2017- 2018

Course of Studies Bulletin

Walt Whitman High School

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Dear Parents and Students:

The registration process is the first step toward planning for the next school year. Once students have registered, we will use their course choices to develop a master schedule and allocate staff for classes. **For this reason, any changes to course requests must be made by May 5, 2017.** Requests for changes made after this deadline will not be honored except in rare circumstances. Students should think carefully about their educational program and make careful decisions at this time. This consideration includes the selection of honors and AP courses. Students are advised to think about balance in choosing their courses because they will not be able to drop an honors or AP course if there is not room in the desired course they'd like to change to.

The Walt Whitman Course Bulletin contains a calendar of registration activities and the list of courses proposed at Whitman for the 2017-2018 school year. All courses are offered subject to sufficient student enrollment and staff allocation. In addition, you can look up our course offerings online at: http://www.montgomeryschoolsmd.org/curriculum/coursebulletin/ You should choose "school course catalogs" on the left navigation bar. Then you choose "Walt Whitman High School" to see our course offerings. We encourage you to use the worksheet feature on the website and print your worksheet in preparation for your registration meeting with your counselor.

Please read and use the online course bulletin during registration. Counselors, resource teachers, and department chairpersons will be happy to advise and assist you throughout this process.

Sincerely,

Alan S. Goodwin
Principal

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PREFACE

The 2017–2018 MCPS High School Course Bulletin provides students and parents/guardians with information about high school courses, programs, and career programs of study. This bulletin 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 needed 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 2017–2018 MCPS High School Course Bulletin contains brief descriptions of all approved courses offered in MCPS. Each MCPS high school offers a broad 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 bulletin.

Throughout this bulletin, you will find URLs directing you to MCPS websites containing program information and MCPS policies or regulations.

All course bulletin information is available online. To access the online course bulletin, go to www.montgomeryschoolsmd.org, click on Parents & Students, then Online Resources, then Course Bulletin; or go directly to http://coursebulletin.montgomeryschoolsmd.org/.

INTRODUCTION

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 assessments developed or adopted by the Maryland State Department of Education (MSDE), collectively referred to as the Maryland High School Assessments (MHSA). All requirements are summarized in the table on the following page, MCPS Graduation Requirements at a Glance..

Enrollment

Students must satisfactorily complete four years of school beyond Grade 8. (For exceptions, see Alternatives to Four-Year Enrollment.)

Course Credits

Students shall be enrolled in a Montgomery County Public School (MCPS) and have earned a minimum of 22 credits (unless a preapproved MCPS alternative is satisfied) that include the requirements shown in the table, MCPS Graduation Requirements at a Glance.

MCPS GRADUATION REQUIREMENTS AT A GLANCE

English	**4 credits**
Fine Arts	**1 credit** (Selected courses in art, dance, drama/theatre, and music that satisfy the fine arts requirement are designated FA)
Health Education	**0.5 credit**
Mathematics	**4 credits** (must include 1 full-year (A/B) algebra credit and 1 geometry credit) **NEW STATE REQUIREMENT FOR STUDENTS GRADUATING IN 2018 AND LATER:** Students graduating in 2018 and later must be enrolled in a mathematics-based course each year of high school. This may result in students earning more than 4 credits in math for graduation. See the Mathematics Department offerings section for more detail.
Physical Education	**1 credit**
Science	**3 credits** (1 biology credit and 1 physical science credit must be included)
Social Studies	**3 credits** (1 U.S. History credit; 1 World History credit; and 1 National, State, and Local Government credit)
Technology Education	**1 credit** (approved courses that satisfy the technology requirement are designated TE. Advacned Technology (AT) courses do not satisfy the TE course requirement.

	OPTION 1	OPTION 2	OPTION 3
Electives: The additional credits required for graduation may be fulfilled by one of the three options	2 credits in a world language OR 2 credits in American Sign Language AND 2.5 credits in elective courses	2 credits in advanced technology education AND 2.5 credits in elective courses. TE courses do not count as AT course credit.	4 credits in a state-approved Program of Study (POS) AND 0.5 credit in electives courses
Student Service Learning (SSL)	75 service-learning hours		
Up-to-date graduation requirements by class may be found at http://www.montgomeryschoolsmd.org/curriculum/graduation-requirements.aspx			

Student Service Learning (SSL)

The 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 gradudate. They may begin fulfilling this requiremen the summer after Grade 5 and continue to accrue SSL hours through high school. Students who earn 260 or more SSL hours receive a **Certificate of Meritorious Service** 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 as follows:

- School Courses

Successful completion of specifc courses identifed in this course bulletin where the three phases in SSL achieve curricular objectives.

- School Clubs

  Fully participating and completing the three phases of service learning in activities promoted by school-sponsored clubs and organizations.

- Community Organizations and Opportunities (must be preapproved for SSL)

  Fully participating in opportunities with community organizations pre-approved by MCPS and listed on the MCPS SSL website, found at http://montgomeryschoolsmd.org/departments/ssl/. MCPS SSL approved opportunities are identified on the Montgomery County Volunteer Center webpage with the SSL icon found at http://www.montgomeryserves.org/volunteers/student-service-learning-ssl. Students may also seek approval for other types of service learning by submitting MCPS Form 560-50, *Request for Student Service Learning Preapproval.*

All activities for which SSL hours are desired must occur in a public place, be secular in nature, and be supervised by an adult representative from a nonprofit, tax-exempt organization. Parents/guardians and relatives may not directly supervise a student. One SSL hour is awarded for every 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. More information is available at the MCPS SSL site, http://mcpsssl.org, or the SSL FAQ pages at www.montgomeryschoolsmd.org/departments/ssl/faqs/faq.shtm. For individual SSL questions, contact the SSL coordinator in any middle or high school.

Maryland High School Assessments (MHSA)

Maryland High School Assessments (MHSA) are those 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 "MHSA" encompasses both the High School Assessment (HSA) developed for Maryland, tests developed by the Partnership for Assessment of Readiness for College and Careers (PARCC), as well as other tests MSDE may develop or adopt in the future. Students take these assessments as they complete the corresponding courses. It is anticipated that students will be required to take the Maryland Integrated Science Assessment (MISA) during a grade level course yet to be determined by MSDE.

Maryland High School Assessment (MHSA) Requirements

***HSA* and *PARCC* Assessments**

*The MHSA requirements are subject to change by Maryland State Department of Education (MSDE).

Algebra	Pass Algebra 1 PARCC
Maryland Integrated Science Assessment (MISA)	During a grade level course yet to be determined, students will need to participate in the MISA, pending approval by the State Board of Education
English 10	Pass English Langugage Arts/Literacy (ELA/L) 10 PARCC
Government	Pass Government HSA or substitute established by MSDE (e.g., AP)

MARYLAND CERTIFICATE

Maryland High School Certifcate

This certificate is awarded only to students with disabilities who cannot meet the requirements for a diploma but who meet one of 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 *http://www.montgomeryschoolsmd.org/departments/policy/pdf/isbra.pdf*.

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 Montgomery County Public Schools Certificate of Merit (a diploma endorsement):

a. Advanced Courses

At least 12 credits must be earned in advanced courses designated by MCPS as applicable to the Certificate of Merit (CM). CM courses only contribute to a weighted GPA when the course is also identified as Advanced Level (AL). All courses to be counted toward the Certificate of Merit must be taken for a letter grade.

b. Mathematics Requirement

Students must successfully complete and/or receive credit for an MCPS Algebra 2 course.

c. Cumulative Grade Point Average

Students must obtain at least a 3.0 unweighted cumulative grade point average.

COURSES AND CREDITS

Each MCPS high school provides a comprehensive program of studies that enables all students to earn required graduation credits. All high school courses are one semester in length. 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 credit 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". In general, the first semester of a course is a prerequisite for the second semester.

Honors, Advanced Placement, and Advanced-level 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 an IB diploma or participating in a certificate program must meet the requirements of the 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 for pursuing in-depth studies that require abstract and higher-order thinking skills.

Advanced-level Courses

Advanced-level courses are based on previous achievement in a sequence of study. Advanced-level courses include appropriate adaptations for accelerated and enriched learning for pursuing in-depth studies that require abstract and higher-order thinking skills.

Advanced Placement Courses

MCPS has developed courses that meet College Board guidelines to accompany the Advanced Placement examinations. A qualifying score on an AP exam may earn the student college credit or advanced standing in the subject in many colleges. All MCPS AP courses have met the requirements of and been approved by the College Board Audit Committee and include concepts and skills that help students prepare for the AP exams.

International Baccalaureate (IB) Diploma Programs in MCPS

The IB Diploma program is offered at

- Bethesda-Chevy Chase High School (for students in the B-CC area)
- Albert Einstein High School (for students in the Downcounty Consortium)
- John F. Kennedy High School (for students in the Downcounty Consortium)
- Richard Montgomery High School (for students selected through a competitive county-wide application and selection process during their eighth grade year)

  Rockville High School (for students in the Rockville area)
- Seneca Valley High School (for students in the Seneca Valley area)
- Springbrook High School (for students in the Northeast Consortium)
- Watkins Mill High School (for students in the Watkins Mill area)

The IB county-wide program at Richard Montgomery High School is designed for highly gifted students in Montgomery County and has an application process that occurs in Grade 8.

The International Baccalaureate (IB) Career Certificate Programs in MCPS

The IB Career Certificate Program (IBCP) is offered at Watkins Mill High School and Rockville High School.

The MCPS IB program website, www.montgomeryschoolsmd.org/curriculum/specialprograms/high/ib.aspx, contains links to each school's program and admission process. Each MCPS high school offering an IB program 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.

Criteria for Enrollment in Honors, Advanced Placement, and Advanced-level Courses

According to Montgomery County Board of Education Policy IOA, *Gifted and Talented Education*, and accompanying MCPS Regulation IOA-RA, *Gifted and Talented Education*, multiple criteria such as mastery of course preprequisities, willingness to complete challenging assignments, previous grades, student interest, and teacher/counselor recommendations will be used to admit high school students to Honors, Advanced-level, AP, or IB classes. All students who have the capability, motivation, or potential to accept the challenge of such a program will be provided an opportunity to do so. Board Policy IOA and MCPS Regulation IOA-RA can be found at www.montgomeryschoolsmd.org/departments/policy/pdf/ioa.pdf and www.montgomeryschoolsmd.org/departments/policy/pdf/ioara.pdf.

COURSE-RELATED INFORMATION

Student withdrawals from Courses

A student-initiated withdrawal may occur when the student and parent/guardian determine that withdrawal will be beneficial to the student. The student's withdrawal request must be approved by parent/guardian in writing, reviewed by the counselor, and discussed with the student to ensure that there is understanding that withdrawing from the course may result in a possible delay in meeting graduation requirements. The counselor's recommendation is forwarded to the principal for approval.

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 day of the semester, the date of the withdrawal and the achievement attained at the time of withdrawal will be entered on the report card and permanent record.

Additional information about withdrawal and student elgibility for extracurricular activities is in MCPS Regulation IKC-RA, *Grade Point Average (GPA) and Weighted Grade Point Average* (WGPA), found at http://www.montgomeryschoolsmd.org/departments/policy/pef/ikcra.pdf, and in MCPS regulation IQD-RA, *Academic Eligibility for High School Students Who Particpate in Extracurricular Activities*, found at www.montgomeryschoolsmd.org/departments/policy/pdf/iqdra.pdf.

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. The list of online courses approved by MCPS for credit toward graduation is www.montgomeryschoolsmd.org/departments/onlinelearning.

It is critical that students and their partents/guardians consult with academic advisors/counselors prior to registering for courses 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 www.mongtomeryschoolsmd.org/departments/policy/isbra.pdf.

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 to four-year enrollment are available. **Advance permission form the principal or designee is required**, an alternative plan must be 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 must be obtained. Approval may be made contingent upon the student's acceptance to an approved college, vocational, technical, 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 http://www.montgomeryschoolsmd.org/departments/policy/pdf/isbra.pdf.

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 program or activity approved by the student's parent/guardian and principal.

Grading and Reporting

The Board 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. Board Policy IKA, *Grading and Reporting*, and accompanying MCPS Regulation IKA-RA, *Grading and Reporting*, set forth expectations and guidance, found at www.mongtomeryschoolsmd.org/departments/policy/pdf/ika.pdf and www.mongtomeryschoolsmd.org/departments/policy/pdf/ikara.pdf. The Office of Curriculum and Instructional Programs 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.

A districtwide marking period assessment is required to be given each marking period in identified high school English, English for Speakers of Other Languages (ESOL), information technology/computer science, mathematics, science, social studies, and world language courses. Scores of marking period assessments in high school courses for which districtwide assessments have been developed will be calculated as 10 percent of the marking period grade.

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 (Edline)
- 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 the MSDE or MCPS. Courses taken using the Credit/No Credit cannot be applied toward a Certificate of Merit course.

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

Only final course grades and credit are 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* (www.montgomeryschoolsmd.org/departments/policy/pdf/ikcra.pdf). To determine WPGA, an additional quality point will be added to grades of A, B, and C in all honors, advanced-level, and AP courses only.

A Marking Period Averages (MPA), used in determining academic eligibility, is shown on student report cards. The MPA is not cumulative and is not used to establish the GPA or WGPA.

MCPS does not rank studens. Additional information about grading and reporting is available at www.montgomeryschoolsmd.org/info/grading/.

Repeating a Course to Earn a Higher Grade

Any student who completes a high school course may retake the course for a replacement grade. Grades and credits for courses retaken will be treated for computing the GPA and WPGA as follows: 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/WPGA; c) students may only replace a course with a course of the same or comparable course code, as authorized by the Office of Curriuclum and Instructional Programs; or d) if space in a class is limited, students taking the course for the first time have priority for placement in the case over students retaking the course. Upon completing of the course, their official transcript and GPA/WGPA will reflect only the higher mark earned. Further information can be found in MCPS Regulation IKC-RA, *Grade Point Averages (GPA) and Weighted Grade Point Averages (WGPA),* found at http://www.montgomeryschoolsmd.org/departments/policy/pdf/ikcra.pdf, or by contacting the student's counselor or High School Programs in the MCPS Department of Career Readiness and Innovative Programs, 301-279-5632.

Academic Eligibility for Participation in Extracurricular Activities

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 in any extracurricular activitiy requiring academic eligibility. Further information, including additional provisions that apply to withdrawn courses, can be found in MCPS Regulation IQD-RA, *Academic Eligibility for High School Students Who Participate in Extracurricular Activities*, found at www.montgomeryschoolsmd.org/departments/policy/pdf/iqdra.pdf.

National Collegiate Athletic Association (NCAA) Eligibility Center

The National Collegiate Athletic Association (NCAA) 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 bulletin with the symbol NCAA. In all cases, the list of eligible courses available at the NCAA Eligibility Center website represents the final determination on acceptable core courses.

To learn more about NCAA Eligibility Center Approved Core Courses or about NCAA Freshmen Eligibility Standards contact the local school resource counselor and visit the NCAA Eligibility Center website at http://www.ncaa.org/student-athletes/future/eligibility-center. Students may want to download the NCAA student document at http://www.ncaapublications.com/productdownloads/CBSA17.pdf

Taking Courses not Available at the Home School

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

MCPS COUNTYWIDE PROGRAM

Career and Technology Education (CTE) Programs of Study (POS)

Programs of Study (POS) are state-approved programs that satisfy the Career Technology Education (CTE) graduation option requirements and are designated by POS in this bulletin. Each of these programs is designed to help student acquire the specialized knowledge, skills, attitudes, and work habits required for employment and postsecondary education.

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

Extensive information about MCPS CTE Programs of Study is available at the website www.montgomeryschoolsmd.org/curriculum/careerprograms/ and www.montgomeryschoolsmd.org/career-readiness/.

Thomas Edison High School of Technology

Thomas Edison High School of Technology (TEHST) provides all MCPS students with the opportunity to co-enroll in advanced academic, technical, and career programs. The mission of TEHST 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 CTE programs offered at TEHST allows students to explore and experience traditional and nontraditional career options and to prepare for collete and a wide range of expanding and challenging postsecondary options. Students enroll in TEHST programs through their home school and take courses at both the home school and at TEHST. Bus transportation is provided. All programs offered at TEHST are state-approved and meet the CTE graduation option requirements for students.

Registration packets are available from TEHST, local school counselors, and at www.montgomeryschoolsmd.org/schools/edison/.

Foundations Office Programs

The Montgomery County Student Foundations Office serves as a liaison between the business/professional community and MCPS, by coordinating three separate non-profit educational foundations that prepare students for a wide range of postsecondary options within the automotive, construction, and information technology and computer science industries.

Programs provide instruction in classroom and laboratory settings with state-of-the-art technology, along with authentic, "real world" experiences for students through rigorous curriculum, career pathway programs, industry certification opportunities, community business partnerships, entrepreneurial projects, scholarships/awards, SSL hours, and articulation agreements through which students may earn college credit. Additional information may be found at www.montgomeryschoolsmd.org/curriculum/foundations/.

Automotive Trades Foundation Programs

Automotive Trades Foundation programs are located at Damascus, Gaithersburg, Seneca Valley, and TEHST high schools. Three student-run car sales per school year are held, selling more than 2,000 renovated vehicles to date. Students donate one renovated vehicle yearly to a deserving Montgomery County organization.

Construction Trades Foundation Programs

Construction Trades Foundation programs are located at TEHST. Students design, construct, and market student- built houses. Forty houses have been built and sold thus far in Montgomery County. Students are currently constructing the forty-first student-built home.

Information Technology and Computer Science Programs

Information Technology programs in computer repairs and networking (Network Operations) are located at Clarksburg High School and TEHST. Students in these programs refurbish, market, and sell donated computers to the community and donate a lab yearly to a deserving Montgomery County non-profit organization. Cisco Networking Academies are located in 7 MCPS high schools: Bethesda-Chevy Chase, Damascus, Gaithersburg, Quince Orchard, Seneca Valley, Springbrook, and Wootton. Students in both programs can earn valuable industry-standard CompTIA certifcations and college credits, and can obtain internships in the IT field. The Computer Science pathway, which includes a robotics unit, is offered in 24 high schools. Students can take 2 AP courses in the pathway as well as earn college credits and obtain internships. Six MCPS high schools are affiliated with NAF Academy of Information Technology (AOIT)

and offer pathways in computer programming, computer science, networking, and information resource design.

College Credit Available at Montgomery College for MCPS Students Who Complete Programs of Study

MCPS graduates who successfully complete select POS may earn free college credit after receiving grades of A or B 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 for programs of study, contact your school counselor. 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 are advised that there are additional options for earning college credit while an MCPS student. More information about early college credit opportunities are found at http://www.montgomeryschoolsmd.org/curriculum/partnerships/college-credit.aspx.

MCPS, Montgomery College and The University System of Maryland Partnerships Programs

Programs for College Ready MCPS High School Students

Several MCPS high schools offer early college access programs in which college ready high school juniors or seniors may take college courses while in high school. Students may enroll in college courses offered at select high schools, online, or on a college campus. Credits for these courses are fully transferable to the providing institution. Students must check with the college of their choice to ensure transferability to other institutions of higher education. Limited financial aid may be available.

MC Ensembles Partnership Program

The MC Ensembles Partnership gives talented MCPS high school instrumental music students the opportunity to participate in the MC Symphony Orchestra or MC Wind Ensemble. For additional information, speak with your school's instrumental music teacher or contact Dr. Jay Crowder, Music Department Chair, at 240-567-7554, or E-mail: **jay.crowder@montgomerycollege.edu.**

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

The Visual Art Center (VAC) is a challenging and rigorous portfolio development program with a competitive application process consisting of an interview, portfolio assessment, scholastic achievement record review, and teacher recommendations. Through studio activities, group critiques, assigned research, lectures, demonstrations, slide presentations, and gallery visits, students develop a broader perspective of the fine arts and a greater awareness of opportunities in art careers. An important outcome of the program is the assembly of a strong portfolio for AP studio exams, college admissions, and scholarship applications.

Grades 9 and 10 students attend the VAC for a double period morning session, 90 minutes each day. Grades 11 and 12 students can chose to attend the morning or afternoon session for a triple period, 135 minutes each day, to pursue the AP studio art curriculum. Students may choose to transfer to Albert Einstein High School full-time once they have been accepted into the program. Students/parents/guardians must provide transportation.

For more information, contact Mygenet Harris or Jane Walsh at 301-962-1027 or go to www.montgomeryschoolsmd.org/schools/vac/index.htm.

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 those students through a unique, diversified curriculum fostering 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 Grade 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).

Program descriptions, brochures, and applications can be found at the MCPS website www.montgomeryschoolsmd.org/curriculum/specialprograms/high/magnet-science.aspx.

ADDITIONAL LEARNING OPPORTUNITIES

George B. Thomas, Sr. Learning Academies

Twelve MCPS Schools host The George B. Thomas, Sr. Learning Academies programs on Saturday mornings (Saturday School) providing enrichment, tutoring, and mentoring for students in Grades 1-12. The George B. Thomas, Sr. Learning Academy, Inc. was established in 1986 by the Mu Nu Chpater 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, Einstein, Gaithersburg, Kennedy, Magruder, Northwest, Paint Branch, Rockville, Sherwood, Springbrook, Watkins Mill, and Wheaton. For more information about Saturday Schools tutoring and the George B. Thomas, Sr. Learning Academies, contact your local school or check the MCPS website www.montgomeryschoolsmd.org/departments/gbtla/.

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 attendance at scheduled face to face meetings in addition to online instruction.

MCPS Courses

MCPS offers three online courses, Comprehensive Health, Foundations of Technology and Foundations of Computer Science which follow a blended model of online and face-to-face (f2f) learning. Each course satisfies MCPS and state graduation requirements. Registration information and cost for these classes is available online at the Student eLearning website.

Online AP Courses

Approved AP courses, offered by vendors outside of MCPS, are delivered solely online. Courses have an associated fee. Registration information is available online at the Student eLearning website. As with all courses offered by institutions other than MCPS, **advance permission from the principal** or designee is required for courses for which the student seeks high school credit. Additional information regarding eLearning is found at: http://www.montgomeryschoolsmd.org/departments/onlinelearning/.

Online Pathway to Graduation
The Online Pathway to Graduation (OPTG) is a year-long program that enables current MCPS seniors and former MCPS high school students needing three credits or fewer, in additional to their daytime classes, to meet the academic requirements for a Maryland high school diploma. The instruction is delivered online. In addition, a teacher is in a centrally located computer classroom who monitors participant progress and facilitates individual instruction when needed. All diagnostic and unit tests will be proctored at the Center fo Technology Innovation.

Participants progress through the courses, completing assignments and taking assessments to demonstrate mastery of course objectives. As participants successfully complete each course, credit is awarded, thus helping the participant progress toward the goal of earning a high school diploma. Also, participants are responsible for completing all Maryland and MCPS graduation requirements, including MHSA and SSL requirements. For current MCPS students the courses offered are free.

To learn about the Student eLearning program, see your counselor, contact the Student eLearning team or visit the Student eLearning website, www.montgomeryschoolsmd.org/departments/onlinelearning/.

SUMMER SCHOOL

Summer School 2017
The Regional Summer School Program provides an alternative for students to receive credit for select courses during the summer. The courses taught follow the same curriculum guidelines as those during the regular school year. Brochures for the 2017 Regional Summer School Program will be available in all schools by the last week of April 2017. Registration forms, tuition-reduction waiver vochers, and a copy of the summer school brochure will also be available on the MCPS website.

Summer School Sites and Schedules
Summer School site locations and schedules will be advertised as soon as they are available. The sites for the Regional Summer School Program are selected based on serving the needs of all students. All high schools can also develop their own Local School Program (LSP) to serve the needs of their specific population. The LSP operates independently of the Regional Summer School Program.

Conact Information
Questions regarding LSPs should be directed to individual schools.

Questions regarding the Regional Summer School Program should be directed to 301-279-8529, or: Regional Summer School Program, Carver Educational Services Center, Rockville, MD 20850, or fax: 301-279-3747.

REGISTRATION CALENDAR 2016-2017

Registration is a crucial decision-making process. Some of the factors that should be taken into consideration in making course selections include:

- Graduation requirements
- College prep considerations
- Degree of readiness for course under consideration
- Difficulty of total program

The Master Schedule for the coming year is based on student course selections made during the registration period; therefore, it is frequently impossible to honor schedule change requests that may be submitted at a later time.

GRADE 8

Registration for 8th grade students at Pyle – Jan. 17-19 (Snow dates: Jan. 23 and 24)

Current Eighth Grade Parent Night- Jan. 24, 2017 at 7:00pm in Whitman Auditorium

Pyle parent drop in: February 8, 2017 from 7:45 am-11:45 am

Registration forms due at Pyle by February 9th at 3pm

Registration pick-up at Pyle: February 14th (9:45-11:15am)

GRADE 9

Registration Orientation – Feb. 1, 2017 in English classes

Return registration materials – Feb. 15 (periods 1 – 8) in English classes

GRADE 10

Registration Orientation – February 6, 2017 in English classes

Return registration materials – February 22, 2017 (periods 1 – 8) in English classes

GRADE 11

Registration Orientation – February 9, 2017 in English classes

Return registration materials – February 23, 2017 periods 1-8

ESOL REGISTRATION

Registration Orientation – Feb. 3, 2017 in ESOL classes

Return registration materials – Feb. 17 in Counseling Office

Registration Make-up: February 24th during Period 2 in Counseling Office

Schedule change requests for School Year 2017-18 must be made no later than Friday, May 5, 2017. Schedule Changes will not be made after that date.

COURSE OFFERINGS

ART

The Walt Whitman HS Art Department offers a wide range of visual art experiences and is dedicated to helping each student develop their talent to the fullest. Students at Whitman can take art all four years and meet graduation requirements. Advanced Placement (AP) courses are available in Studio Art (Drawing and Painting), Ceramics & Sculpture, 2D Design including Photography and Commercial Art.

One Fine Arts credit is required for graduation. Refer to the MCPS County Course Bulletin for selected courses, which satisfy the Fine Arts requirement. Course fees will be published at a later date.

Course Title	Course No.	Notes
Foundations of Art A/ Foundations of Art B	6055/6056	
Studio Art 1A/ Studio Art 1B	6105/6106	
Studio Art 2A/ Studio Art 2B	6205/6206	
Studio Art 3A/ Studio Art 3B	6305/6306	
Studio Art AP A/ Studio Art AP B	*648231/*648232	(Admit by interview)
Studio Art AP A/ Studio Art AP B (DP)	*648431/*648432	1 credit (Admit by interview)
Ceramics 1A/ Ceramics 1B	6381/6391	
Ceramics 2A/ Ceramics 2B	*6383/*6393	
Ceramics 3A/ Ceramics 3B	*6385/*6386	
Advanced Studio Ceramics A/B	*631331/*631431	
AP Studio Art 3D A/ AP Studio Art 3D B	*648831 /*648832	
Commercial Art 1A/ Commercial Art 1B	6401/6411	
Commercial Art 2A/ Commercial Art 2B	*6403/*6413	
Adv. Studio Commercial Art A/B	*631332/*631432	
Photography 1A/ Photography 1B	6345/6346	
Photography 2A/ Photography 2B	*6347/*6348	
Digital Photography/Photo 3A/3B	*631333/*631433	
AP Studio Art 2D A/ AP Studio Art 2D B	*648631/ *648632	
Digital Art A/ Digital Art B	*6496/*6497	
Digital Art 2 A/B	*631334/*631434	
AP Art History A/B	*6456/6457	

Courses marked * count toward the Certificate of Merit

ART COURSES

Foundations of Art A/B

The Foundations of Art course is designed to develop basic skills in drawing, painting, design, sculpture, printmaking, and visual communication. Students will explore a variety of materials and methods to create art as well as to develop an appreciation and understanding of the visual arts as a fundamental aspect of history and human experience. These studies are linked with information about historically significant artists or periods of art. Career information is provided.

Studio Art I

Students create original works of art in drawing, painting, printmaking and mixed media sculpture. They will develop knowledge of media, tools, and techniques while implementing the elements of art and

principles of design in the creatin of their work. Students will study art from various cultures, regions, and time periods to discover how historical and contemporary artwork is used to inspire original works of art. Career information is provided.

Studio Art 2

Prerequisite: *Attainment of the outcomes of Studio Art 1 A/B.*

Students concentrate on building a portfolio of work and a collection of sketches using a preferred medium and showing details of composition. Realistic, abstract, and nonobjective styles are studied.

Studio Art 3

Prerequisite: *Attainment of the outcomes of Studio 2 A/B.*

Students may concentrate on a medium and art form of their choice, using both assigned and self-selected subject matter. Students participate in group critiques and present their work in a portfolio. Students focus on the preparation and presentation of their artwork in a one-person show. Students participate in group discussions in which significant works of art and art history are analyzed. Museum field trips and talks with visiting artists and teachers may be arranged.

Ceramics & Sculpture 1 A/B

This course concentrates on basic hand-building and glazing techniques in clay. Students examine the compositional elements of 3-D design in historically significant pottery and sculptural forms. The course also focuses on the creation of sculptural art using a variety of other materials and techniques. An introduction to the potter's wheel will be presented in the second semester along with related health and safety issues.

Ceramics & Sculpture 2 A/B

Prerequisite: *Attainment of the outcomes of Ceramics/Sculpture 1A/B.*

Students learn about natural and historically significant forms as the inspiration for pottery and sculptural design. Basic firing characteristics and use of layered glazes are studied in addition to exploring more advanced techniques on the potter's wheel. A variety of materials including wire, plaster and fused glass are introduced as well an introduction to new clay surface techniques.

Ceramics & Sculpture 3/Advanced Ceramics

Prerequisite: *Attainment of the outcomes of Ceramics/Sculpture 2 A/B*

Students study the works of contemporary potters and sculptors in terms of form, finish and conceptual statement. Students combine hand-built forms, thrown forms and found objects to create pottery or sculpture that make a personal statement. Students participate in group critiques. In the second semester, students create a series of forms that reflect a common source or theme. Techniques for displaying work are demonstrated in student exhibits.

Commercial Art 1 A/B

Commercial Art 1A/B is a course designed for students with special interest in color and design techniques using the Elements of Art and the Principles of Design. Students develop basic skills required for the design and production of advertising and promotional art. They create posters and receive lessons in illustration. Students may be able to study other graphic processes, including digital art, if time, equipment, and facilities allow.

Commercial Art 2 A/B

Prerequisite*: Commercial Art 1 A/B, Foundations of Art, Studio Art, or by teacher recommendation.*

Students enrolled in Commercial Art 2 A/B continue to develop skills in the Elements of Art and Principles of Design by producing poster designs for WWHS events and focusing on product and environmental designs. Students use professional drawing tools to produce finished artwork. Students may be able to study other graphic processes, including digital art, if time, equipment, and facilities allow.

Advanced Studio/Commercial Art

Prerequisite: *Commercial Art 2 A/B, Studio Art 2, or by teacher recommendation.*

Students enrolled in Advanced Studio Commercial Art concentrate on building a portfolio of work including promotional art, poster designs and a collection of product and environmental designs.

Digital Art

Students use the computer as a tool to produce artwork that simulates classic media as well as to create a variety of new techniques. Digital art, software, and computer processes are used. Emphasis will be placed on student projects incorporating the Elements of Design and Principles of Composition. Students discuss ethical and safety issues in the use of computers as an instructional tool. Students work to develop criteria for judgment of digital artwork. A portfolio of digital art is produced.

Advanced Studio Digital Art (2)

Prerequisite: *Digital Art 1 or by teach recommendation*

A continuation of Digital art 1, students will use the computerand various 2-D elements as a tool to produce works of art. Strong emphasis will be placed on incorporating the Elements of Art and the Principles of design, as well as developing the student artist's voice. Students will also develop a strong knowledge of contemporary works beyond the computer, and application of work to the real world.

Photography 1A/B

This course requires students to provide their own 35mm SLR film camera. Students will learn how to use the camera, process black-and-white film and print in a traditional wet darkroom. Projects are assigned that allow students to express themselves through their choice of subject matter, lighting, form, and composition. In addition to the proper use of photographic chemistry students will be taught how to safely operate a wet darkroom. Digital photography is not part of this course.

Photography 2A/B

Prerequisite: *Attainment of the outcomes of Photography 1 A/B or by teacher recommendation.*

Advanced film camera and darkroom techniques are demonstrated and discussed. Students continue studies in the history of photography, iconic photographers, and technical developments. While maily a film based class Photo 2B students will also be introduced to the basics of digital photography. Digital cameras are encouraged but not required.

Digital Photography/Photo 3A/B

Prerequisite: *Photo 1 (A/B) and Photo 2 (A/B) or by teacher recommendation.*

This course provides students with a basic understanding of digital photography as an art form. A digital camera and computer software replaces the traditional darkroom and is used to capture and manipulate photographic images, and to increase the students' understanding of both traditional and contemporary photographic techniques. Photographic composition and the expression of meaning in personal artworks will be stressed. The students will create portfolios of their digital photographs that emulate both traditional and contemporary photographic processes and media.

Advanced Placement, 2D Design, 3D Design and Studio Art (Drawing/Painting)

- ***Prerequisite:*** *2 credits in Visual Art, including Studio Art 1 A/B, Studio Art, Ceramics & Sculpture, Photography, Digital Art and/or Commercial Art*The AP Studio Art courses are designed for the highly motivated and able students who are seriously interested in the practical experience of art. The AP program follows national standards for performance in the visual arts. The course consists of three main units. The Drawing/Painting course is designed to address a very broad interpretation of drawing issues and materials. Light and shade, line quality, rendering of form, composition, surface manipulation, and illusion of depth are drawing issues that can be addressed through a variety of drawing and painting materials. The 2D Design course addresses a very broad interpretation of two-dimensional design and visual communication issues. This type of design involves purposeful decision-making about how to use the elements and principles of art in an interpretive way. These could include, but are not limited to, graphic design, typography, digital imaging, photography, collage, fabric design, fashion design, illustration, painting, and printmaking. A variety of approaches to representation, abstraction, and expression may be addressed. The 3D Design course addresses a broad interpretation of sculptural issues in depth and space. These may include mass, volume, form, plane, light, and texture. Such elements may be articulated though additive, subtractive, and/or fabrication processes. A variety of approaches to representation, abstraction, and expression may be part of the student's portfolio. These

might include traditional sculpture, architectural models, apparel, ceramics, three-dimensional fiber arts or metal work, among others. In the spring, students focus on one unit as they prepare a portfolio for assessment by AP evaluators

Advanced Placement, Studio Art

Prerequisite: *2 credits in Visual Art, including Studio Art 1 A/B.*

The AP Studio Art courses are designed for the highly motivated and able students who are seriously interested in the practical experience of art. The AP Studio Art program follows national standards for performance in the visual arts. The course consists of three main units. The **drawing unit** is designed to address a very broad interpretation of drawing issues and materials. Light and shade, line quality, rendering of form, composition, surface manipulation, and illusion of depth are drawing issues that can be addressed through a variety of drawing and painting materials. The **two-dimensional design unit** addresses a very broad interpretation of two-dimensional design and visual communication issues. This type of design involves purposeful decision-making about how to use the elements and principles of art in an interpretive way. These could include, but are not limited to, graphic design, typography, digital imaging, photography, collage, fabric design, fashion design, illustration, painting, and printmaking. A variety of approaches to representation, abstraction, and expression may be addressed. The **three-dimensional unit** addresses a broad interpretation of sculptural issues in depth and space. These may include mass, volume, form, plane, light, and texture. Such elements may be articulated though additive, subtractive, and/or fabrication processes. A variety of approaches to representation, abstraction, and expression may be part of the student's portfolio. These might include traditional sculpture, architectural models, apparel, ceramics, three-dimensional fiber arts or metal work, among others. In the spring, students focus on one unit as they prepare a portfolio for assessment by AP evaluators.

Art History, Advanced Placement A/B

Through studying the evolution of Western and non-European art in contemporary society by examining the major forms of visual expression in world cultures, students prepare for the AP Art History exam. Students analyze architecture, sculpture, painting, and the decorative arts within a historical and cultural context, from ancient art to the present. ***Grade Levels: 10-12.***

BUSINESS EDUCATION

Most courses listed are 1/2 credit per semester and are described in the online course bulletin. Course fees will be published at a later date.

Course Title	Course No.	Notes
Personal Finance	*4158	semester 1
International Business	*4136	semester 2
Business Internship A single period	7813	semester 1
Business Internship B single period	7816	semester 2
Business Internship A double period	7818	semester 1, 1 credit
Business Internship B double period	7819	semester 2, 1 credit
Business Internship A triple period	7822	semester 1, 1½ credits
Business Internship B triple period	7823	semester 2, 1½ credits

Personal Finance – Grades 9-12

Personal Finance is truly a course that is "ripped from the headlines" these days. It addresses the needs of the students as they prepare for financial independence. Topics include: financial goal setting, financial planning, career planning, budgeting, researching large purchases, price negotiation, choosing financial institutions, and the wise use of credit. The importance of saving and investing is emphasized. The students play the Stock Market Game to give them "hands on" experience investing on Wall Street. Students will engage in the H & R Budget Challenge online where they will learn how to pay bills, manage expenses, save money, invest in retirement, and pay taxes. The program's learn by doing approach lets students learn real-world financial skills. Students are challenged to balance current and future financial needs by using application of financial concepts. A class all students should take to ensure they are real-world ready.

International Business – Grades 10-12

International Business focuses on the student as an entrepreneur in the global market. This course requires a business plan for an international start-up as a final project. Topics include: Global Economic Basics; Importing, Exporting and Trade Relations; International Currency Exchange, International Finance and the IMF and World Bank; and all of the aspects of Strategic International Business Planning. The students get a brief introduction to investing and will play the Stock Market Game with an emphasis on global investments. Speakers from the community are brought in to give a real-world perspective. A field trip to the New York Financial District is often planned. Speakers from the community are brought in to give a real-world perspective.

Business Internships A and B

Students may sign up for paid or unpaid Business Internships in local businesses and professional, career-focused organizations. Students may enroll for a single, double, or triple-period internship. There is an application process and students must get pre-approval for all work sites from Mrs. Marafatsos. Students must provide their own transportation.. The Career/College Research Devleopment 1 Class (CCRD 1) is strongly recommended for intern students. (See Career Education for CCRD 1 course details)

CAREER EDUCATION/COLLEGE –CAREER RESEARCH DEVELOPMENT

All students who register for Site Based WorkExperience must also register for the College-Career Research Development(CCRD) appropriate course.

- Each course listed is ½ credit per semester unless otherwise stated.

Course Title	Course No.	Notes
College/Career Research and Development 1A (Open to all 10-12th grade students)	8092	1st year CCRD
College/Career Research and Development 1B (Open to all 10-12th grade students)	8093	1st year CCRD
College/Career Seminar 2A	8065	2nd year CCRD students
College/Career Seminar 2B	8066	2nd year CCRD students
Site Based Work Experience DP A & B	5441/5442	2nd or 3rd yr CCRD
Internship SP A & B	7813/7816	2nd or 3rd yr CCRD

CAREER EDUCATION/COLLEGE-CAREER RESEARCH DEVELOPMENT

College/Career Reseach and Development 1

College-Career Research Development 1 offers students the opportunity to learn about the business world and career development. Students study topics relating to business such as budgeting, banking, investments, taxes, credit, insurance, consumer rights, job-seeking skills and job performance skills. Special emphasis is placed on career researching, shadowing, goal setting, interviewing techniques and resume writing. This class is appropriate for both college and work-bound students who want job experience, earn a salary, and earn credit. All **first year** CCRD students are required to register for this class. This class is open to the students 10-12th who want to get ready for their first job.

College- Career Research Development Seminar 2

TheCollege-Career Research Development Seminar consists of two parts: a one period class dealing with employment, consumer and marketing topics and site based work learning experience in the local business community. In the afternoon, CCRD seminar students report to approved work sites for their sitebased training. Student training plans are developed cooperatively by the CCRD teacher, student, and the employer. Students must leave school immediately after their last scheduled class and have their own transportation. Due to flexible work schedules, students who are not reporting to work during assigned site based work ecperience periods are the parents' or guardians' responsibility. The CCRD Program is a state-approved career development program and students must earn four credits in CCRD to satisfy state requirements. Student Service learning hours can be earned by participating in various activities.

College/Career Reseach and Development Seminar 2

College-Career Research Development 2 offers students study in managerial responsibilities and entrepreneurship. Each student will complete a management-related project. All **second year** CCRD students are required to register for this class.

INFORMATION TECHNOLOGY/COMPUTER SCIENCE

- Lab fees will published at a later date. Each course listed is ½ credit per semester unless otherwise stated.

Course Title	Course No.	Notes
Computer Programming 1A/ 1B	*2989/*2990	Pre/co-requisite Geo
AP Compuer Science Java A/B**	*2901/*2902	Prereq: Comp Prog 1B or AP Comp Science Prin
Computer Programming 3A/3B**	*2965/*2966	
Computer Science Internship A/B	290718/290728	Prereq: Teacher Rec
***Foundations of Computer Science A/B	*2916/*2917 (adv. level)	Satisfies tech ed credit
	*2922/*2923 (adv. level)	POS Pathway
***AP Computer Science Principles A/B**	*2918/*2919 (adv. level)	Satisfies tech ed credit
	*2924/*2925 (adv. level)	POS Pathway

Courses marked * count toward the Certificate of Merit.
Courses marked ** are used as preparation for the AP exam.

COMPUTER SCIENCE COURSES

*****Within computer sciences courses, only Foundations of Computer Science A/B and AP Computer Science Principles A/B satisfies the Tech Ed credit for graduation.**

Computer Programming 1A & 1B, Grades 9-12 (Adv. Level)

Students will write programs using structured programming techniques to solve problems. This course introduces the fundamental principals of structured programming within the context of an object-oriented language. Emphasis will be placed on developing effective problem-solving techniques through individual and team project. Students use a problem-solving approach to implement one or more large programs using the Java Language.
Prerequisite: Geometry; Co-requisite: Honors Geometry

Computer Science Advanced Placement

Advanced Placement Computer Science (APCS) courses are designed for students of high academic ability who have a strong interest in computer science and who want to prepare for the AP Computer Science examinations. A qualifying score gives the student college credit or advanced standing. The topics covered normally comprise up to six semester hours included in the first year of a computer science curriculum at the college level. Projects will require both rigorous problem definition and program implementation strategies and will be written in the Java programming language. The AP examinations will also be given in Java.

AP Computer Science Java A/B

Students use Java, an object-oriented programming language, to complete in-depth work with text files and arrays. Using existing object libraries for object-based programming, as well as developing their own objects, students will explore the power of an industry-standard programming language that is cross-platform and web-friendly. Emphasis will be placed on continuing the development of effective problem solving techniques individually and in project teams.
Prerequisite: Computer Programming 1B or AP Computer Science Principles A/B

Computer Programming 3A & 3B, Advanced Topics in Computer Science, Grades 11-12 (AT, Adv. Level)

Problem-solving techniques and adaptation or development of appropriate algorithms or data structures are studied. Students may take the AB version of the AP Computer Science exam upon course completion.
Prerequisite: Attainment of the outcomes of Computer Programming 2B

Computer Science Internship

If interested, see the Computer Science Resource Teacher for internship possibilities.
Prerequisite: Teacher recommendation and coordinator permission.

Foundations of Computer Science A/B, Grades 9-12

This course is part of the MSDE-approved 4-credit Program of Studies in Computer Science. The course provides an engaging introduction to computing concepts through a nationally-developed curriculum, offered through a unique partnership with Code.org. The course focuses on the conceptual ideas of computing so that students understand why tools and languages are used to solve problems through a study of human computer interaction, problem solving, web design, programming, data analysis, and robotics.

Students may take course as part of the Computer Science Program of Study Pathway and/or to fulfill the technology education credit towards graduation.

AP Computer Science Principles A/B, Grades 10-12

This course, offered in partnership with Code.org, advances student understanding of the central ideas of computer science, engaging students in activities that show how computing changes the world. Through a focus on creativity, students explore technology as a means for solving computational problems, examining computer science's relevance to and impact on the world today. Aligned to the new AP test of the same name, this course is part of an MSDE-approved 4-credit Program of Studies in Computer Science.

Students may take course as part of the Computer Science Program of Study Pathway and/or to fulfill the technology education credit towards graduation.

ENGLISH DEPARTMENT

Four credits in English are required for graduation.

At Walt Whitman High School, the English Department offers all of the courses required for graduation as well as some honors electives. Required courses may be taken on two levels in the 9th and 10th grades: regular and honors. In the 11th and 12th grades, required courses may be taken on three levels: regular, honors, and Advanced Placement. The course work on all levels enables students to improve listening skills, to enhance speaking skills, to enrich vocabulary, to access literay nuance, to analyze literature, to develop writing skills, and to expand higher-level thinking skills. The English teachers, the English Resource Teacher, and the counselors work closely with students and parents to make certain that students enroll for the proper level of English courses.

Important Reminders:

- Students who are maintaining at least a B average in honors or AP English may continue in the Honors Program from year to year.
- Students entering Grade 9 will be placed in honors English classes on the recommendation of the middle school teacher with the approval of the English Department Resource Teacher. Placement changes may be recommended during the first quarter.
- Students who wish to enroll in journalism courses must successfully complete an application process.
- Students who have passed the Intensive English Language Center (IELC) Exit Examination may register for regular English classes upon the recommendation of the Intensive English Language Center (ESOL) Resource Teacher.

The courses listed below are described in the on-line course bulletin, and each course listed is ½ credit per semester. One credit is required at each grade level. Course fees will be published at a later date.

Course Title	Course No.	Notes
English 9A/9B	1311/1312	
English 9A Honors/ English 9B Honors	*1313/*1314	
English 10A/ English 10B	1321/1322	
English 10A Honors/ English 10B Honors	*1323/*1324	
English 11A/ English 11B	1331/1332	
English 11A Honors/ English 11B Honors	*1333/*1334	
AP English Language & Composition A/B	*1015/*1016	
English 12A/ English 12B	1341/1342	
English 12A Honors/ English 12B Honors	*1343/*1344	
AP English Language & Composition A/B##	*1015/*1016	
AP English Literature & Composition A/B	*1017/*1018	

Courses marked * count toward the Certificate of Merit

Open to 12th grade students in 2013

Elective English Courses

The courses listed below may not be taken for English credit. These courses may be taken for elective credit only and are ½ credit per semester.

Course Title	Course No.	Notes
Editing, Gathering, Reporting the News	1150	Grades 10-11, sem 1
Publications, Editing, Layout and Business	1151	Grades 10-11, sem 2
Management Advanced Newspaper writing and Production	*1152	Grades 11-12, sem 1
of Advanced Journalism	*1153	Grades 11-12, sem 2
Yearbook (SAGA) A/B	*115231/*115332	

Course Title	Course No.	Notes
Theatre 1 A/B	6926/6927	counts toward a fine arts credit
Media in Society	*2344	Grades 11-12
Culture in Literature	1019	Grades 11-12
TV Production A/ TV Production B	786000/786200	
Whitman Shorts A/B (by application only)	786031/786232	(by application only)
Advanced Composition (Creative Writing A/B)	*1130/*1135	Grades 10-12
College Test Prep (Verbal/Math)	114231/114232	Sem1/Sem 2
Read 180 A and B	1139/1140	

Courses marked * count toward the Certificate of Merit

Theatre 1 A/B

Students gain an understanding of the entire process through which human behavior is translated into a written drama, produced as a play, and presented to an audience. The study of theatre aesthetics, history, and criticism is balanced with workshop training in acting and basic Theatre production skills. This course is the prerequisite for all other high school Theatre courses.

Culture in Literature

In this one-semester course, students examine texts whose authors represent cultural and ethnic groups from around the world. Through their reading of essays, poems, short stories, novels, and films, students develop a greater awareness of cultural dynamics and a deeper understanding of how cultural perspectives are reflected in literature.

Media in Society

Media in Society focuses on the systematic analysis of information received through various mass media to help students develop independent judgments about media content. Students investigate The Culture of Media in an Image-Based Society; Media, Law, and Ethics; and Media and the Political Process. To complete a research project, students study a current media issue in depth and extend their knowledge of research techniques.

Journalism (Introduction and Advanced)

Journalism students should have a commitment to honing their writing skills and a keen curiosity about the people, issues and events around them. The Introductory Journalism class covers reporting, news, editorial, feature and sports writing, in additional to editing, design, production, ethics, and First Amendment issues. While this course prepares students for the two print publications: *Black and White* and *Saga,* every student is not guaranteed an automatic position on her/his first choice publication. **Students must complete an application process prior to registering for Journalism I.**

Advanced Composition (Creative Writing)

This class is for students who enjoy writing and want to take their craft to a higher level. Students will learn about a variety of genres, from poetry to short stories and "short shorts," to memoirs, blogs, personal narratives and one-acts. A supportive workshop approach will include portfolio and peer review to provide regular feedback on work in progress so students can evaluate and revise their writing. This class will help students learn to read as writers and write as readers.

Yearbook (SAGA)

An entirely student created publication; SAGA is the culmination of a year's preparation. Students who wish to participate on the yearbook in positions of writers, photographers and/or computer specialists must apply in the spring of the year before they wish to enter the class. Determination of current staff members is based on the applicant's skill in the pertinent area, and the ability to contribute to the yearbook. Editorial positions are granted to students with identified with leadership skills and at least one year of experience on the yearbook. Applicants must have taken Photography or Journalism to be considered.

TV Production

Students study and produce a variety of television products, including short films, news, commercials, documentaries, and music videos.

Whitman Shorts

Whitman Shorts is Walt Whitman's television news program. Applicants who have taken TV Production (preferable) or Journalism will be given priority.

College Test Prep: Verbal Preparation and Math Preparation

This one-semester course is designed to improve student achievement on the verbal and math components of the PSAT, SAT-1, and the ACT. Students acquire skills related to the test formats and develop test-taking skills related under simulated test conditions. Students are provided with individual and group feedback about individual needs based on these tests. They keep a record of their performance on practice tests and learn strategies for improving their individual scores.

CHILD DEVELOPMENT AND EDUCATION

Child Development and Education Internship courses comprise the Teacher Education Academy at Walt Whitman. All courses are open to both males and females. Each course includes instruction and opportunities for "hands-on" laboratory activities.

The courses listed below are described in the course bulletin. One semester single period courses are .5 credits each and double period classes are 1.0 credits each.

FAMILY AND CONSUMER SCIENCES

Course Title	Course No.	Notes
Child Development 1A/1B	4847/4848	Grades 9-12
Child Development 2A/2B (Advanced Level)	*4880/*4881	Grades 10-12
Child Development 3A/3B (Advanced Level)	*4882/*4883	Grades 11-12
Education Internship A/B (Advanced Level)	*488418/*488428	Grades 11-12

Courses marked * count toward the Certificate of Merit

Maryland Academy For Teacher Education At Walt Whitman High School

The Maryland Academy for Teacher Education (Education Academy) at Walt Whitman High School is an instructional program that aligns with the Interstate New Teacher Assessment and Support consortium (INTASC) and the Maryland Essential Dimensions of Teaching (EdOTs). The program prepares students for further education and careers in the education profession. The Academy program consists of courses that focus on human growth and development, teaching as a profession, learning theory, and curriculum and instruction. Students who elect to take all four courses may earn credits that are designed to articulate to a Maryland post secondary teacher education program. Upon completion of the Academy program and passing the ParaPro test, high school graduates are ready for employment in the teaching profession. 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 for Teacher Education standards (NCATE). Students may elect to take all of some of the courses in the Academy.

Course 1: Child and Adolescent Development 1A, 1B

Course 2: Child and Adolescent Development 2A, 2B
(May earn 90-Clock Hour certification)

Course 3: Child and Adolescent Development 3A, 3B

Course 4: Education Academy Internship A, B
(May earn program completer.
May elect to take ED 101 and ED 102 for 4 college credits.)

Child and Adolescent Development 1 A/B

This course focuses on human development from birth through adolescence. In this introductory course students become part of a team of teachers for preschoolers in a lab school setting. Course content includes focus on physical growth and development, effective guidance techniques, behavior patterns, social and emotional development, and acquisition of intellect from birth through adolescence. Students participate in direct interaction with preschoolers. Study is enhanced through planning, observation, and research projects. Developmental psychologists studied include Maslow, Erikson, Freud, Adler, Montessori, Piaget, Skinner, Brazelton, Greenspan, and others. Exceptional experience is offered for students exploring future careers in education, administration, psychology, social therapy, children's literature and media, family law, and parenting. Students will begin to develop the components of a working portfolio to be assembled upon completion of Child and Adolescent Development 2 (90-Clock Hour portfolio). Child

and Adolescent Development 1 is the introductory course for the Education Academy. Grades 9 – 12. .5 credit per semester.

Service learning credit: Students have the opportunity to earn up to 10 Service learning hours.

Prerequisite for Child Development 1B: Attainment of objectives for Child Development 1A

Child and Adolescent Development 2 A/B (Advanced Credit)

Students apply knowledge of physical, social, emotional, and intellectual development as they continue to develop teaching skills and assume leadership responsibilities in the lab setting. Student develop competence in creative teaching techniques, developmentally appropriate practice, program management, scheduling, meeting special needs of diverse populations, cooperative teamwork, and effective communication techniques. Students complete in-depth case studies and interact with parents of preschoolers. Applications of technology and employability skills are stressed. Upon completion of Child Development 2 and certification requirements, students may submit portfolios to earn certification in the 90-Clock Hour Program. This MSDE certification allows a student to obtain a senior staff position in licensed Early Childhood programs. Grades 10 – 12. .5 credit per semester.

Service learning credit: Students have the opportunity to earn up to 10 Service learning hours. Successful completion of 1A, 1B, 2A and 2B enables students to apply for 90 Clock Hours Early Childhood Certification.

Prerequisites: Attainment of objectives of Child Development 1A and 1B and teacher approval.

Child and Adolescent Development 3 A/B (Advanced Credit)

Students continue to apply skills developed in Child and Adolescent Development 1 and 2 as they explore various career opportunities in this growing professional field. The student is self-directed through independent work with daily contact and support from the Child Development teacher. A section of the course will involve understanding and working with the school-aged child. A portfolio will be developed that features the student's personal growth and emerging career plan. Students will be assisting a nearby childcare center once a month. Grades 11 – 12. .5 credit per semester.

Prerequisites: Attainment of objectives of Child Development 1A/1B, 2A/2B, and teacher approved.

Education Intern (Advanced Credit)

The internship is the culminating course of the Education Academy program for the highly motivated student who wishes to extend experiences in the field of Education. Students will have an opportunity to integrate content and pedagogical knowledge in an educational area of interest. Students will extend and apply their knowledge about teaching in a classroom setting under the supervision of a mentor teacher for two or more periods a day at a field site. The students will complete their working portfolio and present it for critique. Concurrently with this course, 12th grade students may elect to take ED 101 and ED 102, Foundations of Education, and field placement for college credit during the first semester. Students successfully completing this component of the Education Academy Internship will earn 4 college credits by December. During the spring semester, Education Academy interns may take the Praxis 1 exam, reporting scores to post secondary institutions, if they so desire. Students must provide their own transportation to field sites. Success in this course provides the opportunity for a career development completion credit and credits that will articulate to a Maryland post secondary teacher education program. Grades 11-12.

Service learning credit: Students have the opportunity to earn up to 10 Service learning hours.

Prerequisites: Attainment of objectives of Child and Adolescent Development 1 and 2 and teacher approval.

WORLD LANGUAGES DEPARTMENT

Either two World Language credits or two Advanced Technology Education credits satisfy the requirement for graduation.

The world languages program at Walt Whitman is designed to enable students to use oral and written language for meaningful and culturally appropriate communication in the situations they are most likely to encounter. The program helps students appreciate linguistic and cultural diversity as they acquire the knowledge, skills, and attitudes necessary for effective participation in an economically, socially, and politically interdependent world. Detailed descriptions of the various levels of world languages classes may be found in the MCPS Course Bulletin and in the World Language tip sheet on the WWHS homepage.

Two years of world languages study meet the graduation requirement in MCPS. A sequence of at least three years of a world language is recommended for a College Prep program; however, students are encouraged to continue their study of world languages until they have achieved a high level of proficiency. Levels 3 and 4 Spanish and French may be taken as regular or honors courses. Course offerings are subject to how many students are requesting the courses. **Courses with low enrollments may need to be cancelled.** Parents should contact the resource teacher, Rebecca Leef, for information on placement.

Level 5 and all AP classes are part of the Honors Program Registration information for the Honors Program at Whitman is included in this bulletin. Students wishing to sign up for AP classes must have the signature/approval of the World Language Resource Teacher, unless they are following the regular course sequence.

WORLD LANGUAGE COURSES

The courses listed below are described in the online course bulletin, and each course listed is ½ credit per semester.

Course Title	Course No.	Notes
French 1A/ French 1B	1611/1621	
French 2A/ French 2B	1612/1622	
French 3A/ French 3B	*1613/*1623	
French 3A (Honors)/ French 3B (Honors)	*1633/*1643	
French 4A/ French 4B	*1614/*1624	
French 4A (Honors)/ French 4B (Honors)	*1634/*1644	
French 5A (Advanced)/ French 5B (Advanced)	*1615/*1625	
French AP Language A/ French AP Language B	*1635/*1636	
Spanish 1A/ Spanish 1B	1711/1721	
Spanish 2A/Spanish 2B	1712/1722	
Spanish 3A/ Spanish 3B	*1713/*1723	
Spanish 3A (Honors)/ Spanish 3B (Honors)	*1733/*1743	
Spanish 4A/ Spanish 4B	*1714/*1724	
Spanish 4A (Honors) Spanish 4B (Honors)	*1734/*1744	
Spanish 5A (Advanced)/Spanish 5B (Advanced)	*1715/*1725	
Spanish AP Language A/Spanish AP Language B	*1759/*1760	
Spanish AP Literature A/Spanish AP Literature B	*1761/*1762	

Course Title	Course No.	Notes
Arabic 1A/Arabic 1B	1589/1590	
Arabic 2A/Arabic 2B	1591/1592	
Arabic 3A/Arabic 3B	*1899/*1900	
Arabic 4A/Arabic 4B	*1696/*1697	
Russian 1A/Russian 2B	1851/1852	
Russian 2A/ Russian 2B	1853/1854	
Russian 3A (Honors)/ Russian 3B (Honors)	*1846/*1847	
Russian 4A (Honors)/ Russian 4B (Honors)	*1848/*1849	
Russian 5A/Russian 5B	*1859/*1860	
Japanese 1A/Japanese 1B	1831/1832	
Japanese 2A/Japanese 2B	1833/1834	
Japanese 3A (Honors)/Japanese 3B (Honors)	*1839/*1840	
Japanese 4A (Honors)/Japanese 4B (Honors)	*1841/*1842	
Japanese 5A (Advanced)/Japanese 5B (Advanced)	*1843/*1844	
AP Japanese Language A/AP Japanese Language B	*1539/*1540	
Italian 1A/ Italian 1B	1981/1982	
Italian 2A/ Italian 2B	1983/1984	
Italian 3A (Honors)/ Italian 3B (Honors)	*1989/*1990	
Italian 4A (Honors)/ Italian 4B (Honors)	*1991/*1992	
Italian 5A (Advanced)/ Italian 5B (Advanced)	*1794/*1795	
Chinese 1A/Chinese 1B	1871/1872	
Chinese 2A/Chinese 2B	1873/1874	
Chinese 3A (Honors)/ Chinese 3B (Honors)	*1925/*1926	
Chinese 4A (Honors)/Chinese 4B (Honors)	*1927/*1928	
Chinese 5A (Honors)/Chinese 5B (Honors)	*1879/1880	
AP Chinese Language A/ AP Chinese Language B	*1929/*1930	
American Sign Language 1A/ American Sign Language 1B	1596/1597	
American Sign Language 2A/ American Sign Language 2B	1593/1594	
American Sign Language 3A/American Sign Language 3B	*1640/*1641	

Courses marked * count toward the Certificate of Merit

INTENSIVE ENGLISH LANGUAGE CENTER (ESOL CLASSES)

Students who require instruction in English as a Second Language, and basic instruction in required social studies courses are enrolled in ESOL classes by ability level. ESOL level classes carry English/Language Arts credits.

Intensive English Language Center (IELC)

Walt Whitman has a large Intensive English Language Center, which is available to students through placement by the International Admissions Office. Students are placed in ESOL levels by standardized test or teacher recommendation only.

Each course listed is 1/2 credit per semester. ESOL 1-5 receive English credit.

Course Title IELC - (ESOL)	Course No.	Notes
ESOL LAB A	1206	
ESOL LAB B	1216	
ESOL 1A	1201	
ESOL 1B	1211	
ESOL 2A	1202	
ESOL 2B	1212	
ESOL 3A	1203	
ESOL 3B	1213	
ESOL 4A	1204	
ESOL 4B	1214	
ESOL 5A	1205	
ESOL 5B	1215	
ESOL 1A Lev. ½ - (Elective Credit)	1217	
ESOL 1B Lev. ½ - (Elective Credit)	1218	
ESOL 2A Lev. ½ - (Elective Credit)	1219	
ESOL 2B Lev. ½ - (Elective Credit)	1220	
ESOL U.S. History A (Levels 3-5)	211041	
ESOL U.S. History A (Levels 1-2)	211040	
ESOL U.S. History B (Levels 3-5)	211241	
ESOL U.S. History B (Levels 1-2)	211240	
ESOL NSL Government A - Levels 3 - 5	212740	
ESOL NSL Government B - Levels 3 - 5	212840	
ESOL – Modern World A/B	222140/222240	
TOEFL	(Sem 1) 114240 (Sem 2) 114241	This course is designed to prepare students for the TOEFL, an exam some colleges require.
ESOL-Biology A/B	363140/363240	
Applied Science A/B	3611/3612	

MATHEMATICS DEPARTMENT

Four mathematics credits are required for graduation. Algebra 1 and Geometry must be included.

Please consult the flow chart on the course sequence in mathematics to decide on your next math course. Your present math teacher is your best source of advice for a recommendation. The courses listed below are described in the on-line course bulletin, and each course is ½ credit per semester.

Course Title	Course No.	Prerequisites
Algebra 1A	3111	Math 8/Algebra Prep
Algebra 1B	3112	Algebra 1 A
Two-year Algebra 1		
Related Math A	323131	Math 8/Algebra Prep
Algebra IA	311132	Sem 1, year 1
Related Math B	323231	Sem 2, year 1
Algebra IB	311232	Sem 1, year 2
Geometry A	3201	Algebra 1B
Geometry B	3202	Geometry A
Geometry A - Honors	*3203	"A"or"B"in Algebra 1 (85% + in Alg 1)
Geometry B - Honors	*3204	Honors Geo A
Bridge to Alg 2 A	3053	
Bridge to Alg 2 B	3054	
Algebra 2A	*3301	Alg. 1 & Geom
Algebra 2B	*3302	Algebra 2A
Algebra 2 --Honors A	*3310	A or B in Hon. Geom.
Algebra 2 --Honors B	*3311	Honors Algebra 2A
Pre Calculus A	*3489	Alg 2A&B
Pre Calculus B	*3490	Pre Cal A
Pre Calculus --Honors A	*3350	Honors Alg2 A&B
Pre Calculus --Honors B	*3351	Honors Pre Cal A
Calculus with Applications A (Adv)	*3356	Pre Calc A&B
Calculus with Applications B (Adv)	*3357	Calc Apps A
AP Calculus AB – A (Adv)	*3452	Honors Pre Cal A&B
AP Calculus AB – B (Adv)	*3453	Cal AB, Sem. A
AP Calculus BC – A (Adv)	*3491	Honors Pre Cal A&B
AP Calculus BC – B (Adv)	*3492	Cal BC, Sem. A

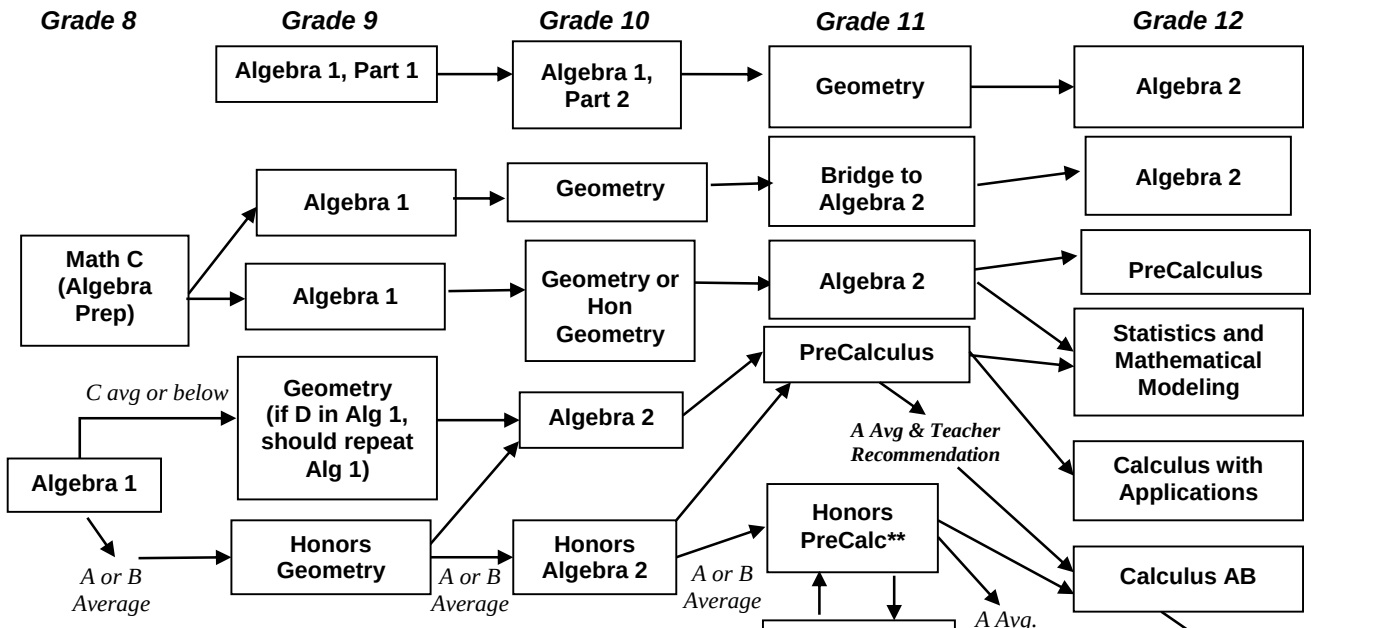
Course Title	Course No.	Prerequisites
Multivariable Calculus/Differential Equations A/B	*3048/*3049	AP Calc AB or BC
Linear Algebra	*3426/234022	AP Calc AB or BC
Statistics & Mathematical Modeling (SAMM)A/B	*3322/*3323	Algebra 2B
AP Statistics A/B (Adv)	*3320/*3321	
(AP State - completion of Hon Alg 2 or concurrent w/ Hon Precalc or Calculus)		
Quantitative (Financial) Literacy A/B	3121/3122	
(Pre-reqs TBD, but students should have completed Geometry A/B and possibly Algebra 2 A/B).		

Courses marked * count toward the Certificate of Merit Mathematics Electives

Multi-variable Calculus and Differential Equations (2nd yr. Calc)

Material includes three-dimensional analytic geometry and vectors, the calculus of functions of more than one variable including partial derivatives, vector-valued functions, multiple integrals, volumes, surface area, and the classic theorems of Green, Stokes, and Gauss, the basic concepts, theories, methods, and applications of ordinary differential equations. The specific topics covered are first-order equations, higher-order linear differential equations, and systems of linear equations, solutions by power series, and the Laplace transform.

Course Sequence for Mathematics



PLEASE NOTE:

1. Completing Algebra 2 is considered the minimum math preparation for college!! Precalculus is typically the first credit-earning math course in college.

2. AP Statistics can be taken concurrently with Honors PreCal or any Calculus level.

3. **We usually offer one section of Rapid Learner (Accelerated) Honors PreCalculus.

4. WE ALSO OFFER A 2ND-YEAR CALCULUS COURSE ENTITLED "MULTIVARIABLE CALCULUS AND DIFFERENTIAL EQUATIONS."

5. For 2016-17, there will probably be a "Bridge to Algebra 2" class offered between Geometry and Algebra 2, depending on enrollment.

6. We also offer a Linear Algebra course, whose prerequisite is either Calc AB or BC.

MUSIC

One Fine Arts credit is required for graduation. All Music courses satisfy the MCPS Fine Arts requirement for graduation.

- **Each course listed is 1/2 credit per semester. Public performances during and after school hours may be required to meet course objectives. Fees will be published at a later date.**

Course Title	Course No.	Notes
Guitar A/B	6585/6586	Beginning level class
Piano 1A/B (Beginning Piano)	6520/6521	Beginning level class
Piano 2A/B (Intermediate Piano)	6535/6536	
AP Music Theory & Comp. 1A/1B	*6545/6546	
Concert Orchestra A/B	6851/6852	Previous experience necessary (2 years minimum) Gr 9-12
Concert Band A Concert Band B	*6821 *6822	Previous experience necessary (3 years minimum)
Symphonic Band A/B	*6826/*6827	By audition only
Jazz Ensemble A/B	*6871/*6872	By audition only; concurrent enrollment in a second ensemble is required
Percussion Ensemble A/B	6831/6832	Exp. reading music
Symphonic Orch A/B	*6866/*6867	By audition only
Wind Ensemble A/B	*686631/*686732	By auditon only
Freshman Chorus A/B	6701/6702	*(no prerequisite)*
Treble Chorale 1A/B	6711/6712	Intermediate Level audition not required
Men's Chorus 2 A/B	6721/6722	Grade 10-12
Women's Chorus 3 A/B	6731/6732	Grades 11-12
Chamber Choir A/B	*6741/*6742	Grades 11-12; concurrent enrollment in a second ensemble is necessary for Chamber Choir

Courses marked * count toward the Certificate of Merit

GENERAL MUSIC COURSES

Guitar A and B

Guitar students begin the year learning to read and play standard music notation. Next, they learn open strings chords in a variety of strumming and picking patterns. We will play a variety of songs including guitar ensemble pieces. In Guitar B we move on to some basic electic guitar techniques including barre

chords and power chords, and continue improving note-reading and single line playing. Guitar B is open only to students who have successfully completed Guitar A or received permission from the instructor.

Piano I

Piano I is open to students who are complete beginners or have less than one year of experience in piano. No music reading experience is necessary to enroll in this class. Students learn to read music and play pieces, chords, scales, and arpeggios. The instructor provides individualized instruction so students are allowed to move at their own pace if necessary. Piano students will learn pieces from different musical eras.

Piano II

Piano II is open to students who successfully completed Piano I or have one to three years of prior piano lessons. This class is NOT appropriate for students with many years of piano experience. Students continue to improve their music-reading and playing abilities by working on chords, scales, technical studies, and appropriate piano literature. The instructor provides individualized instruction so students are allowed to move at their own pace. Students will play pieces from the Baroque, Classical, Romantic, and Contemporary eras of music.

AP Music Theory and Composition

This course is for students who wish to prepare for the AP Music Theory Exam. Students will learn how to analyze music and will improve their sight-singing and dictation skills. In the first semester, students master the elements of music, music terminology, notation, major and minor scales, intervals, triads, and part writing. In the second semester, students read, write, and analyze music of increasing complexity in preparation for the AP Music Theory Exam. PREREQUISITE: Completion of 2 acadmic years of high school music classes or by permission of instructor. Strong music reading skills are essential; a piano background is especially helpful.

INSTRUMENTAL MUSIC COURSES

All Ensembles

Instruction includes developing technical performance skills and appreciation for the music of different cultures. Students who are beginning an instrument or who are experienced musicians will all be challenged by participation in band/orchestra. Lessons, musical literature, and performance opportunities in band, marching band, and orchestra are available for experienced music students.

Percussion Ensemble

This class is open to all students with experience in reading music. Percussionists and pianists will particularly enjoy this class. Students in the Percussion Ensemble will improve their individual playing skills and also learn to play in a large percussion ensemble. Students will learn to play a variety of percussion instruments including snare drum, bass drum, tom toms, xylophone, marimba, timpani, cymbals, and many auxiliary instruments (the "toys" of the percussion section). This will be a performing ensemble and will perform in at least two Music Department concerts. A lab fee will be charged to help defray the costs of music and other materials.

Concert Band

This group is for 9^{h} grade musicians with more than one year of experience and its members are also required to perform at home football games. This ensemble will perform at the Winter Instrumental Concert and the Festival of the Arts. A lab fee will be charged to help defray the costs of music and other essential materials for the year. Students will be charged an additional fee to pay for transportation to competitions.

Concert Orchestra

Any student who has played an orchestra string instrument for two or more years is eligible to join Concert Orchestra. This ensemble will perform at the Winter Instrumental Concert and the Festival of the Arts. A lab fee will be charged to help defray the costs of music and other essential materials for the year. Students will be charged an additional fee to pay for transportation to competitions.

Symphonic Band

This advanced performing group is for upper level musicians who meet the audition requirements. Symphonic band is a traveling, competing group. Symphonic band members are required to perform at home football games during the fall. Honors credit is now available in this class and the full marching

rehearsals and performances fulfill the honors requirements for extra curricular musical activities. This ensemble will perform at the Winter Instrumental Concert, Festival of the Arts, District and State Festivals and the spring trip. A lab fee will be charged to help defray the costs of music and other essential materials for the year. Students will be charged an additional fee to pay for transportation to competitions.

Symphonic Orchestra/Wind Ensemble

This ensemble is for upper level musicians who meet the audition requirements. Symphonic Orchestra and Wind Ensemble are a traveling, competing group and members are chosen to make up the pit orchestra for the fall musical. This ensemble will perform at the Winter Instrumental Concert, Festival of the Arts, District and State Festivals and the spring trip. A lab fee will be charged to help defray the costs of music and other essential materials for the year. Students will be charged an additional fee to pay for transportation to competitions.

Jazz Ensemble

This is the most selective of the music ensembles. Participation is by audition only. The jazz ensemble has the heaviest performance schedule of all instrumental groups. The Jazz Ensemble is also required to march at home football games. This ensemble will perform at the Winter Instrumental Concert and the Festival of the Arts. This is a double period commitment with membership also required in Symphonic Band, Symphonic Orchestra, or Wind Ensemble. Students will be charged an additional fee to pay for transportation to competitions.

CHORAL MUSIC COURSES

Freshman Chorus A and B

This ensemble is open to all 9th grade students. No audition is required. Vocal techniques such as tone, intonation, and breath support will be emphasized as well as sight singing. A wide variety of music will be studied and performed. Performances will include the Winter Choral Concert and Festival of the Arts. A lab fee will be charged. Students will be charged field trip fees to pay for transportation to competitions.

Treble Chorale/Chorus 1A and 1B

This ensemble is open primarily to sophomore and junior girls as an intermediate level step to the upper level auditioned ensembles. Junior and senior girls who do not want the pressure of the more advanced groups are also welcome. No audition is required. Students will purchase their own concert gowns. Performances will include the Winter Choral Concert, District Festival, the Spring Music trip, and the Festival of the Arts. A lab fee will be charged to help defray the costs of music and essential materials for the year. Students will be charged an additional fee to pay for transportation to competitions.

Men's Chorus/Chorus 2A and 2B

This select ensemble is open to all boys grades 10-12. No audition is required, however previous music expertise is encouraged. The group will perform at the Winter Choral Concert, Festival of the Arts, District and State Festivals, and the spring music trip. A lab fee will be charged to help defray the costs of music and essential materials for the year. Students will be charged an additional fee to pay for transportation to competitions.

Women's Chorus/Chorus 3A and 3B

This select ensemble is open to all girls grades 11-12. An audition is required. The group will perform at the Winter Choral Concert, Festival of the Arts, District and State Festivals, and the spring music trip. Students will be charged an additional fee to pay for transportation to competitions.

Chamber Choir

This is the most advanced and select ensemble in the choral program. It is open to boys and girls grades 11-12 who have at least one year of previous experience in one of the other choral courses. An audition is required. In addition to the same performances as Men's and Women's choruses, a number of community performances will also be given throughout the year. This is a double period commitment, with membership also required in Men's or Women's chorus. Students will be charged field trip fees to pay for transportation to competitions.

PHYSICAL EDUCATION DEPARTMENT

One credit in Physical Education and 1/2 credit in Health are required for graduation.

- Each course listed is 1/2 credit per semester. A physical education uniform is mandatory for all students enrolled in physical education.

Course Title	Course No.	Notes
Foundation of Personal Fitness & Sport A	7720	(gr. 9-12) Semester 1
Foundation of Personal Fitness & Sport B	7721	(gr. 9-12) Semester 2
Comprehensive Health Education Honors	784131 (Sem 1)/ 784132 (Sem 2)	Grade 10
Specialty Basketball A	774231	(gr. 9-12) Semester 1
Specialty Basketball B	774232	(gr. 9-12) Semester 2
Specialty Soccer A	774831	(gr. 9-12) Semester 1
Specialty Soccer B	774832	(gr. 9-12) Semester 2
Strength and Conditioning (WT) A	775231	(gr.9-12) Semester 1
Strength and Conditioning (WT) B	775232	(gr.9-12) Semester 2
Personal Fitness A	774531	(gr 9-12) Semester 1
Personal Fitness B	774532	(gr. 9-12) Semester 2
Ultimate Games A	775031	(gr 9-12) Semester 1
Ultimate Games B	775032	(gr 9-12) Semester 2
WALT	774031	(gr 10-12) Semester 1
WALT	774032	(gr 10-12) Semester 2
Leadership Opp in Physical Education	770031	(gr 9-12) Semester 1
Leadership Opp in Physical Education	770032	(gr 9-12) Semester 2

PHYSICAL EDUCATION COURSES

Foundation of Personal Fitness & Sport A/B

Drawing knowledge from the elementary and middle school physical education experience, students will deepen their understanding of fitness components and principles. Students will evaluate how their physical and social environments and community opportunities influence and affect their personal fitness choices. Students will be guided through short and long-term fitness goals and the selection of physical fitness activities. The course includes opportunities in a variety of personal development activities including those most prevalent in students' current and future communities.

Comprehensive Health Education- Honors

Comprehensive Health Education emphasizes lifelong positive health related attitudes and behaviors that promote self-regulation for all students while promoting health literacy. Health literate students have the knowledge, skills, and ability to maintain and enhance personal health and fitness, create and maintain safe environments, and manage personal and community resources. Life skills emphasized throughout the program include goal-setting; decision-making; identifying beliefs, attitudes, and motivations; assessing information; and advocacy for personal, famil, and community health. In accordance with the Code of Maryland Regulation (COMAR 13A.04.18) and MCPS Regulation IGP-RA, Comprehensive Health Education Instructional Program, a student will participate in FLHS and DPC instruction unless written parent/guardian permission is submitted excluding the student from receiving instruction related to human sexuality and/or sexually transmitted diseases, including HIV/AIDS. Please note that passive parental consent is implied unless the health education teacher is notified in writing otherwise.

Specialty Basketball - Grades 9-12

This course is designed to provide students with an understanding of the various skills and strategies utilized in playing the game of basketball. Students will be instructed in how to perform basketball drills and plays. They will also be expected to develop their own drills and plays with the expectation to design a practice plan. Students will be assessed on a variety of skills as well as fitness.

Specialty Soccer - Grades 9-12

This course is designed to provide students with an understanding of the various skills and strategies utilized in playing the game of soccer. Students will be instructed in how to perform soccer drills and plays. They will also be expected to develop their own drills and plays with the expectation to design a practice plan. Students will be assessed on a variety of skills as well as fitness.

Strength and Conditioning (WT) - Grades 9-12

This course includes instruction in proper use and safety of weight training equipment and various principles and methods of strength training. Instruction will also focus on the understanding of basic anatomy and physiology, and body composition. Programs will be designed to meet the individual needs of the student. Fitness will be incorporated into the students individual weight training program.

Personal Fitness – Grades 9-12

This course is designed for students who would like to improve and/or maintain a healthy fitness level. The course will build on the five components of fitness which are: cardiovascular fitness, muscular strength, muscular endurance, body composition and flexibility as well as proper nutrition. By the end of the course students will be able to design their own fitness program that addresses their personal needs. This class will benenfit athletes who wish to train for their sport as well as students that are interested in improving their overall health and fitness. The course will include weight training, cardiovascular workouts, pilates, and basic yoga poses, balances, and core components.

Ultimate Games – Grades 9 -12

This course is designed to provide students with an understanding of the various skills and strategies utilized in playing – ultimate football; flag football; capture the flag; ultimate Frisbee and other related games. Students will be instructed in how to perfom skills, drills, and game tactics. Fitness assessments and homework assignments will be incorportated into all aspects of this course.

WALT – Grades 10 -12

This course is designed to help the Student/Athlete succeed at the next level and make their college athletic recruiting process more successful. Being a full time college athlete at any level is a very difficult task and one many student-athletes constantly fail at because they were unprepared for the changes and sacrifices they have to make. Through this course, you will learn how to take control of your recruiting process and analyze yourself as an athlete and a person. You will learn why you may not be discovered, what athletic scholarship opportunities really exist, how to evaluate a college, its coach, playing opportunities and much more. We want your ultimate decision to be an informed one and the right one. This course is not about obtaining an athletic scholarship; it's about becoming as successful as you can as a college athlete, as a college student, and as a person. This class does not replace or count at the required PE credit the kids need for graduation. It is a PE elective class.

Leadership Opportunities in Physical Education – Grades 9 -12

This semester-long course is designed to develop leadership skills within the physical education setting for individuals interested in pursuing careers in education/teaching or physical therapy. Througout the course, participants will have the opportunity to assist students who have varioud physical and learning disabilities in their development of sport/movement skills and fitness. Participants will explore and analyze a variety of disabilities and develop sport/recreation goals or fitness plan for his or her peer with a disability.

SCIENCE DEPARTMENT

Three science credits are required for graduation. One Biology credit and one Physical Science credit must be included in the three credits.

Members of the Walt Whitman Science Department recommend that the four-year science sequence, regular college preparatory or honors, be as follows:

Biology (Grade 9 or 10) [Meets Biology requirement]
Chemistry (Grade 10 or 11) or Environmental Chemistry (grade 10-12) [Meets Physical Science requirement]
Physics (Grade 11 or 12) or at least one Science elective (in area of interest to the student)

Some student may choose not to complete all these core subjects and choose from science a variety of science electives that fit the interests of the students. All regular level classes are college preparatory offerings and the basic course objectives are similar in regular and honors classes. See the MCPS website for specific course indicators and outcomes.

Ninth grade students will begin with Biology (on-level or Honors) or Applied Science. It is highly recommended that students enrolle din Honors Biology are also enrolled in Honors Geometry. Applied Science is for students who need extra support, particularly in reading and/or math, and may not be ready to take the Biology High School Assessment by the end of ninth grade. Transfer students who have not completed Biology are required to take Biology if they have not completed it at their previous school.

Prerequisites/Corequisites:

Anatomy and Physiology .....recommended Biology 1 and completion or current enrollment of Chem.

Biology Honors ..... recommended completion or current enrollment of Honors Geometry.

Biology AP ..... recommended completion of Biology, Chemistry, and Algebra 2.

Chemistry..... recommended completion or current enrollment of Bio and Algebra 2.

Chemistry AP..... recommended completion of Honors Chem and Algebra 2.

Environmental Science AP..... recommended Biology 1 and completion or current enrollment of Chem.

Introduction to Forensic Science..recommended 1) Biology 1 & 2) Chemistry 1 or Physics 1 completed. Jr/Sr standing

Physics 1..... recommended completion or concurrent enrollment in Algebra 2.

Physics Honors..... recommended completion or current enrollment of H. Algebra 2.

Physics AP 1..... recommended completion or concurrent enrollment in H. Chem and Algebra 2.

Physics AP C……..recommended Physics 1(H) or Physics AP 1, and concurrent enrollment or completion of Calculus A and B or higher

Course Title	Course No.	Notes
Applied Science A/B	3611	Grade 9
Applied Science B	3612	Grade 9
Biology A	#3631	
Biology B	#3632	
Biology A (Honors)	*#3621	
Biology B (Honors)	*#3622	
Biology A AP	**#3651	Double Period
Biology B AP	**#3652	Double Period
Environmental Chemistry A	*3766	
Environmental Chemistry B	*3767	
Chemistry A	*3721	
Chemistry B	*3722	
Chemistry A (Honors)	*3711	
Chemistry B (Honors)	*3712	
Chemistry A AP	**3751	Double Period
Chemistry B AP	**3752	Double Period
Physics A	*3831	
Physics B	*3832	
Physics A (Honors)	*3821	
Physics B (Honors)	*3822	
AP Physics 1A/1B	*3891/*3892	Double Period; 1 credit for 1A/B Semester 1
AP Physics 2A/2B	*3893/*3894	Double Period; 1 credit for 2A/B Semester 2
AP Physics C-A	**3839	
AP Physics C-B	**3840	
AP Physics C-DP-A	**3851	
AP Physics C-DP-B	**3852	
Anatomy & Physiology A	*#3761	
Anatomy & Physiology B	*#3762	
Astronomy A	3856	
Astronomy B	3857	
Geosciences A	3576	
Geosciences B	3578	
Environmental Science A AP	**3659	Grade 11 or 12 only
Environmental Science B AP	**3660	Grade 11 or 12 only
Introduction to Forensic Science A	4001	Grade 11 or 12 only
Introduction to Forensic Science B	4002	Grade 11 or 12 only
Internship – Science A	*3511	Off Campus
Internship – Science B	*3512	Off Campus
Internship-Science A - Double Period	*3521	Off Campus; 1 credit
Internship-Science B - Double Period	*3522	Off Campus; 1 credit

Courses Marked * count toward the Certificate of Merit
Courses Marked ** are highly recommended for those planning to take the AP exam
Courses Marked # students should expect to dissect preserved animals or request alternatives.

SOCIAL STUDIES DEPARTMENT

Three Social Studies credits are required for graduation: one U.S. History; one National, State, and Local Government; and one Modern World History.

The courses listed below are described in the online course bulletin, and each course listed is ½ credit per semester.

Course Title	Course No.	Notes
Grade 9 *Students are required to take United States History A and B or AP US history A and B towards graduation.*		
United States History A/B	2110/2112	
United States History A/B (Honors)	*2111/*2113	
Grade 10 *Students are required to take National, State, Local Government A and B towards graduation.*		
National, State, Local Government A/B (Honors)	*2127/*2128	
AP National, State, and Local Govt. & Politics A/B	*2104/*2105	(grades 9-12)
Grade 11 or 12 *All students are required to take Modern World History or AP World History for graduation, and either course may be taken in 11th or 12th grade.*		
Modern World History A/B	*2221/*2222	
Modern World History A/B (Honors)	*2223/*2224	
AP World History A/B	*2240/*2241	

Courses marked * count toward the Certificate of Merit

SOCIAL STUDIES ELECTIVE COURSES

Course Title	Course No.	Notes
AP Comparative Government A/B	2132/2145	
AP Micro Economics/AP Macro Economics	*2316/*2315	
European History, AP A/B	*2216/*2217	
United States History, AP A/B	*2114/*2124	
Global Issues in the 21st Century A/B	*2347/*2348	
Comparative Religions	*2320	Semester 1
Sociology	*2314	Semester 2
Philosophy	*231131/*231132	Sem 1/Sem 2
Law	*2312	Semester
AP Psychology A/B	*2330/*2331	
Psychology Internship A/B	351131/351232	
AP Human Geogrpahy A/B	2332/2333	
Student Leadership A/B	2339/2340	(by application)

Courses marked * count toward the Certificate of Merit

SOCIAL STUDIES ELECTIVE COURSE DESCRIPTIONS

AP Comparative Government A and B

"Comparison is fundamental to all human thought." In a world made smaller by instantaneous communication and interdependent economies, comparative analysis is a necessary part of civic education. AP Comparative Government will provide students with the conceptual tools necessary to develop an understanding of some of the world's diverse political structures and practices. Students will look closely at world events, old and new, while also studying the evolution of multinational treaties and peacekeeping organizations. Included in this course will be the study of six core countries including Great Britain,

France, China, Russia, Germany, and Japan, as well as four developing countries including India, Mexico, Nigeria, and Iran. (Grades 11-12)

AP Economics Macro/Micro

This course is for students interested in college-level work in economics. Study begins with fundamental economic concepts such as scarcity, opportunity costs, production possibilities, specialization, comparative advantage, demand, supply, and price determination. Major topics include measurement of economic performance, national income and price determination, and international economics and growth. Both macro and micro economics are covered. (Grades 11-12)

AP Psychology

The AP Psychology course introduces students to the systematic and scientific study of human behavior and mental processes. While considering the psychologists and studies that have shaped the field, students explore and apply psychological theories, key concepts, and phenomena associated with such topics as the biological bases of behavior, sensation and perception, learning and cognition, motivation, developmental psychology, testing and individual differences, treatment of abnormal behavior, and social psychology. Students will use the scientific method to analyze bias, evaluate claims and evidence and effectively communicate ideas. (Grades 11-12)

AP Human Geography

Human Geography focuses on the ascpects of geography that relate to different cultures, with an emphasis on cultural origins and movements and the cultural characteristics of regions including language, religion, ethnicity, politics, historical development, agricultural methods, settlement patterns, and quality of life. (Grades 11-12)

Comparative Religions

The basic elements and historical development of world religions are surveyed in this course and units are organized with a comparative approach. Topics include the sacred paths of North America and Africa, South Asia (Hinduism and Buddhism), East Asia (Confucianism, Daoism and Shinto), the Mediterranean (Ancient Egypt, Mesopotamia, Greece and Persia and the Abrahamic Faiths (Judaism, Christianity, and Islam). Relevant contemporary topics from the mass media will be covered as well.. (Grades 11-12)

Philosophy

This course acquaints students with the discipline and history of philosophy. Major philosophers and their works are studied with focus on such issues as the nature of the universe; the basic moral and intellectual superstructure of society; good and evil; free will and determinism; and the relationship of a person to other individuals and to the state. Current trends in philosophy are studied as well. (Grades 11-12)

Sociology A/B

Sociology is the study of human groups and the factors that unite or divide them. Topics include the sociological perspective, culture, normative expectations, the process of socialization, status and role, groups and institutions, marriage and the family, education, deviance and crime, inequalities of race, ethnicity, gender and age, and social change. Relevant contemporary topics from the mass media will be covered as well. Grades 11-12)

Global Issues in the 21st Century A/B

Students use media resources that relate to intercultural and international topics to learn about the diversity, complexity and interdependence of the world community. This provides the necessary background to analyze the political, economic, social and cultural aspects of current world problems and issues in relation to the policies of the American government. The course helps students make connections to our global society. (Grades 11-12)

Student Leadership

This course is designed to give students a variety of classroom and practical experiences in leadership. Admission to this class is limited and based on an application process in the spring. (Grades 10-12)

TECHNOLOGY EDUCATION

Technology Education courses offer students instruction in a variety of areas, which may lead to lifelong professional and leisure interests. Principles of Engineering and Introduction to Engineering Design will satisfy the requirement for one credit in technology education.

- The courses listed below are described in the on-line course bulletin, and each course listed is ½ credit per semester unless otherwise noted. Course fees will be published at a later date.

Course Title	Course No.	Notes
Principles of Engineering A/B	5150/5151	honors, PLTW course, satisfies the tech ed graduation requirement
Introduction to Engineering Design A/B	*5152/*5153	PLTW course, satisfies the tech ed graduation requirement
Civil Engineering and Architecture A/B	*4255/*4256	honors, PLTW elective
Engineering Design and Development A/B	*5158/*5159	honors, PLTW capstone
Digital Electronics A/B	*5156/*5157	PLTW course
Foundations of Technology A/B	*5161/*5162	
Aerospace Engineering A/B	5721/5722	honors, PLTW elective
Advanced Design Applications A/B	*2808/*2809	
Advanced Technological Applications A/B	*2810/*2811	

Courses marked * count toward the Certificate of Merit

TECHNOLOGY EDUCATION COURSES

Introduction to Engineering Design A/B (TE)

This is an introductory course that develops students' problem-solving skills, with emphasis on visualization and communication skills using a computer and a 3-D solid modeling software. This course emphasizes the development of a design using computer software to produce, analyze, and evaluate models of projects and solutions. Students will study the design concepts of form and function and then use state-of-the-art technology to translate conceptual design into reproducible products. (Grades 9-12).
Prere*quisite: Students must successfully complete IED A to enroll in IED B. Algebra 1 minimal math experience.*
*Corequi*site*: Algebra 1* or *higher college prep math course to be taken concurrent for all PLTW courses. Satisfies the Tech Ed credit graduation requirement.*

Principles of Engineering A/B (Honors)

This is a broad-based survey course to help students understand engineering, engineering technology, and identify career possibilities. This course provides an overview of engineering and engineering technology. Students develop problem-solving skills by tackling real-world engineering problems. Through theory and practical hands-on experiences, students address the emerging social and political consequences of technological change. (Grades 9-12).
Prerequisite: Students must successfully complete POE A to enroll in POE B. Corequisite: Students must be in a college prep math sequence to enroll in this class. Algebra 1 with a B or higher is the minimal math requirement and Algebra 2 is preferred. Satisfies the Tech Ed credit graduation requirement.

Civil Engineering and Architecture A/B (Honors)

This course provides an overview of the fields of civil engineering and architecture, while emphasizing the interrelationship and interdependence of both fields. Students use state-of-the-art software to solve real-world problems and communicate solutions to hands-on projects and activities. This course covers topics such as: The Roles of Civil Engineers and Architects; Project Planning; Site Planning; Building and Engineering Design; and Project Documentation and Presentation. (Grades 10-12).
P*rerequisite: Algebra 1 or higher college prep math course to be taken concurrent for all Project Lead The Way (PLTW) courses. Students must have completed POE to take this course.*

Engineering Design and Development A/B (Honors)

This is the capstone course for the Project Lead The Way (PLTW) advanced engineering program. At the end of the course, teams present their research paper and defend their projects to a panel of engineers, business leaders, and engineer college educators for a professional review and feedback. This course equips students with the independent study skills that they will need in postsecondary education and careers in engineering and engineering technology. (Grades 11-12).
Prer*equisite: Students must have taken POE. Students must have completed one PLTW elective before or while taking EDD.*

Digital Electronics A/B

This course introduces students to applied digital logic, a key element of careers in engineering and engineering technology. This course explores the smart circuits found in watches, calculators, video games, and computers. Students use industry-standard computer software in testing and analyzing digital circuitry. They design circuits to solve problems and use appropriate components to build their designs. Students use mathematics and science in solving real-world engineering problems. (Grades 10-12).
Prerequisite: POE is required however completion of both POE and IED courses is preferred.

Foundations of Technology A/B (Not a PLTW Course)

Students will explore and develop a deep understanding of the characteristics and scope of technology and the influence on history, along with the relationships and connections between technology and other fields of study. Students will develop an understanding of the attributes of design and develop skills by using the design process to solve technological problems. Students will develop a positive attitude about safety and skills through research, problem solving, testing, and working collaboratively. (Grades 9-12).
Satifies the Tech Ed credit graduation requirement.

Aerospace Engineering A/B (Honors)

The fields of aeronautics and aerospace engineering are the focus of this engaging course that includes topics of study such as aerospace information systems, astronautics, rocketry, propulsion, the biology and physics of space science, principles of aeronautics, structures and materials, and systems engineering. Students continue using the national PLTW model to develop solutions to aerospace problems through the application of engineering, mathematics, and science-related knowledge. (Grades 10-12).
P*rerequisite: Algebra 1 or higher college prep math course to be taken concurrent for all Project Lead The Way (PLTW) courses. Corequisite: Students must have completed POE to take this course.*

Advanced Design Application A/B (Not a PLTW Course)

In this course, students study about four components of the Designed World, including Information Technology, Agriculture and Bio-related Technologies, Medical, and Entertainment/Recreation. The Agriculture and Biotechnologies unit explores how agricultural technologies provide increased crop yields and allow adaptation to changing and harsh environments. It also offers an analysis of the various uses of biotechnology and the ethical considerations of those uses. The Entertainment and Recreation unit provides a study of technological entertainment and recreation systems, with an examination of the differences between these technologies, of how their use enhances human leisure-time performance, and of the social, cultural, and environmental implications of their usage. The Information Technologies unit examines how technology facilitates the gathering, manipulation, storage, and transmission of data, and how this data can be used to create useful products. The Medical Technologies Unit students will also

examine tools and devices used to repair and replace organs, prevent disease, and rehabilitate the human body. (Advanced Technology Credit Course)

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ADDITIONAL COURSES

Each course listed is 1/2 credit per semester unless otherwise noted.

Course Title	Course No.	Notes
Student Assistant A	0600	Assist in school, sem 1
Student Assistant B	0700	Assist in school, sem 2
Student Internship A	7813	
Student Internship B	7816	
Student Internship DP A	7818	Double Period
Student Internship DP B	7819	Double Period
Student Internship A	7822	Triple Period
Student Internship B	7823	Triple Period
Designated Hitter Internship A	781301	Work with LFI
Desingated Hitter Internship B	781601	Work with LFI
College Class, UMD (periods 1 & 2)	035011/0350021	
College Class, MC (periods 7 & 8)	035018/035028	
Resource A/B	793391/793492	Special Education resource class
Human Behavior	783495/783496	Specific to cluster program

Courses marked * count toward the Certificate of Merit