

Col. Zadok Magruder

Programs & Academies

Registration Information



2020 - 2021

Introduction

The MCPS High School Course Bulletin provides students and parents/guardians with information about high school courses, programs, and career pathways. It includes specific requirements for graduation, as well as information about assessments, internships, opportunities for dual enrollment in college, and special programs.

In the Montgomery County Public Schools (MSPC) high school students experience various academic, extracurricular, and community activities that provide a wealth of experience and help clarify interests, goals, and plans for the future.

Course selection in high school is critical to the realization of career and higher education goals. Students will make appropriate academic decisions if they relate the courses they take in high school to career choices they are considering for the future. Students should talk to their teachers and counselors about the courses needed and how they relate to a particular career interest.

MCPS Online Course Bulletin

Students and parents are strongly encouraged to access the MCPS Course Bulletin online, <https://coursebulletin.montgomeryschoolsmd.org>. It is the most comprehensive source of information about all programs and all courses available to MCPS students. While all Magruder courses will be in the MCPS Bulletin, many courses in the MCPS Bulletin are not offered at Magruder. Features of the online bulletin include:

- complete course descriptions, including credit hours and prerequisites, at which high schools the course is offered, and other information
- searchable database of courses
- ability to shop for courses and add them to a printable, savable four-year worksheet
- links to resources related to the high school course selection and the college/career planning process
- updated course information throughout the year
- curriculum information and guides
- high school instruction and achievement information
- career and college planning information with links to all high schools' career and college centers
- "Planning Tools" page
- lists of countywide programs, student service learning courses, AP and Advanced Level courses, International Baccalaureate courses, and Career Themed Program courses (CTE)

Students who do not have access to computers at home may use computers in the Media Center or Career Center to use the MCPS Online Course Bulletin. Hard copies of the MCPS Course Bulletin are available in the Counseling Services Office.

2020 – 2021 Registration Guidelines

1. **Learn about all available course offerings.** Review this catalogue and the course descriptions in the MCPS course bulletin online at <https://coursebulletin.montgomeryschoolsmd.org/>
2. **Become familiar with the diploma requirements.** Review the diploma requirements in the MCPS Course Bulletin. Don't forget the Student Service Learning requirement; some courses have SSL hours embedded in them.
3. **High School Graduation, College and Career planning.** Use the worksheet in the MCPS online Bulletin. Fill in the courses you have already taken and courses you would like to take. Check prerequisites to make sure the course is appropriate for you. Consider moving up to an honors courses in those regular subjects in which you have done well. Consider taking AP courses if you have done well in honors courses. The school counselors will be meeting with all students to review course selections.
4. **Plan your time.** Estimate how many hours you need for extracurricular activities, work, and home life. Review the estimated weekly workload listed for each course. Make sure that the time commitment is manageable for you.
5. **Pre-Registration and Registration.** Attend the pre-registration and registration counseling sessions. Listen carefully and ask questions as needed. Turn in registration materials to your school counselor.

Pre-registration: MHS counselor visits to feeder middle schools are scheduled for Monday, February 3, 2020. Pre-registration information for Magruder students in grades 9-11 will occur on Friday, January 17, 2020, via a school-wide presentation during 1st period classes.

On-line Course Registrations are scheduled for: Redland and Shady Grove 8th graders on Thursday, February 6, 2020, and Magruder 9th, 10th, and 11th graders via social studies classes during the week of February 10 through 14, 2020.

6. **Review in late April/early May.** When you receive a copy of your course listings for next year, REVIEW IT VERY CAREFULLY. This is the time to review and make changes. Request any course changes by the deadline; it will be very difficult to change your courses after that point. **DEADLINE: JUNE 1, 2020.**
7. **When you get your schedule, check for errors.** Review it for errors and omissions. Contact your counselor right away if there is a problem.

Schedule Change Guidelines and Procedures

Schedule Change Guidelines

Schedule changes can be disruptive to a student's program and to that of the entire school. Extensive work is done to review the appropriateness of student registration choices, to build a master schedule that reflects those choices, and to develop appropriate individual student schedules within that master schedule. Therefore, requests to change student schedules will be limited and honored only after careful administrative review and approval.

Schedule changes are made using the following criteria:

1. Student is missing the prerequisite for the course.
2. Student is in a class that is not on the appropriate level.
3. Student has completed and passed the class.
4. Student is a senior needing the class to meet graduation requirements.

Schedule Change Procedures

1. The student initiating the request will complete the first section of the schedule change request form, obtain a parent signature, and submit the form to his/her guidance counselor.
2. The counselor will indicate any relevant information on the form and will forward it to the appropriate resource teacher.
3. The resource teacher and classroom teacher will review relevant data, make a recommendation and forward the form to the grade level administrator.
4. The administrator will complete the form and return to the counselor for action.
5. The counselor will notify the student of the schedule change decision and make the appropriate change to the student's schedule.
6. If the administrative decision is deferral for additional information, the counselor will obtain the additional information and then resubmit the request to the administrator for a final decision and any appropriate further action.

Guide to Services for Students

School Counseling Services Office

Kerry Oswald, Resource Counselor

Located across from the main office, the School Counseling Services Office is staffed by school counselors and support staff who offer services to students in the following areas:

- Academic counseling/study skills
- Course selection/scheduling
- AP testing information
- College/career information
- Advocacy
- Crisis intervention counseling
- Personal counseling (individual or small groups)
- Summer school information
- High School Intervention classes

Registrar

Donte Gassaway-Fields

Located in the School Counseling service office, the Registrar's Office maintains and processes selected information for the following:

- Transcript requests
- Report cards
- New student enrollments and withdrawals
- Change of address or phone number
- Provide requested college application information

College/Career Information Center

Julie Yang, Coordinator

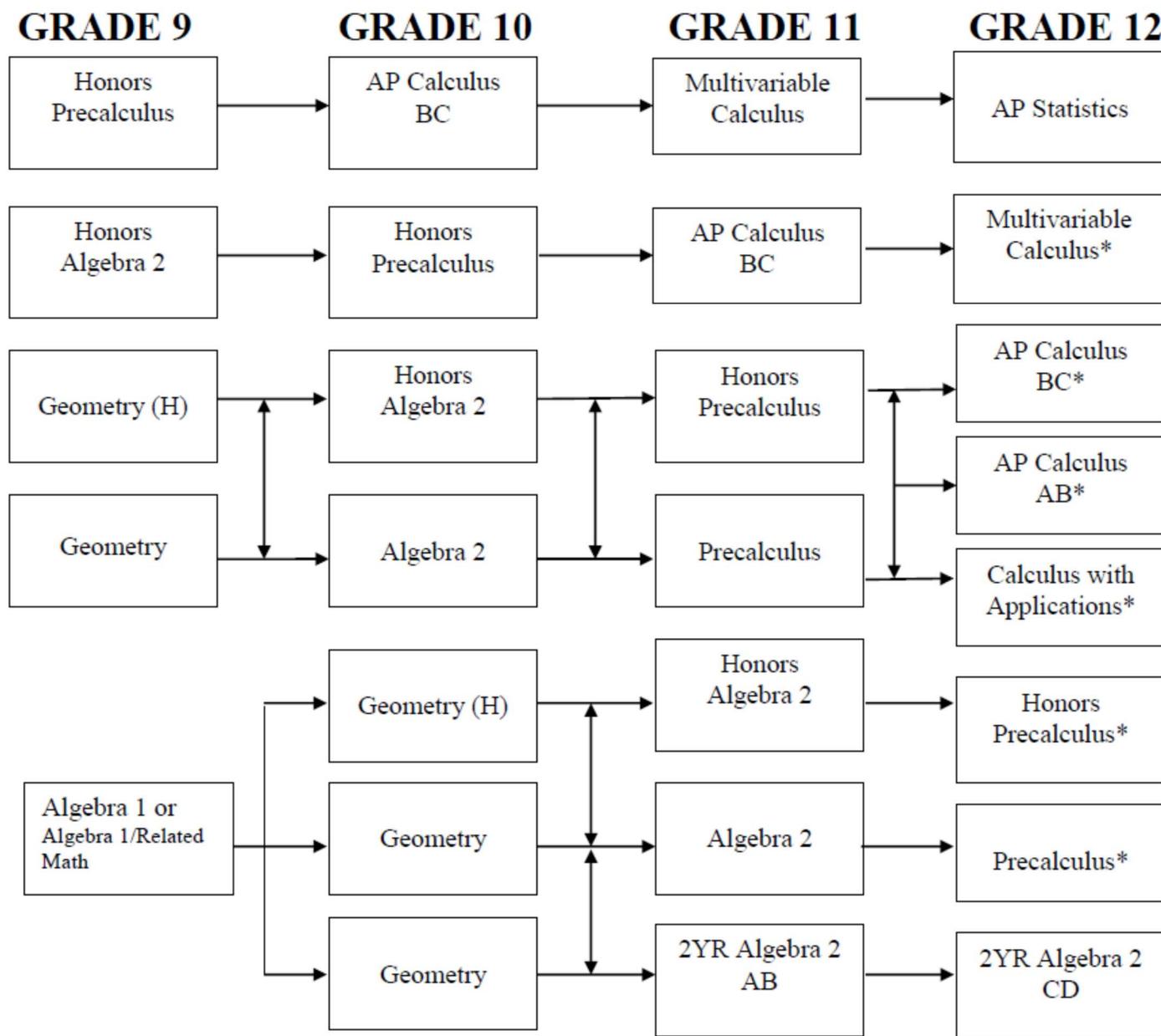
Located across from the west door of the Cafeteria, the College/Career Information Center assists students in their college and career planning by maintaining information and providing services such as:

- College search information
- Family Connection
- Scholarship and financial aid information
- Schedules of in-school and area opportunities to meet with college representatives and area college fairs
- College testing information
- Career assessment and planning information
- Technical school information
- Military information
- GED information
- Work permit

High School Mathematics Sequences

Mathematics Graduation Requirement:

Four credits, including one credit in Algebra 1 and one credit in Geometry.



Additional Mathematics Electives

- *Statistics and Mathematical Modeling (2 semesters)
- *AP Statistics (2 semesters)
- Quantitative Literacy (2 semesters)

SCIENCE DEPARTMENT SEQUENCE

GRADE 9	GRADE 10	GRADE 11	GRADE 12
NGSS Biology	NGSS Chemistry Astronomy	NGSS Physics Astronomy Biology	Astronomy Biology Chemistry
PEAC Honors Biology	PEAC Honors Physics	Electives below . . .	Electives below . . .
Honors Biology	Honors Chemistry Honors Physics Honors Forensics Honors Anatomy/Physiology AP Biology – DP AP Chemistry – DP AP Environmental	Honors Physics (or electives below) Honors Forensics Honors Anatomy/Physiology AP Biology-DP AP Chemistry-DP AP Environmental Honor Physics AP Physics C	Honor Forensics Honors Anatomy/Physiology AP Biology-DP AP Chemistry-DP AP Environmental AP Physics C (Academy options only) Internship Research Project

DP = Double Period Course

Some courses have special prerequisite or co-requisite not listed here but in the MCPS course bulletin. This may consist of both a science and or math requirement.

GOAL is to have ALL Students to complete Biology, Chemistry and Physics prior to graduation

This flow chart designated general sequences for students. Movement between levels (on level, honors and advances level courses) is fluid and depends on the student's performance and teacher recommendation. Student's highly interested in science are encouraged to participate in the Magruder Science Academy and MHS Science Honor Society (application process).

PEAC is part of the Magruder Academy program.

Students are encouraged to take honors levels and AP courses and double up science courses when appropriate. Participation in the AP exam is an expectation when taking an AP course.

Questions should be directed to Mr. Turner – Science Department Resource teacher. 240-740-5519

TIME MANAGEMENT WORKSHEET

Name _____ Student ID# _____ Counselor _____

Activity (list and then fill in the hours on the right side)	Hours per a 5- day week (Mon.- Fri.)
Hours in school	
Number of hours of sleep that you want/need to be ready and prepared	
Things you HAVE to do a week: (i.e., time spent on chores, outside classes, or lessons)	
• Chores	
•	
•	
•	
Rest and Relaxation, things you do for yourself (Extracurricular – clubs, sports, things you like)	
• Computer time: games, online chatting, surfing the web...	
• Television time (time for your favorite shows)	
•	
•	
•	
•	
Job – hours you need to put in each week (include travel time)	
Time you want to spend with your family	
Number of hours approximately that you'll be spending on homework (written assignments, study time, and projects. You may want to use the estimated hours of study time listed with	
Time it takes you to get ready for school in the morning and get to school (bus ride, shower, getting	
Total number of hours	
Total number of hours subtracted from the 120 hours per week = SPARE TIME	

Parent Signature Required _____ Date _____

Student Signature Required _____ Date _____

MAGRUDER ACADEMIES AND PROGRAMS

Magruder offers students courses of study through the following academies:

- PEAC Scholars Program
- Aviation Program
- Academy of Early Childhood Education
- Academy of Engineering (Project Lead the Way)
- Academy of Finance (National Academy of Finance)
- Academy of Health Professionals - Pharmacy
- Leadership Academy (JROTC)

Magruder Academies:

- Focus on broad disciplines or fields of study
- Enable students to learn about areas of interest while completing all graduation requirements
- Require 4-7 specified credits within each academy strand that must be completed to earn Academy credentials
- Offer AP and other electives that enrich student scholarship

Why participate in an Academy program?

- Teachers can provide stronger support for students in smaller learning communities.
- In certain academies, students can participate in internship programs that provide them with experience and a network of contacts in their fields of interest.
- Academies provide a connection between lessons learned in high school classrooms and future careers and/or college.
- Academies promote stronger school-business-community relationships.

How are students admitted to Academy programs?

- All academies require students to submit an application or letter of intent; some may require teacher recommendations and pre-requisite courses.
- Applications can be obtained from the Academies Office (C248), the Counseling Office and online at <http://montgomeryschoolsmd.org/schools/magruderhs/>

PEAC SCHOLARS PROGRAM

What is the PEAC Scholars Program?

PEAC Scholars is an inter-disciplinary, four-year college-preparatory cohort. Its focus is on independent learning and the development of sophisticated written and oral communication skills with an emphasis on critical thinking.

How does it work?

Students interested in PEAC register for Honors English 9 and Honors Biology during the registration for their 9th grade year. The application process will occur during second semester of 9th grade as part of the registration process for the following school year. If accepted, students must enroll in accelerated PEAC courses in Honors English, AP NSL, and Honors Chemistry of Physics in 10th grade; AP Language and Composition, Honors Modern World or AP World History, and one AP Math or Science of the student's choice during their junior year; and AP Literature and complete a PEAC capstone project during their senior year. All PEAC students are expected to take AP US History during their senior year however, this can be completed earlier if scheduling allows.

Application Process for Students:

- Students complete the PEAC application form which is available online at <http://montgomeryschoolsmd.org/schools/magruderhs/> during February of their 9th grade year. Recommendations are required from four high school teachers.
- Applicants must also write a prompted essay during a pre-arranged session.

Some of the criteria for PEAC Scholars:

- Students must maintain an overall weighted GPA of 3.5 or higher over their four years at Magruder.
- PEAC Scholars must enroll in and complete all the required courses. Each student must complete a senior capstone project.
- Students must adhere to the MCPS and Magruder Codes of Conduct.
- Students must regularly attend school in accordance with MCPS attendance definition.

More information is available on our website, or contact Virginia Snyder, Director of Academy and PEAC Scholars Programs at 240-740-5576 or [Virginia B. Snyder@mcpsmd.org](mailto:Virginia.B.Snyder@mcpsmd.org)

Magruder Advanced Placement Courses

Advanced Placement (AP) courses are those for which a College Board Advanced Placement examination exists. A qualifying score on an AP exam may give the student college credit or advanced standing in the subject in many colleges. These courses include concepts and skills that help prepare students for the AP exams. AP courses are available in the following MCPS content areas: Art; Information Technology /Computer Science; English; World Languages; Mathematics; Music; Science; Social Studies.

Advanced Placement Exams

Students who take AP courses should take the appropriate AP exam in May.

- AP exam cost is approximately \$94. Students with financial need should consult with their counselors about fee reductions available from the College Board and the State of Maryland.
- Exams are scored on a 1 (low) to 5 (high) scale.
- Most exams are 2-3 hours.
- Exams have both multiple-choice and free response questions
- For more information see apstudents.collegeboard.org/about-ap-exams
- Test scores and credit requirements for AP courses vary by college. Most schools require a minimum score of a 3 for credit, although many schools have more requirements. More information can be found at <https://apstudents.collegeboard.org/getting-credit-placement>.

The following AP courses are currently offered at Magruder. Courses must have a minimum number of students enrolled in order to run.

Arts Art History Drawing 2D Art and Design 3D Art and Design Music Theory	Math & Computer Sciences Statistics Calculus AB Calculus BC Computer Science Principles (will be offered in 2020-21)
English English Language and Composition English Literature and Composition	Sciences Biology - Double Period Chemistry - Double Period Environmental Science Physics C: Mechanics
History & Social Sciences US Government and Politics Modern World History European History Human Geography Psychology Macroeconomics Microeconomics US History	World Languages & Cultures Spanish Language and Culture Spanish Literature and Culture French Language & Culture

ACADEMY OF EARLY CHILDHOOD EDUCATION

Career Cluster: Education, Training and Child Studies

4 credits

Program Goals

The Academy of Education is designed to provide students with a greater understanding of the teaching profession. The Academy of Education provides a wonderful opportunity for high school students to explore the physical, social, emotional, and cognitive development of young children. Students gain actual teaching experience by interacting with children in a variety of settings. Students study development from birth through early childhood to early adolescence years. Upon completion of this program, students will know Maryland and National teaching standards and certification requirements.

High school students are the teachers in the Magruder preschool. Child & Adolescent Development 1 students plan and present daily lessons to preschoolers, practicing appropriate communication and guidance techniques. The Child & Adolescent Development 2 students manage and supervise the pre-school setting and develop portfolios as well as teach the 3 and 4-year olds on a weekly basis. Child & Adolescent Development Interns are placed in local middle or elementary schools in a "student-teacher" role or participate as teacher assistants in the EduCorps program at Magruder. In weekly seminars and independent studies, the child development students observe toddlers and study child psychology, creative learning techniques, child safety, plus skills in management and leadership.

Benefits

Magruder students who complete the sequence of Child Development courses may apply for 3-9 credits when enrolling at Montgomery College in the Early Childhood program. In addition, students who already meet the entrance requirements at Montgomery College may have the option of taking entry-level education courses there.

Admission Requirements:

- Be a sophomore
- Have an excellent attendance record
- Maintain at least a 2.5 minimum GPA
- Complete Application and submit 2 teacher recommendations
- Make a commitment to the program

ACADEMY OF EARLY CHILDHOOD EDUCATION

Career Cluster: Education, Training and Child Studies

4 credits

	COURSE	GR	CODES	PREREQUISITE	CREDITS
1	Child Development 1A Child Development 1B	10 10	484700 484800		0.5 0.5
2	Advanced Child Dev. 2A Advanced Child Dev. 2B	11-12	488000 488100	Child Development 1A and 1B	0.5 0.5
3	Advanced Child Dev. 3A Advanced Child Dev. 3B	11-12	488200 488300	Child Development 2A and 2B	0.5 0.5
4	AP Psychology A AP Psychology B	12	233000 233100	Child Development 3A and 3 B	0.5 0.5
5	Advanced Internship Education & Child Studies	12	488400		0.5
6	Dual Credit Advanced Education	12	736900		0.5
7	Internship A (S1) Internship B (S2)	12	781300 781600		0.5 0.5
8	InternshipTriple Per (S1) InternshipTriple Per (S2)	12	782200 782300		1.0 1.0

Contact: Ms. Cheryl Dembroski

Cheryl_L_Dembroski@mcpsmd.org

240-4-740-5511

ACADEMY OF ENGINEERING

Project Lead the Way

Career Cluster: Engineering, Scientific Research & Manufacturing Technologies

5 credits

Please note: Submission of an application along with the satisfactory completion of Algebra I or higher are required for enrollment in the initial cohort/academy class. Math requirements increase as students progress through the academy.

Program Goals

The Academy of Engineering (Project Lead the Way) is designed for students with a strong interest in the field of engineering. Engineers merge and apply the theories of science and mathematics in order to research and develop economical solutions to real world technical problems. Their work is the link between perceived social needs and commercial applications. Project Lead the Way is a nationally recognized curriculum that challenges students of all abilities to become actively engaged in hands-on learning experiences using math, science, and technology in meaningful ways to solve real-world problems. It is designed for all students interested in pursuing a career in the field of engineering and provides experiences that can lead to a wide range of potential careers. Students who apply and are accepted into the academy will be enrolled in cohort classes designed for students who have a math and science aptitude and are specifically interested in engineering.

Introduction to Engineering Design helps develop students' problem-solving skills with emphasis on visualization and communication skills using a computer and 3-D modeling software. Principles of Engineering is a broad-based survey course to help students understand engineering and engineering technology. Digital Electronics is a course of study in applied digital logic using electronic logic circuits that first are designed and then tested using the latest computer-logic modeling technology. Aerospace Engineering 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. Engineering Design and Development is the capstone course for students in the Academy of Engineering. Students are required to work in 2-4 person teams and, after researching an open-ended problem and designing a technical solution, they must present and defend their project to a panel of engineers and business leaders for professional review and feedback.

Benefits

Students who participate in the Academy of Engineering will be better prepared for college engineering programs and will be more likely to be successful in these college programs. Students who have an 85% average for a course, receive a 70% or higher on the college section of the final exam and have completed their portfolios, may apply for college credit from participating affiliated colleges. See the Project Lead the Way website www.pltw.org/hsprogram for a list of these colleges and for more information.

5 Required Credits for the Academy of Engineering

	COURSE	CODES	NOTES	CREDITS
1	INTRODUCTION TO ENGINEERING DESIGN A/B (Required)	515200 515300	PLTW class	½ credit/sem.
2	PRINCIPALS OF ENGINEERING A/B (Required)	515000 515100	PLTW Cohort class	½ credit/sem.
3	DIGITAL ELECTRONICS A/B (Required)	515600 515700	PLTW Cohort class	½ credit/sem.
4	AEROSPACE ENGINEERING A/B (Required)	572100 572200	PLTW Cohort class	½ credit/sem.
5	ENGINEERING DESIGN AND DEVELOPMENT A/B (Required)	515800 515900	PLTW Cohort class CAPSTONE COURSE	½ credit/sem.

Contact: Mr. Michael Smith
Michael_C_Smith@mcpsmd.org
(240) 740-5512

ACADEMY OF FINANCE

Career Cluster: Business Management and Finance

4 credits

Program Goals

The Academy of Finance is for any student interested in learning more about finance and the finance industry. While one of the objectives of the Academy of Finance is to prepare students for a career in business through a combination of coursework and on-the-job experience, the academy is also designed to prepare non-business majors for a secure financial future. Students will learn how to manage and invest their money and to accomplish their financial goals in life, no matter what career they choose. Students who complete this rigorous program will graduate with lifelong skills in business and money management and a certificate of graduation from the National Academy Foundation that oversees this cohort. Non-academy members are able and encouraged to take any of these courses as well.

Courses for the Academy of Finance

	COURSE	GR	CODES	CREDITS
1	Entrepreneur 1A Entrepreneur 1B		545000 545100	0.5 0.5
2	Accounting A Accounting B	10-11	411100 411200	0.5 0.5
3	AP Macro	11-12	231500	0.5
4	AP Micro	11-12	231600	0.5
5	Financial Planning (S1)	11-12	410300	0.5
6	NAF Applied Finance (S2)	11-12	414400	0.5
7	Principles of Finance (S1)	11-12	414300	0.5
8	Banking and Credit (S2)	11-12	410400	0.5
9	Internship in Finance	11-12	410700	0.5
10	Advanced Accounting A, Honors Advanced Accounting B, Honors	11-12	411300 411400	0.5 0.5
11	Internship, NAF	11-12	572000	0.5
12	Internship A Internship B	11-12	781300 781600	0.5
13	Internship A (Double Period) Internship B (Double Period)	11-12	781800 781900	1.0
14	Internship A (Triple Period) Internship B (Triple Period)	11-12	782200 782300	1.0

Students who wish to graduate with recognition from the National Academy Foundation Academy of Finance and MCPS/Magruder HS must complete four credits, one of which must be an internship.

The classes are open to all students.

Contact: Mr. Glenn Brooks Glenn_Brooks@mcpsmd.org

Academy of Health Professionals

7 Credits

Please note – this is a new course of study at Magruder High School. Only the class of 2023 and 2024 will be able to complete all the requirements of this program of study.

Program Goals

The Academy of Health Professionals utilizes project and problem based learning, clinical experiences, and classroom and lab instruction to teach students about the field of health care. Students are introduced to basic health care knowledge and skills through two foundation courses: Foundation of Medicine and Health Science and Structures and Functions of the Human Body. Opportunities to apply foundational course knowledge to real-life health care situations are offered through the Fundamentals of Pharmacy course. Students will have the opportunity to earn state and/or nationally recognized certifications and/or college credit through articulation agreements with local colleges. Students may choose from several options for program completion. These may include enrollment in a postsecondary institution, internship or a guided research course. **Students are strongly encouraged to take four years of science. At a minimum, students should take biology and chemistry while enrolled in the program.**

Academy of Health Professions POS – Pharmacy Option

	COURSE	
1	Foundations of Medicine and Health Science A/B	Required Coursework
2	Structures and Functions of the Human Body A/B	
3	Fundamentals of Pharmacy A/B	
4	Allied Health Internships	Capstone Options
5	Dual Enrollment Course Option	

Contact: Mr. Chris Turner
Christopher_A_Turner@mcpsmd.org
(240) 740-5519

LEADERSHIP ACADEMY (JROTC)

7 Credits

Program Goals

This program is for students who are interested in the practice of basic citizenship, customs, traditions, and the exploration of opportunities for service to our nation. No military obligation is required; however, upon graduation students can gain advanced military pay grades upon enlistment, and selection in the Senior Reserve Officers Training Corps. Military academy scholarships may be available for qualified students.

Army Junior Reserve Officers' Training Corps

Diploma Requirements: These are elective courses

COURSE	CODE	GRADES	PREREQUISITES	WEEKLY WORK	FEES	NOTES
Army Jr. ROTC A & B	794100 794200	9-12				5 SSL/sem
Leadership Education & Train. 2 A/B	794400 794500	10-12	Leadership Education & Training 1 A/B			5 SSL/sem
Leadership Education & Train. 3 A/B	794700 794800	11-12	Leadership Education & Training 2 A/B			5 SSL/sem
Leadership Education & Training 4 A/B	795000 795100	12	Leadership Education & Training 3 A/B			5 SSL/sem

For more information, contact Counseling Services at 240-740-5560

BROADCAST MEDIA ACADEMY

4 Credits

PROGRAM GOALS

Students in the Broadcast Media program learn about career options in a field that is constantly evolving. In the television studio, analog, tape-based recording technology has been replaced by digital, computer-based recording. International multimedia conglomerates have transformed the industry from a small number of local broadcasting outlets to a wide variety of audiences via hundreds of cable and satellite stations. The explosion of new programming and technology options has opened a myriad of career opportunities for students to pursue.

Course	Codes	Prerequisites
Video Production A Video Production B	517300 517400	Grades 10-12
Electronic Video Field Production	517500 5176000	Video Production
Media, Management & Operations A Media, Management & Operations B	517700 517800	Electronic Video Field Production
Internship — Arts, Humanities, Media, and Communications	571700	See counselor
College Course — Arts, Humanities, Media, and Communications	TBD (1/2 credit)	See counselor
Guided Research — Arts, Humanities, Media, and Communications	531000 531100	See counselor

Contact: Ms. Claire Dickey
 Claire_H_Dickey@mcpsmd.org
 (240) 740-5515