploring Aviation and Aerospace**	0.5	
3	TRN2018	**Introduction to Flight**	0.5	CM-AL
4	TRN2019	**Aircraft Systems**	0.5	CM-AL
5	TRN2020	**Private Pilot Fundamentals I**	0.5	CM-AL
6	TRN2021	**Private Pilot Fundamentals II**	0.5	CM-AL
7	TRN2025A	**Pilot Flight**	0.5	CM-AL
8	TRN2025B	**Pilot Capstone**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certifications:
  - » Students work toward their FAA Part 107 Remote Pilot Certificate
- Postsecondary Credentials:
  - » UMES – Up to 7 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/aviation.aspx*

AVIATION PILOT UNMANNED AIRCRAFT SYSTEMS (UAS) (4 CREDITS)

Offered at: **Magruder HS**

Aviation and Aerospace is a full-time program, beginning in Grade 9, for students interested in flight for Unmanned Aircraft Systems. Invitation is by application only in the fall of Grade 8 for this four year program. The pilot pathway introduces students to safety, aerodynamics, aircraft systems, instrumentation, flight physiology and flight planning. Students can work toward obtaining a private pilot's license. The upper-level courses in the pathway will prepare students for postsecondary education, Federal Aviation Administration Part 107 certification exams, and careers in the aviation and aerospace industry. This program is guided by the Aircraft Owners and Pilots Association (AOPA).

	REQUIRED COURSEWORK (IN SEQUENCE)		COURSE CREDIT BY SEMESTER	COURSE INFO
1	TRN2027	**Principles of Aviation and Aerospace**	0.5	
2	TRN2026	**Exploring Aviation and Aerospace**	0.5	
3	TRN2018	**Introduction to Flight**	0.5	CM-AL
4	TRN2019	**Aircraft Systems**	0.5	CM-AL
5	TRN2022	**Unmanned Aircraft Fundamentals I**	0.5	CM-AL
6	TRN2023	**Unmanned Aircraft Fundamentals II**	0.5	CM-AL
7	TRN2024A	**UAS Flight**	0.5	CM-AL
8	TRN2024B	**UAS Flight Capstone**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certifications:
  - » FAA Part 107 Remote Pilot Certificate
- Postsecondary Credentials:
  - » UMES – Up to 9 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/aviation.aspx*

• AUTOMOTIVE PROGRAMS

AUTOMOTIVE COLLISION REPAIR (4 OR 6 CREDITS)

Offered at: **Gaithersburg HS (DP) and Thomas Edison HS of Technology (TP)**

The Automotive Collision Repair program prepares students interested in pursuing a career in the automotive collision field. Students learn through authentic experiences as they use tools and materials to repair panels, doors, windows, and other damaged parts of automobiles, and painting techniques. Students completing this program are eligible to receive recognized industry certifications. This course is aligned with the Inter-Industry Conference on Auto Collision Repair (I-CAR) Academy.

	REQUIRED COURSEWORK FOR DOUBLE PERIOD (4 CREDITS) ONLY AT GAITHERSBURG HS		COURSE CREDIT BY SEMESTER	COURSE INFO
1	TRN2008 A/B	**Automotive Collision Repair 1**	1.0	10 SSL
2	TRN2009 A/B ***OR*** TRN2016	**Automotive Collision Repair 2 *OR* Internship, Auto Collision Repair**	1.0	CM-AL 10 SSL
	REQUIRED COURSEWORK FOR TRIPLE PERIOD (6 CREDITS) ONLY AT EDISON HS			
1	TRN2013 A/B	**Automotive Collision Repair 1**	1.5	15 SSL
2	TRN2014 A/B	**Automotive Collision Repair 2**	1.5	CM-AL 15 SSL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certifications:
  - » Students may receive certifications in I-CAR and / or ASE Paint & Refinish; Non-Structural student certifications; S/P2—Safety and Pollution Certifications

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/automotive-repair.aspx*

AUTOMOTIVE TECHNOLOGY (4 OR 6 CREDITS)

Offered at: **Damascus HS, Gaithersburg HS, Seneca valley HS (DP), Thomas Edison HS of Technology (TP)**

Automotive Technology students are offered an opportunity to train for skilled positions in the automotive professions. This program develops students' technical, analytical, and communication skills. Students are provided instruction and hands-on experience in many Automotive Service Excellence (ASE) areas, including engine performance and repair, suspension and steering, brakes, electrical/electronic systems, and heating and air conditioning to develop their knowledge and skills in the maintenance, repair, and sales and marketing of automobiles. This course is aligned with the ASE Education Foundation MLR standards.

	REQUIRED COURSEWORK FOR DOUBLE PERIOD (4 CREDITS) (NOT OFFERED AT THOMAS EDISON HS)		COURSE CREDIT BY SEMESTER	COURSE INFO
1	TRN2006 A/B	**Automotive Technology 1**	1.0	10 SSL
2	TRN2004 A/B ***OR*** TRN2015	**Automotive Technology 2 *OR* Internship, Automotive Technology**	1.0	CM-AL 10 SSL
	REQUIRED COURSEWORK FOR TRIPLE PERIOD (6 CREDITS) ONLY AT EDISON HS			
1	TRN2011 A/B	**Automotive Technology 1**	1.5	CM-AL 15 SSL
2	TRN2012 A/B	**Automotive Technology 2**	1.5	CM-AL 15 SSL
	ADDITIONAL OPPORTUNITIES			
1	TRN2005 A/B	**Automotive Technology 3 (DP Only)**	1.0	CM-AL 10 SSL
2	TRN2015	**Internship, Automotive Technology**	0.5	CM-AL

AVAILABLE CERTIFICATIONS/POSTSECONDARY CREDENTIALS

- Certifications:
  - » Student ASE certifications in AST, MLR, Brakes, Suspension & Steering, Electrical, Engine Performance, S/P2—Safety and Pollution Certifications
- Postsecondary Credentials:
  - » Montgomery College—3 credits; Catonsville College – 3 credits

Additional program information can be found at *www.montgomeryschoolsmd.org/career-readiness/plans/dealership-training.aspx*

MCPS NONDISCRIMINATION STATEMENT

Montgomery County Public Schools (MCPS) prohibits illegal discrimination based on race, ethnicity, color, ancestry, national origin, nationality, religion, immigration status, sex, gender, gender identity, gender expression, sexual orientation, family structure/parental status, marital status, age, ability (cognitive, social/emotional, and physical), poverty and socioeconomic status, language, or other legally or constitutionally protected attributes or affiliations. Discrimination undermines our community's long-standing efforts to create, foster, and promote equity, inclusion, and acceptance for all. The Board prohibits the use of language and/or the display of images and symbols that promote hate and can be reasonably expected to cause substantial disruption to school or district operations or activities. For more information, please review Montgomery County Board of Education Policy ACA, *Nondiscrimination, Equity, and Cultural Proficiency*. This Policy affirms the Board's belief that each and every student matters, and in particular, that educational outcomes should never be predictable by any individual's actual or perceived personal characteristics. The Policy also recognizes that equity requires proactive steps to identify and redress implicit biases, practices that have an unjustified disparate impact, and structural and institutional barriers that impede equality of educational or employment opportunities. MCPS also provides equal access to the Boy/Girl Scouts and other designated youth groups.**

For inquiries or complaints about discrimination against MCPS students*	**For inquiries or complaints about discrimination against MCPS staff***
Director of Student Welfare and Compliance Office of District Operations Student Welfare and Compliance 850 Hungerford Drive, Room 55, Rockville, MD 20850 240-740-3215 SWC@mcpsmd.org	Human Resource Compliance Officer Office of Human Resources and Development Department of Compliance and Investigations 45 West Gude Drive, Suite 2500, Rockville, MD 20850 240-740-2888 DCI@mcpsmd.org
For student requests for accommodations under *Section 504 of the Rehabilitation Act of 1973*	**For staff requests for accommodations under the *Americans with Disabilities Act***
Section 504 Coordinator Office of School Support and Well-being Office of Well-being, Learning and Achievement 850 Hungerford Drive, Room 257, Rockville, MD 20850 240-740-5630 504@mcpsmd.org	ADA Compliance Coordinator Office of Human Resources and Development Department of Compliance and Investigations 45 West Gude Drive, Suite 2500, Rockville, MD 20850 240-740-2888 DCI@mcpsmd.org
For inquiries or complaints about sex discrimination under Title IX, including sexual harassment, against students or staff*	
Title IX Coordinator Office of District Operations Student Welfare and Compliance 850 Hungerford Drive, Room 55, Rockville, MD 20850 240-740-3215 TitleIX@mcpsmd.org	

**Discrimination complaints may be filed with other agencies, such as the following: U.S. Equal Employment Opportunity Commission (EEOC), Baltimore Field Office, GH Fallon Federal Building, 31 Hopkins Plaza, Suite 1432, Baltimore, MD 21201, 1-800-669-4000, 1-800-669-6820 (TTY); Maryland Commission on Civil Rights (MCCR), William Donald Schaefer Tower, 6 Saint Paul Street, Suite 900, Baltimore, MD 21202, 410-767-8600, 1-800-637-6247, mccr@maryland.gov; or U.S. Department of Education, Office for Civil Rights (OCR), The Wanamaker Building, 100 Penn Square East, Suite 515, Philadelphia, PA 19107, 1-800-421-3481, 1-800-877-8339 (TDD), OCR@ed.gov, or www2.ed.gov/about/offices/list/ocr/complaintintro.html.*

***This notification complies with the federal Elementary and Secondary Education Act, as amended.*

This document is available, upon request, in languages other than English and in an alternate format under the *Americans with Disabilities Act*, by contacting the MCPS Office of Communications at 240-740-2837, 1-800-735-2258 (Maryland Relay), or PIO@mcpsmd.org. Individuals who need sign language interpretation or cued speech transliteration may contact the MCPS Office of Interpreting Services at 240-740-1800, 301-637-2958 (VP) mcpsinterpretingservices@mcpsmd.org, or MCPSInterpretingServices@mcpsmd.org.

July 2023



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