

Maggie L. Walker Governor's School Institution
for
Government and International Studies



Course Catalog
2025-2026

TABLE OF CONTENTS

Mission Statement	3
Diploma Requirements	4
Diploma Seals	4
Community Service Requirement	5
Academic Policies and Procedures	6
Advanced Placement, Dual Enrollment, and Intensive Options	8
School Credit Pursued Outside of MLWGS	9
Academic Standards & Community Service Policy and Procedure	11
Four Year Course Planner	14
General Course Offerings	15
MLWGS 101	15
Economics and Personal Finance	15
Mentorship/Senior Seminar	15
Elective Field Experience	16
Student Ambassador	17
Student Study Period	17
Health/Physical Education/Driver's Education	18
Social Studies	19
English	25
Science	30
Mathematics	40
Technology	49
International Languages	50
Fine Arts	65

MISSION STATEMENT

Our mission engages intellectually curious students in an inclusive environment that offers comprehensive, interdisciplinary education enriched by local and global connectedness.

VISION STATEMENT

Maggie L. Walker Governor’s School for Government and International Studies envisions a school that cultivates a community of independent thinkers who embrace civic responsibility, ethical leadership and diverse world views.

Course of Study:

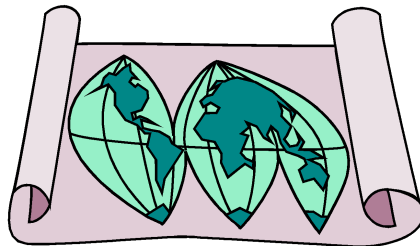
Maggie L. Walker Governor’s School offers courses in all disciplines. While government and international studies is its theme, the comprehensive program at MLWGS allows a flexible approach for students to understand the growing interconnectedness of the international community. In addition to government and international studies, students’ interests in science, mathematics, the arts, international languages, computer technology, or other academic areas may serve as focal points for their understanding of the world.

Curricula are developed and delivered reflecting best practices in gifted education. The following is a sampling of components utilized to serve this purpose:

Core Courses
Advanced Placement Courses
Dual Enrollment University Courses
Individual Research Projects

Student Generated Curricula
Cooperative Learning Experiences
Experiential Learning Experiences
International Travel Opportunities

Interdisciplinary Connections
Service Learning
Mentorships & Seminars



****DIPLOMA REQUIREMENTS**

<u>English:</u> (Four units of credit must include World Lit. and Comp. I & II, Contemporary Voices (Cycle A or B) or AP Lang. and Comp. 11, and Contemporary Voices (Cycle A or B). or AP Lit. and Comp. 12)	4 units
<u>Mathematics:</u> (Four units of credit through a minimum of Precalculus)	4 units
<u>Science:</u> (Four units of credit that must include Biology, Chemistry, Physics, and an additional approved laboratory science)	4 units
<u>Social Studies:</u> (Five units of credit that must include Global Studies I & II, U.S. and VA. History, U.S. and VA Government, and one elective)	5 units
<u>International Languages:</u> (Six units of credit with a minimum of four units of credit in one language and two units of credit in a second language)	6 units
<u>Health and PE:</u> (Grades 9 and 10)	2 units
<u>Fine Arts:</u> (Art, Drama, Music)	1 unit
<u>Economics and Personal Finance:</u>	1 unit
<u>Senior Seminar or Mentorship:</u> (Must be completed during the senior year)	1 unit
<u>Community Service:</u> (Minimum of 140 hours in 4 years)	1 unit
<u>MLWGS 101:</u>	1 unit
<u>Elective(s):</u>	1 unit

One online course is required.

Training in CPR, AED, and emergency first aid required.

****Minimum Total Units of credit**

31 units

** MLWGS graduation requirements exceed requirements for graduation with a Virginia Advanced Studies Diploma. All students electing to attend MLWGS are required to maintain a full day schedule of classes. When students successfully complete courses offered for credit in grades nine through twelve *by the end of the eighth grade year*, standard and/or verified credit shall be counted toward meeting the units required for graduation in accordance with 8 VAC 20-131.50 of the State Board of Education's regulations. Verified credits are required in accordance with standards of accrediting schools in Virginia as prescribed in 8 VAC 20-131-110.B. A student who does not satisfy the above requirements but meets those for the Advanced Diploma or Standard Diploma as set forth by the State Board of Education will be awarded an Advanced or Standard Diploma at MLWGS.

DIPLOMA SEALS AWARDED BY THE VIRGINIA BOARD OF EDUCATION

MLWGS students may be awarded up to three diploma seals upon graduation.

Governor's Seal: Awarded to all students who complete the requirements for an Advanced Studies Diploma with a final GPA of 3.0 or better, and successfully complete college-level coursework that will earn the student at least nine transferable college credits in Advanced Placement and/or Dual Enrollment courses. Advanced Placement courses (earning a score of 3 or higher) count as 3 college credits and Dual Enrollment courses count as the number specified for VCU credit within each course's description.

Virginia Governor's Schools Seal: Awarded to all students who complete the requirements for the MLWGS Advanced Studies Diploma.

Virginia Bi-literacy Seal: Awarded to students who (1) fulfill the requirements for the MLWGS diploma, (2) pass all required End-of-Course Assessments in English reading and writing at the proficient or higher level; and (3) provide

verification of proficiency at the intermediate-mid level or higher in one or more languages other than English, as demonstrated through an assessment from a list to be approved by the Superintendent of Public Instruction.

COMMUNITY SERVICE REQUIREMENTS

Community Service Program Purpose Statement:

Maggie L. Walker Governor's School develops citizens with a sense of social responsibility that they will demonstrate through lifelong service to their local, national and international communities.

This service program encourages students to reflect on their community involvement through participation, contribution, and leadership.

Participation

Students will participate in collaborative service projects to acquire knowledge and experience addressing community issues.

Contribution

Students will recognize their role in the community by identifying and making significant contributions to personally meaningful projects.

Leadership

Students will take the lead in building better communities and encouraging the habit of community service.

140 hours must be earned over a 4-year period while attending MLWGS. General guidelines are outlined below.

- Hours may be earned from a community agency or any approved organization that serves the general public. In general, any non-profit or 501(c)(3) organization is eligible. There are some organizations that do not fit this category that would still be eligible (check with the Community Service Coordinator to be sure). Religious activities are not eligible, but community outreach through a church, mosque, or synagogue are eligible (e.g., CARITAS).
- No more than **70** community service hours completed at MLWGS will count toward the minimum requirements ("eligible hours"), with a cap of 35 hours per activity, per school year, although all hours (i.e., "total hours") will be shown on the final transcript.
- Students may not receive compensation or dual benefit for services; for example, the same community service hours cannot be used to fulfill requirements for both MWGS Community Service and an honor society.
- Community service hours logged in the summer prior to the freshman year will be accepted if the hours meet accepted criteria.
- All summer hours must be submitted to the Community Service Coordinator no later than two weeks after the first day of school.
- In order to remain in "good standing" at MLWGS, students must have completed, submitted, and verified a minimum of the following number of eligible hours at the end of the grade level: (1) freshmen - 35 hours, (2) sophomores - 70 hours, and (3) juniors - 105 hours.

ACADEMIC POLICIES AND PROCEDURES

Course selection limitations:

The courses listed in the Course Catalog are those that have been approved by the Regional Board for MLWGS students. **The courses listed in the master schedule are *selected* from the Course Catalog. Final course offerings are dependent upon sufficient student interest, classroom space, materials and equipment availability, staffing, and sufficient funding.**

Schedule change parameters and procedures:

Students wishing to add or drop a course must contact their school counselor. **Any schedule changes must take place by the last day of the current school year.**

In exceptional circumstances, as defined below*students are permitted to add or drop courses for the next school year only if space permits and the Director grants permission based on an assessment of *exceptional circumstances*. Changes in AP, Dual Enrollment, or Intensive courses may require a parent/teacher conference. Changes in Dual Enrollment Courses also require students to **complete a “VCU/MLWGS Dual Enrollment Add/Drop/Withdrawal Form”** and submit it to the assistant director or director. Changes made for any course that will result in the student receiving a “WF” or “F” for the course must have the Director’s approval. Below are policies, procedures and timelines for dropping/withdrawing from Honors, Plus, AP, Intensive, and Dual Enrollment courses. **Students are only allowed to drop a class if they do not already have a study hall or student ambassador period in their current schedule.**

MLWGS Courses (only if approved under exceptional circumstances)

Full Year Courses:

1 st six weeks	No grade recorded and class dropped from academic record
7 th week to the end of 1 st semester	Withdrew Passing (WP) OR Withdrew Failing (WF)
3 rd nine weeks	Withdrew Failing (WF)
4 th nine weeks	Failure (F)

Semester Courses:

1 st six weeks	No grade recorded
7 th week to end of 1 st grading period	Withdrew Passing (WP) OR Withdrew Failing (WF)
After 1 st grading period	Failure (F)

*WP and WF do not become part of the grade point average but will appear on the transcript. The management of grades for a student who transfers into a related course will be determined by the Director and the involved teachers.

*Additional non-dual enrollment parameters for changing from one course to another after the school year begins, *assuming exceptional circumstances exist and course sections are not full*:

- Level changes *down* within the same domain no later than the end of the first quarter (e.g., Precalculus Plus to Precalculus Honors)
- Extenuating documented medical circumstances

VCU/MLWGS Dual Enrollment Courses (only under exceptional circumstances)

Participation in a dual enrollment course requires that a student be enrolled in both a MLWGS high school course and its corresponding VCU course(s). Changes in the MLWGS enrollment status are governed by the timeline above and changes in the VCU enrollment status are governed by the timeline below. Students adding, dropping, or withdrawing from a Dual Enrollment course must complete BOTH schedule change forms noted above. Please note that it is unlikely that students will be able to add a dual enrollment class after the school year begins. **The dates indicated below are approximate; VCU will provide exact add/drop dates prior to the start of the academic year.**

1st TWO weeks of the school year

Add a VCU course or drop a VCU course with no grade recorded and class dropped from academic record

3rd Week to end of 10th week

Withdraw with a grade of “W”

After 10th week

Fail

NO DUAL ENROLLMENT COURSE MAY BE ADDED AFTER VCU’S ADD DATE.

Calculation of grade point average:

The grade point average is calculated by using the final course grade for all courses taken in grades 9 – 12. Courses taken on a Pass/Fail basis will count for credit but will not be averaged into the grade point average.

$$\text{GPA} = \frac{\text{Total number of quality points}}{\text{Total number of credits}}$$

Class rank:

Because of the competitive nature of selection requirements, MLWGS does not rank students. Valedictorian and Salutatorian will not be recognized. These policies are clearly stated to all college admissions/scholarship committees.

Weighting of classes:

All courses are based on a 4.0 scale and are considered to be on the honors level unless otherwise noted. Advanced Placement, Intensive, and VCU Dual Enrollment courses will have additional weighting of 1.0.

Academic Probation Policy:

Students are expected to remain in good academic standing at MLWGS. Failure to remain in good standing will result in being placed on academic probation, which will be reported to the gifted program administrator of the home school district. To be in good academic standing the student must meet ALL the following criteria:

- 1) achieve a grade point average of 2.0 or greater at the end of each school year;
- 2) fail no more than one course per year based upon final course grade;
- 3) exercise ethical academic behaviors in line with high standards of character;
- 4) have completed, or have an approved plan in place to complete, at least the minimum number of eligible community service hours recommended in the guidelines for their grade level; and
- 5) have an approved plan in place to complete the graduation requirements for the MLWGS Advanced Studies Diploma in four years at MLWGS.

If a student has not met all of the above criteria, a recommendation will be made that he or she return to his or her home school.

Note: Additional requirements may be set by the participating school divisions including but not limited to the availability of funding and continuous review of progress, e.g., grades, attendance, and behavior.

ADVANCED PLACEMENT, DUAL ENROLLMENT, AND INTENSIVE OPTIONS

There are numerous options for advanced study at Maggie Walker Governor’s School, including plus-level courses and academic electives (Honors, Dual Enrollment, Intensive or Advanced Placement) in students’ areas of interest. Guidelines for Advanced Placement and Dual Enrollment courses are provided below; see the department sections for extensive lists of course offerings for academic enrichment.

Advanced Placement Course Guidelines:

An Advanced Placement course allows high school students to learn college material and to earn college credit, depending upon the score earned on the Advanced Placement examination and on the college or university the student attends. While such classes present a tremendous academic opportunity and challenge for students, *it is also important for each student to carefully assess his or her academic load*, extracurricular activities, and other school and community commitments when deciding how many AP courses to take.

<u>Year</u>	<u>Suggested Range</u>
Freshman	0 classes
Sophomore	0-2 classes
Junior	1-3 classes
Senior	2-4 classes

To exceed the above-recommended guidelines, students and parents will be required to sign a statement on the Course Registration Form acknowledging that the student schedule exceeds the recommended number of AP courses. It is recommended that parents and students schedule a conference with the school counselor to discuss extra rigor of the overall schedule during the registration process.

VCU/MLWGS Dual Enrollment Courses:

The VCU/MLWGS Partnership provides MLWGS students university courses taught on the MLWGS campus. Students successfully completing these courses receive both high school and university credit. The courses may be offered in the areas of social studies, mathematics, science, international languages, visual arts, technology, music, and research. For a student to enroll in a dual enrollment course, he or she must complete prerequisite requirements and have parental and counselor permission.

Students are expected to follow VCU add-drop guidelines, exhibit mature behavior conducive to a college-level learning environment, and adhere to the VCU honor code. *Failure to adhere to VCU’s honor code could jeopardize a student’s ability to participate in further dual enrollment courses.* Students are responsible for any fines or penalties assessed by VCU due to failure to adhere to university library policies. Dual enrollment students may request a VCU ID Card from the VCU Card Office. VCU grades will be entered as “A, B, C...” and MLWGS grades will be entered as “A+, A, B+, B...”

MLWGS does not provide VCU transcripts to students. Students may request official VCU transcripts from the VCU Records Office or online to apply for the transfer credits. VCU Transcript Request Forms are available in the MLWGS school counseling office; alternatively, forms can be downloaded from:

<https://rar.vcu.edu/media/strategic-enrollment-management/rar/docs/TranscriptRequest.pdf>

Intensive Courses:

Courses labeled “Intensive” are faculty-generated courses which allow students to demonstrate dedication to a particular area of study through a rigorous examination of a topic. These courses require exceptional commitment and intense work at or above the Advanced Placement or Dual Enrollment level. All Intensive level courses will include a discipline-appropriate culminating assessment (e.g. research paper, presentation, portfolio, exam, or other capstone project) from which no student may be exempt.

These intensive courses are meant to be a capstone experience. Therefore, this label is intended for only upperclassmen. For repeating courses, the intensive label can only be applied to the final year of study.

SCHOOL CREDIT PURSUED OUTSIDE OF MLWGS

Transfer Credits (Carnegie Units)

All MLWGS students must maintain a full day schedule of classes (minimum of seven classes each semester/year), take the ninth and tenth grade interdisciplinary Global Studies and English courses, and meet all content area requirements in each discipline. While MLWGS does accept Carnegie Units earned in middle school, *transcripts will be evaluated for meeting MLWGS graduation requirements on an individual basis.* **For middle school credits accepted by MLWGS, courses will appear on the transcript but do not count toward GPA.**

Opportunities for School Credit Pursued Outside of MLWGS

The Governor's School recognizes the opportunities and necessity for students to pursue academic courses outside of our regular course offerings. Students who are interested in receiving MLWGS **elective credit** for academic classes **must receive prior approval of the Director using the following guidelines:**

Classes taken during summer school for acceleration purposes: *MLWGS will not approve summer courses to be taken for acceleration prior to the ninth grade year.* After the ninth grade year, students may take summer school courses to accelerate *only with prior approval of the subject area Department Chairperson and the Director.* **Prior to registration** students must submit a written request and an “**Out of School Credit Request Form**” (obtained from school counselor) detailing course description, requirements, and institution to the subject area Department Chair, , and the Director for approval of credit(s). Any tuition, fees, and/or materials associated with such a course are the responsibility of the student. The final weighting (regular, university, or dual) of the course is dependent upon a review of course work and materials, including course descriptions, notebooks, labs, journals, tests, and exams. It is the responsibility of the student to submit a final transcript and any requested course work and materials to the department chairperson, the school counselor, and the Director. **This course appears on the transcript but does not count toward the GPA.** Students who do not succeed on MLWGS examinations will be required to repeat the course taken in summer school.

Ninth and tenth grade summer school Health/P.E., online ninth and tenth grade summer Health/PE, and ninth grade online Health/PE during the school year: These classes will count for credit and the grade will be listed on the student transcript. The grade will not be included in the grade point average calculation. Students and parents need to contact their participating school division for information about specific summer school/online options. It is the student's responsibility to register with his or her home school division for these classes and follow all division guidelines and policies. Any course tuition, fees, and/or materials are the responsibility of the student. In addition, it is the student's responsibility to confirm that the school counseling department at MLWGS receives the grade and credit once the course is completed. **Verification must be provided that any 9th grade HEALTH/PE course taken off-campus for MLWGS includes training in AED, CPR, and emergency first aid; SUCH VERIFICATION MUST BE PROVIDED BEFORE THE STUDENT REGISTERS FOR THE COURSE.**

Classes repeated due to failure: Students may repeat *only one core course per content area* to meet graduation requirements. These courses must be taken at MLWGS or in an accredited summer school program. *Prior approval* is needed from the subject Department Chairperson, Cluster Administrator and/or Director. Both classes are shown on the transcript and count towards grade point average.

Classes repeated for subject mastery: Students may also choose to repeat a passed MLWGS course or credit-bearing middle school course for subject mastery *with prior approval of the Director.* The repeated course must be taken at MLWGS. The higher of the two final grades will count towards the student grade point average (GPA) if it is earned at MLWGS. The lower of the two grades will not count towards the GPA, provided it is a passing grade. If the lower grade was earned in middle school, the grade will remain on the transcript but will not count for credit or for GPA purposes. If the lower grade was earned at MLWGS, it will be changed to an audit for transcript purposes and will not count towards the GPA or for credit purposes.

Student Generated Curriculum (for elective credit only): The MLWGS “Student Generated Curriculum” (SGC) is the MLWGS independent study process that is designed for rising seniors who have completed all of the course work offered at MLWGS in a discipline in which they have a special interest or talent. To be considered for a SGC, the student must have the recommendation of his or her counselor and the Department Chairperson and/or a teacher that the SGC is the appropriate learning opportunity for the student in the particular discipline. At the current time, teachers serve as advisors on a voluntary basis in addition to their scheduled teaching and sponsorship activities. Consequently, the number of students who may participate in a SGC in a given year is very limited.

It is the student's responsibility to create the SGC proposal with guidance from the Director and the teacher advisor. Some SGC proposals may also include the involvement of a mentor within the professional community. Once a draft of the SGC proposal is approved by the teacher advisor, the Director, and the mentor, if applicable, the proposal must be approved by the parent/guardian, Department Chairperson, counselor, and Director. The proposal must specify the time span over which the SGC will be implemented (fall semester, spring semester, or year) and the amount of credit being requested (1/2 credit or 1 credit). **All initial inquiries regarding the SGC should be directed to the Director.**

VCU Advanced Scholars Program and Procedures: MLWGS has a cooperative agreement with Virginia Commonwealth University which allows MLWGS students to participate in college courses on the VCU campus for high school and university credit. Students who have completed all of the course work offered at MLWGS in a discipline may take advantage of VCU courses that are *not* offered at MLWGS. Students **are not** allowed to skip over courses offered at MLWGS. Through the Advanced Scholars Program, both VCU credit and MLWGS elective credit is awarded; all course tuition, fees, and materials are the responsibility of the student. Eligibility is determined by completion of application by a deadline, strength of academic record, test scores, faculty recommendations, Director's approval, and VCU approval. Enrollment is dependent upon space available in each course. Applications, course offerings, and guidelines are available from the Director. Students are encouraged to carefully consider the additional coursework and requirements of a university class prior to registering for such courses, and should maintain a balance between academics, extra-curricular activities, and personal and social commitments. The Advanced Scholars Program is available in the fall, spring, and summer sessions. In order to receive weighted (1.0) high school credit, it is the responsibility of the student to submit the "**Out of School Credit Request Form**" and other requested documentation. **All initial inquiries regarding the VCU Advanced Scholars Program should be directed to the Director.**

Other University Courses for MLWGS Elective Credit: MLWGS students who have completed all of the course work offered at MLWGS in a discipline may request to take university courses **outside the MLWGS school day** that are *not* offered at MLWGS. Any associated tuition, fees, and/or materials for such courses are the responsibility of the student. In order to receive weighted (1.0) high school credit, it is the responsibility of the student to submit the "**Out of School Credit Request Form**" and other requested documentation **to the Director *PRIOR TO REGISTERING FOR THE COURSE***. Students are encouraged to carefully consider the additional coursework and requirements of a university class prior to registering for such courses, and should maintain a balance between academics, extra-curricular activities, and personal and social commitments.

The MLWGS Field Experience (for elective credit – pass/fail only): This course provides students with the opportunity to gain a realistic perspective of a career field of personal interest, while giving mentors the chance to assist students with career explorations and possibly gain assistance with a special project of mutual interest. SPECIFIC COURSE INFORMATION FOUND ON PAGE 16.

Study Abroad (Policy 3032 Approved August 15, 2019): The Maggie L. Walker Governor's School recognizes that students are on occasion offered prestigious scholarships or other opportunities to study abroad for one academic year. As a school for government and international studies, Maggie L. Walker Governor's School respects and understands the importance of international experiences in developing global citizens. Study abroad will be limited to one year and must take place during the student's junior year.

Pre-program

1. MLWGS must receive approval in writing from the participating student's home district Superintendent that indicates support for the student's plan to participate in an international educational experience and re-entry to Maggie L. Walker Governor's School by February 15 of the student's sophomore year. If approval is granted, it is the responsibility of the home district to determine the status of the student's slot in terms of whether it will remain vacant or rolled to the incoming freshmen class. The home district must pay for the slot regardless of how they choose to manage it.
2. Prior to the departure of the student, but no later than 10 working days before the 1st day of school, all arrangements regarding what credits may be earned and counted for graduation while the student is participating in the travel abroad experience must be resolved to the satisfaction of the MLWGS administration and home district Gifted Coordinator. A pathway for an on-time graduation must be established.

Post-program

1. The student must provide documentation that he or she has been enrolled in a full-time course of study for the entire school year during his or her stay by July 1 the summer after studying abroad.

2. The student must provide documentation in the form of official transcripts from the receiving school by July 1 the summer after studying abroad. The transfer of credits from the study abroad program back to MLWGS is not guaranteed.
3. The student must be in "good standing" at Maggie L. Walker Governor's School.
4. The student must be able to complete the requirements for the MLWGS diploma by the end of the senior year.
5. The student must have had verified, documented, and submitted 105 eligible hours of community service by August 1 the summer after studying abroad.

ACADEMIC STANDARDS & COMMUNITY SERVICE POLICY
Approved by the Regional Board June 24, 2010; Amended October 18, 2018

The purpose of the academic standards and community service policies and requirements is to ensure the success of all students at Maggie L. Walker Governor's School (MLWGS), and to provide support for those students experiencing difficulty. To be in "good standing" the student must meet ALL of the following criteria:

- 1) achieve a grade point average of 2.0 or greater at the end of each school year;
- 2) fail no more than one course per year based upon final course grade;
- 3) exercise ethical academic behaviors in line with high standards of character;
- 4) have completed, or have an approved plan in place to complete, at least the minimum number of eligible community service hours recommended in the guidelines for their grade level; and
- 5) have an approved plan in place to complete the graduation requirements for the MLWGS Advanced Studies Diploma in four years at MLWGS.

Note: Additional requirements may be set by the participating school divisions including but not limited to the availability of funding and continuous review of progress, e.g., grades, attendance, and behavior.

Graduation Requirements for the MLWGS Advanced Studies Diploma include 1 unit of Community Service.

Students must complete and document a minimum of 140 hours in 4 years. Only 70 hours of credit from one organization will count toward the minimum requirements (i.e. "eligible hours"), with a cap of 35 hours per activity, per school year, although all hours (i.e. "total hours") will be shown on the final transcript. Students enrolled at MLWGS prior to the adoption of this updated policy may ask for flexibility from the Director with regard to the number of hours that must be performed off-site. Students must have completed, submitted, and verified at least the following number of eligible hours at the end of each grade level: (1) freshmen - 35 hours, (2) sophomores - 70 hours, (3) juniors - 105 hours, and (4) seniors — 140 hours by the end of the third quarter of their graduation year. Diplomas of seniors not completing their community service requirement will not be eligible for the Governor's School designation.

A review of each student's overall progress is made at the end of each semester. A student who does not meet ALL of the criteria above is placed in the Academic and/or Community Service Intervention Process. If the student still does not meet all of the above criteria within the next semester, a recommendation will be made to the home school division superintendent that the student returns to his/her home school division.

ACADEMIC STANDARDS & COMMUNITY SERVICE PROCEDURES
Communication with Parents/Guardians and Home School Divisions

Maggie L. Walker Governor's School (MLWGS) has on-going communication regarding student progress with both parents/guardians and home school divisions. Regular communication regarding ALL student progress includes:

- Parents/Guardians
 - 1) Quarterly interims and report cards include current grades, grade point average, number of eligible community service hours documented, community service guidelines, and attendance records.
 - 2) Access to PowerSchool, the parent and student portal for student progress, provides a comprehensive view of the student's academic and community service progress, including current grades and assignments, historic grades for the current year, and attendance record.
 - 3) Teacher websites provide parents access to weekly schedules including classroom activities, homework, and assessments for each class.
- Home School Division - Gifted Program Administrators
 - 1) Quarterly packets are mailed which include report cards for each student, a "D/F Report" (summary listing students with D's and/or F's in one or more subjects), and a "Community Service Report" (students listed by grade level).
 - 2) Copies of any letter regarding academic and/or community service progress sent to parents/guardians of students from their school division.

- 3) It is requested that the gifted program administrator from each division review the “D/F Report” and the “Community Service Report” and attend meetings as indicated in the Academic or Community Service Intervention Process.

On-going support is provided for all students as they transition to MLWGS and engage in the rigorous instructional program. Teachers, counselors, and administrators intervene as needed to assist students with their progress. **When a student experiences difficulty remaining in “good standing,” he/she enters into the Academic and/or Community Service Intervention Process.**

Academic Intervention Process

STEP 1 - Faculty members alert the appropriate school counselor in writing of concerns for any student who is experiencing academic difficulty (grades of F or incomplete at the end of a nine week grading period). That faculty member will also contact the student’s parent/guardian. The school counselor will hold a conference with the student needing academic assistance to offer recommendations for improvements. Schedule adjustments may be recommended at this time.

STEP 2 - If the student continues to have academic difficulty at the end of the nine weeks following referral, a conference will be held with the student, the parent/guardian, school counselor, and the appropriate teachers to discuss strategies for improvement.

STEP 3 - If the student still has not made sufficient improvement at the end of the next grading period, the school counselor, parent/guardian, appropriate teachers, and grade level administrator will meet to develop an academic intervention plan for the student. The plan may include tutoring, counseling, behavior management, a contract, or other appropriate measures. The home school division gifted program administrator will be notified when the meeting is scheduled to be held and given an opportunity to attend. A **“Plan for Improvement Form”** will be developed and signed by all in attendance.

STEP 4 - If the student continues to experience academic difficulty, a conference will be held with the student, parent/guardian, school counselor, grade level administrator, and the gifted program administrator from the student’s home school division to discuss options for future placement for the student if student progress continues below the criteria for **“good standing.”**

STEP 5 - The grade level administrator and gifted program administrator for the student’s home school division will meet with the Director to review the actions taken during the intervention process, current status of student progress, and options for future placement discussed at the meeting with the student, parent/guardian, and school counselor for his/her consideration.

Community Service Intervention Process

STEP 1 - End of First Semester - Each grade level administrator will review the community service report for their grade level(s) each semester. Students should complete at least half of the eligible hours for their current school year by the end of the first semester: freshmen - 17 hours, sophomores - 52 hours, juniors - 87 hours and **seniors-125 hours**. The assigned administrator will send written notification to students who are not meeting the guidelines for their grade level to remind them of the requirements and offer assistance if needed. In addition, parents will also be sent a copy of the written notification.

STEP 2 - End of Third Nine Weeks - Parents/guardians of students who have not completed at least 75% of the number of eligible community service hours for their grade level will be notified: freshmen - 26 hours, sophomores - 52 hours, and juniors - 78 hours. **Seniors must have 140 hours completed, submitted, and verified by May 1st.** A list of all students who have not completed the recommended number of hours will be sent to the home school division gifted program administrator. The assigned administrator will meet with the students needing community service, to offer recommendations and give them the **“Community Service Plan of Action”** form (plan for completing the recommended number of hours). The Director will send written notification to the parents/guardians of sophomores, juniors, and seniors. These students must complete the plan and submit it for approval to the Director by the first Monday of May. If the plan is not approved, a conference will be scheduled with the parents/guardians and student to make adjustments to the plan.

STEP 3 - End of Fourth Nine Weeks - If the student continues to have difficulty completing the number of eligible community service hours by the end of the **fourth nine weeks**, a conference will be held with the student, the parent/guardian, school counselor, and Director or grade level administrator to discuss strategies for improvement. The home school division gifted program administrator will be notified when the meeting is scheduled and given an opportunity to attend. **Diplomas of seniors not completing their community service requirement will not be eligible for the Governor’s School designation. Students who are returning and completing hours over the summer must submit the verified hours to the Director NO LATER than two weeks after the beginning of the subsequent school year.**

STEP 4 - If the student continues to lack the number of eligible community service hours as outlined in the guidelines after the first two weeks of the beginning of the school year, a conference will be held with the student, parent/guardian, school counselor, grade level administrator, and the home school division gifted program administrator to discuss options for future placement for the student.

Students Not in “Good Standing” after Completing the Intervention Process

STEP 1 – The MLWGS Director will send written notification to the student, parent/guardian, gifted program administrator, and Superintendent for the student’s home school division with his/her recommendation regarding the student’s future placement at MLWGS.

STEP 2 – The student and parent/guardian will receive written notification from the home school division regarding the status of the student’s placement at MLWGS.

Transition and Academic Support Provided for All Students

I. The Transition Process - Freshmen Orientation and Preparation for Success

- An orientation program is provided in August for incoming freshmen prior to the opening of the school year. The purpose of this orientation is to acquaint incoming students and their parents/guardians with MLWGS expectations, success strategies, community service opportunities, school technology, and support services available to all students.
- During pre-school workdays, departments collaborate to design differentiated instruction to meet the needs of incoming freshmen as well as current students.
- MLWGS 101 is a freshmen required course for graduation, prepares students to succeed in the rigorous MLWGS academic program, be independent learners, use effective research skills, think critically, solve problems creatively, use technology in a rapidly changing technological environment, work effectively with others, and communicate effectively in written, oral, and visual format.
- School counselors provide sessions for freshmen with training in study skills, time management, organizational strategies, as well as the administration of a learning styles inventory.
- The school librarian provides whole-class instruction in research skills through collaboration with teachers of freshmen courses, individual research coaching sessions, tips and tutorials via the library’s blog and wiki, mini-workshops during lunch, and annotated lists of online resources (project guides) to support specific projects when a teacher requests.

II. On-going Support Available to All Students

- After school tutoring in English and mathematics
- After school testing lab for make-up or re-tests
- Honor Society tutors in all subject areas
- Tutoring with teachers before school, after school, or during lunch
- Independent study periods structured by MLWGS staff during the instructional day
- Meetings with school counselor to assess academic progress and needs
- The school librarian continues to collaborate with teachers and students in upper grade levels to provide whole-class instruction and individual coaching sessions, tips and tutorials via the library’s blog and wiki, lunchtime mini-workshops, and project guides to support specific assignments

Four Year Course Planner

The table below is intended to help students plan for their four year course of study at MLWGS. *The courses listed below represent one typical sequence of study at Maggie L. Walker Governor's School. Students may follow a different sequence depending on middle school credits, academic progress, and other factors.*

Content Area	Ninth Grade	Tenth Grade	Eleventh Grade	Twelfth Grade
<i>Social Studies</i>	Global Studies 9	Global Studies 10	U.S. History OR AP U.S. History	U.S. Government OR AP U.S. Government & Politics
				We the People: INTENSIVE
<i>English</i>	World Literature 9	World Literature 10	Contemporary Voices (Cycle A or B) OR AP English Language and Composition	Contemporary Voices (Cycle A or B) OR AP English Literature and Composition
<i>Mathematics</i>	Geometry OR	Algebra II OR Algebra II PLUS	Precalculus OR Precalculus PLUS	VCU Calculus I, AP Calculus AB OR AP Calculus BC
<i>Science</i>	Molecular Biology	Chemistry OR Chemistry PLUS	Physics OR AP Physics 1	AP Biology, AP Chemistry, AP Physics, OR AP Environmental Science
<i>Int'l Languages</i>	Language 1, Level II	Language 1, Level III	Language 1, Pre-AP	Language 1, AP
		Language 2, Level I	Language 2, Level II	
<i>General & Fine Arts Requirements</i>	Health & PE 9	Health & PE 10		Senior Seminar/Mentorship
	MLWGS 101	Online Economics & Personal Finance		
	Fine Art			
<i>Electives/Study Hall</i>			Study Hall	Study Hall
			Elective	
Total Periods Scheduled (must=8)	8	8	8	8
<i>Community Service</i>	35 hours	35 hours	35 hours	35 hours

GENERAL COURSE OFFERINGS

MLWGS 101

Course Number: 0006

Credit: 1

Required of all ninth grade students

The Foundations portion of MLWGS 101 will ensure that by the end of their first six weeks at MLWGS each freshman is aware of the academic and personal honor expectations at MLWGS and understands the benefits and responsibilities of being part of a culture of honor, can access and use necessary technology tools, implements a plan to manage their passwords, organize their files, and back up their work, understands how to read a syllabus and grading rubric, practices active note-taking strategies and active reading skills, and knows how to access Counseling services and Library resources.

After the Foundations portion of MLWGS is complete, students begin the first step in a research and writing progression that culminates with the senior seminar/mentorship capstone project and presentation. Research and writing are emphasized and demonstrated in all courses, including culminating projects in Chemistry, Global Studies 10, and Contemporary Voices (Cycle A or B) /AP English Language and Composition. This course provides students with the skills to conduct independent research. The three core components of the course are taught by an interdisciplinary team of instructors from mathematics, language arts, and global studies. The course is designed to prepare students to succeed in a rigorous academic program, be independent learners, use effective research skills, think critically and solve problems creatively, use technology in a rapidly changing technological environment, work effectively in teams, and communicate effectively in written, oral, and visual formats.

ECONOMICS AND PERSONAL FINANCE

Course Numbers: Personal Finance 0181, 0184; Economics 0180, 0183

Credit: 1

Required of all students

Offered online during the academic year and online during the summer

This course prepares students to function effectively as consumers, savers, investors, entrepreneurs, and active citizens. Students learn how economies and markets operate and how the United States' economy and the global economy are interconnected. On a personal level, students learn that their own human capital is their most valuable resource. In addition, this course helps students develop thinking skills that include the analysis of real-world situations, economic reasoning, decision making, and problem solving.

MENTORSHIP/SENIOR SEMINAR: INTENSIVE

Mentorship Course Number: 0272

Seminar Course Number: TBD

Credit: 1

Required of all seniors

Grade: *12th only*

This course provides students with the opportunity to explore an area of personal interest that promotes the mission of the school. The senior seminar credit can be fulfilled through participation in **(1) a seminar at MLWGS, or (2) a mentorship off campus. Mentorships are granted through an application process, and there is no guarantee that every student interested in a mentorship will be accepted. Consideration is given to GPA, disciplinary record, community service hours, among other factors.** Students actively participate during the first semester of their junior year in planning their Senior Seminar experience.

Whether participating in a seminar or a mentorship, students engage in field-based research, create a product, write a research paper, and present at Senior Showcase. Throughout the process, students take an active part in formulating the problems and methods by which the problems are investigated. Appropriate investigative techniques are utilized to produce or analyze raw data and/or produce original interpretations rather than rely exclusively on the conclusions of others. When completing projects students select from a wide range of alternative products and communicate their results to a real, rather than a contrived, audience in a professionally appropriate manner on Senior Showcase Day. The presentations are graded in accordance with rubrics developed to ensure a level of consistency. In both the mentorship and seminar experiences, an exam grade will be a part of each student's course grade for the first and for the second semester.

(1) Seminar. School-based research seminars are guided by a MLWGS faculty facilitator or a professional community facilitator. Seminar groups meet during a designated block period on the MLWGS campus, and are structured around a broad organizing theme of mutual interest to all involved. Seminar students undertake a field-based research project and write a

paper on a topic of interest related to the seminar theme and that is approved by the seminar instructor. Each seminar group also works together as a class to create a professional presentation for the Senior Showcase.

(2) Mentorship. Students desiring a more individual study of a field of interest may apply for a mentorship off of the MLWGS campus, meeting each Friday with the MLWGS Mentorship Coordinator to discuss their progress. Factors taken into consideration when applying for a mentorship include community service hours, attendance/tardies, discipline (including Honor violations), grades/GPA (must maintain a C+ or better in each class), student's ability to provide transportation, and the ability of the Coordinator to find a viable mentorship. If accepted into the program, must complete a *minimum* of 115 hours of field experience with all documentation and assessments required for a passing mark in the Mentorship Program, complete a *minimum* of 25 hours meeting with the Mentorship Coordinator on Fridays to ensure all activities and assessments are completed, and complete a research project reflecting the research process, a product, a research paper, and professional presentation at Showcase. **Students may complete up to 45 hours of a mentorship during the summer before their senior year; exceptions to this hour restriction may be considered for mentorships out-of-the state or country.** Students complete the remaining hours throughout the school year by leaving during their 7th or 8th block mentorship class at 1:50 p.m. Students also have the option of combining a study hall with their mentorship block, leaving at 11:45; e.g. 5/7 (Mondays/Wednesdays) or 6/8 (Tuesday/Thursdays). If a student participates in any activities that require him/her to return to school by 3:30 or 4:00, then a study hall with the mentorship block is required. ***A 3-hour training session, offered at the end of a student's junior year, is required before starting the mentorship.***

ELECTIVE FIELD EXPERIENCE (for elective credit – pass/fail only)

Course Number: 0081 (Full Year)

Credit: 1 (140 hours)

Course Number: 0086 (One Semester)

Credit: 1/2 (70 hours)

Prerequisite: Successful completion of **sophomore** year requirements

This course provides students with the opportunity to gain a realistic perspective of a career field of personal interest, while giving mentors the chance to assist students with career explorations and possibly gain assistance with a special project of mutual interest. This application experience requires a *minimum* of 140 hours engaged in activities at the field site and/or related mentorship activities at approved alternate sites to earn one credit. For one-half credit, the student must complete a *minimum* of 70 hours. The credit is on a "Pass/Fail" basis, assessed according to established rubrics, and must be used for elective credit. Students must submit an application, which may be obtained from the Senior Seminar/Mentorship Program Coordinator.

The student's role may vary from one of active involvement at times, to one of observing and asking questions. Generally, initial activities include observing the mentor in a professional on-site setting and observing the relationship and interaction between the mentor and other professionals. During this time, the student may either rotate among departments at the field site as arranged by the mentor to gain an overview of the organization or spend the first two weeks with their mentor to obtain a more in-depth perspective of their role. As the Field Experience progresses, the mentor is encouraged to suggest areas of focus for student observation during specific activities. Examples of focused observations include such topics as the "methods to document professional conversations and decisions" or "procedures for opening a professional meeting or training session." Additionally, the students assist as they are able and as they are needed in the following ways: on previously established projects or short-term activities, with routine daily activities, and with research activities. They may undertake a creative project of interest to the mentor that utilizes their special talents as a singular project or in addition to the aforementioned activities.

Types of specific activities with which MLWGS students assist their mentors include either preparing reports and spreadsheets or contributing to an ongoing research project by conducting labs, data entry analysis, and editing or proofreading of documents. Additionally, they can attend meetings, training sessions, and other functions either with their mentor or as arranged by their mentor, co-present with their mentor for professional groups, review recent professional literature related to a topic of mentor interest, create an annotated bibliography of articles provided on a specific subject, or explore a new computer software application important within the professional setting.

Students are expected to acquire and apply knowledge during their field experience and must therefore engage in observations in professional settings that lead to new activities. During a Field Experience, students are encouraged to seek activities that expand areas of personal talent and/or interest and that can be of benefit to their mentor and to the field site in general. Once approved by their mentor, students may complete **up to 30 hours** of their activities independently, record these hours in their journal, present the product to their mentor for periodic review, and include the final product in the Field Experience Portfolio.

To receive a "Pass" and the MLWGS Field Experience credit, the student must submit the following products:

1. **A journal of personal reflections** with daily entries that include (a) the date of the field site visit, (b) time of arrival and time of departure, (c) brief description of activities or observations, (d) questions to ask their mentor at the next meeting, and (e) subtle learning from the activities and/or observations. Students must obtain mentor signatures upon completion of each interval of 17 – 18 hours verifying that they concur with the entries.
2. **A Field Experience portfolio** containing (a) a written report for each nine weeks or *approximately* 35 hours of Field Experience, (b) a written final report summarizing the activities and personal reflections on the knowledge acquired from the total experience, and (c) specific samples of work completed for the mentor.
3. **Mentor “Student Evaluation” forms** (each nine weeks and final) indicating an overall “satisfactory” level of performance in each category, and
4. **A letter from the mentor** verifying that the student engaged in field activities for a *minimum* of either 70 hours for one-half credit or 140 hours for one credit and successfully completed the project or activities upon which the Field Experience was proposed.

For students interested in submitting research to science competitions, additional requirements for completion of research field experience **may** include the following modifications:

1. **The nine-week (quarterly) papers** will summarize the progress of the research along with personal reflections on knowledge gained related to the “research process.”
2. **The Final paper** will be a research report in the proper format to submit for competitive consideration.

The pass/fail field experience opportunity for **elective credit** is dependent upon sufficient availability of staff to guide and supervise the process. Field Experience applications and proposals must be completed and approved by the MLWGS Director the semester prior to implementation. The needed materials and required forms can be obtained from the Mentorship Coordinator.

STUDENT AMBASSADOR

Course Number: 01 (Full Year)

Credit: Community Service Hours

Course Number: 06 (Semester)

Prerequisite: Completion of the application process

Students participating in this experience will utilize and expand their leadership and organizational skills through working with the office of Curriculum and Instruction to assist the administration on projects related to such activities as daily operation of the school, school outreach activities, recruitment of new students, hosting visitors to the school, and new curriculum projects. Possible activities for students during this experience may include, but are not limited to: (1) editing or proofreading documents, (2) assisting with ongoing research projects, (3) preparing materials, reports, and/or spreadsheets, (4) assisting with meetings, training sessions, and/or conferences, (5) presenting on various aspects of the MLWGS program, (6) giving tours to visitors, and (7) assisting with the Friends of Virginia’s Governor’s Schools, the GSGIS Foundation, and other organizations. Through this experience, students will learn to work within a collaborative administrative structure, to speak in public about MLWGS programs and gifted students, to prioritize, participate, cultivate talent in others, and delegate in order to complete projects, and to provide a student’s viewpoint on curriculum initiatives. As student ambassadors serve as liaisons to the general community, they gain a deeper understanding of the MLWGS program and share in the continuous improvement of their school. There is a maximum of eight ambassador positions available per period each semester. Students that are in these positions are required to reserve that period for student ambassador work only. They are also required to commit to a certain number of annually scheduled events that take place outside of school time. These events include but are not limited to freshman orientation, Back to School Night, Open Houses, middle school visits, and eighth grade testing days. It is also important that these students attend the tour and leadership training session(s) for the program. Applications for student ambassador positions are available in the school counseling department and must be submitted for consideration to the Coordinator of Curriculum and Instruction three weeks prior to registration.

STUDENT STUDY PERIOD (STUDY HALL)

Course Number: 0101 (Full Year)

Credit: None

0106 (Semester)

HEALTH AND PHYSICAL EDUCATION COURSES

HEALTH AND PHYSICAL EDUCATION 9

Course Number: 8001

Credit: 1

Grade: 9

This course is the first year of Health and Physical Education and focuses on the study of health, wellness, personal fitness, human diseases, social health, mental health, and nutrition. This course also includes training in CPR, AED use, and emergency first aid. Physical Education focuses on a variety of team and individual sports that are taught within an atmosphere of sportsmanship. The class includes a variety of fitness equipment and free weight knowledge to educate the students on the proper forms of weight training to prevent injuries.

HEALTH/DRIVER'S EDUCATION/PHYSICAL EDUCATION 10

Course Number: 8071

Prerequisite: 9th grade Health and Physical Education

Credit: 1

Grade: 10-12

Health/Driver's Education and Physical Education is the second credit for high school graduation. The Health portion covers preparing for courtship, planning for a family, lifetime goal planning for a future, pathologies for disease, participation in drug free recreational activities, and understanding the physical, mental, and psychological effects of alcohol and drugs in society. Also covered are maturation, interpersonal relationships, problem solving, budgeting, debts, investing, personal fitness, development of a fitness program, resting heart rate, target heart rate, maximum heart rate, and logging of a personal fitness plan and maintaining it throughout the semester. Driver's Education will be offered to all students in the first semester of the course and provides the student the 36 hour theory portion and the behind the wheel segment for the state requirement to receive a driver's license. Behind the wheel will be offered through Richmond Public Schools. Once the student has completed half of driver's education, the student can email rpsdrive@rvaschools.net and the coordinator will arrange a time for behind the wheel. Physical Education will offer a variety of individual sports and lifetime activities such as ultimate frisbee, volleyball, golf, lacrosse, field hockey, soccer, tennis, and basketball.

SOCIAL STUDIES

Philosophy

The Maggie L. Walker Governor’s School for Government and International Studies (MLWGS) Social Studies college prep curriculum exceeds both state and national standards. It is based on a systematic, critical study of social science. The department seeks to provide students with an international perspective so they can fulfill the mission of developing “students’ character and ability to contribute, collaborate, and lead.” Opportunities to develop and expand student knowledge are present both in the classroom and through various department-sponsored programs and extracurricular activities. The department respects and nurtures all Governor’s School students to provide them with a strong foundation in the social sciences in keeping with the unique mission of this program and the strengths of its students.

Goals

The MLWGS Social Studies Curriculum integrates a global perspective and awareness across many disciplines that stress the commonalities, connections, and uniqueness of all human beings. This approach enables our students to become responsible global citizens. The students will:

- understand the different methods of causation and analysis used in the social studies subject areas
- view themselves as a part of an interdependent world system
- broaden their understanding of historical influences on the formation of national identities
- value group collaboration in decision making processes
- critically evaluate major theories concerning man and society
- consider the ethical and moral implications of historical, political, and economic problems
- analyze and assess data applications to world issues and problems
- appreciate how people experience common life themes across region and culture
- examine the origins of diversity in our world community
- practice research techniques and question interpretations of content
- present oral discourse and written arguments in the study of social science

Program Description

The objectives listed are the foundation for courses offered in the Social Studies curriculum. The typical course offerings include some of the following:

Global Studies: Cycle I: Europe and Russia, Middle East, and the Indian Subcontinent
Cycle II: East and South East Asia, Sub-Saharan Africa, Latin America
*(Note: The above listings are **CORE COURSES FOR 9th/10th grades.**)*

United States History

Advanced Placement United States History

United States and Virginia Government

Advanced Placement American Government and Politics

Advanced Placement Comparative Government and Politics

Advanced Placement Economics

Advanced Placement European History

Advanced Placement Human Geography

Advanced Placement Psychology

Gender Politics and Consumer Culture in a Global Context: INTENSIVE

“We The People” – The Citizen and the Constitution: INTENSIVE

Topics in 20th Century American History

Topics in Global Studies

International Relations/Issues in World Politics: INTENSIVE

Introduction to Modern Political Theory

Individual course descriptions and objectives are planned for each course listed in this course catalog. Each student is provided with a detailed syllabus for each class in which he/she is enrolled for optimum organization and success. Specific national contests and organizations are encouraged for student participation.

Course offerings are continually updated, expanded, and adjusted to reflect the needs of our incoming student population. Since we serve a learning community from across the Metropolitan Richmond region, every effort is made to accommodate student needs and individual growth.

SOCIAL STUDIES COURSES

GLOBAL STUDIES I & II

Course Number: 9-1001; 10-1031

Credit: 1

Required: All Freshmen and Sophomores

This course is a two-year survey of world regions. The major civilizations of Europe and Russia, the Middle East, and the Indian subcontinent will be studied in Cycle I. The major civilizations of East Asia and Southeast Asia, Sub-Saharan Africa and Latin America will be studied in Cycle II. In each regional unit, an intensive study of history is undertaken, with a particular focus on events since 1500. Geography, religion, economics, politics, art, culture, ethnicity, and current events are incorporated into the study of each region. The sophomore year course is taught at a higher level in keeping with student developmental needs. In addition, sophomores are required to engage in a substantial research and writing project as defined by the instructor and using the Chicago Manuscript style. Students will complete the Standards of Learning testing program at the end of their sophomore year.

UNITED STATES AND VIRGINIA GOVERNMENT

Course Number: 1071

Credit: 1

Prerequisites: Global Studies I & II and US History

The primary objective of Honors U.S. Government is to advance civic competence among Governor's School students. The course implements student involvement and critical analysis of American and Virginia government by examining its conflicts, complexity, and controversies. Students are encouraged to question, analyze assigned readings, participate in seminar discussions, and demonstrate application in simulated exercises based on examples from the development of national and state government. The readings embrace continuing and conflicting interpretations of important past and contemporary issues. Family values, gun control, and foreign policy choices are some topics discussed and debated. Projects are completed each marking period. Projects may involve the examination of state and national election campaigns, Federalist and Anti-Federalist perspectives, the legislative process within Virginia, and the implementation of federalism. Opportunities are also provided for students to explore topics of personal interest beyond the core curriculum and Standards of Learning. Highly-qualified students may choose to take the College Board Advanced Placement Exam in American Government.

UNITED STATES AND VIRGINIA HISTORY

Course Number: 1051

Credit: 1

Prerequisite: Global Studies I

The Honors United States History course requires students to analyze the political, economic, social, and cultural history of the American nation and its peoples. Students will receive a thorough and differentiated knowledge of American culture through a chronological and/or thematic survey and assessment of the major issues, movements, peoples, and events in both United States and Virginia history. Students will practice and understand the skills necessary for responsible citizenship and participation in our multicultural American society. Classroom instruction is conducted through lectures, presentations, student-led discussions, presentations, and cooperative activities. Opportunities are also provided for students to explore historical topics of personal interest beyond the Standards of Learning. Highly-qualified students may choose to take the College Board Advanced Placement Exam in American History.

AP AFRICAN-AMERICAN STUDIES

Course Number: 1140

Credit: 1

Prerequisite: Global Studies I;

Guidelines: B in prerequisite course and teacher recommendation

AP African American Studies is an interdisciplinary course that examines the diversity of African American experiences through direct encounters with varied sources. Students explore key topics that extend from early African kingdoms to the ongoing challenges and achievements of the contemporary moment. Given the interdisciplinary character of African American Studies, students in the course will develop skills across multiple fields, with an emphasis on developing historical, literary, visual, and data analysis skills. This course foregrounds a study of the diversity of Black communities in the United States within the broader context of Africa and the African diaspora.

AP AMERICAN GOVERNMENT AND POLITICS

Course Number: 1073

Credit: 1

Prerequisite: U.S. History

Guidelines: B+ in prerequisite course and teacher recommendation

In the Advanced Placement course in American Government, students interpret national, state, and local government and politics through basic concepts and specific cases. They will gain familiarity with the various institutions, groups, beliefs, and ideas that constitute U.S. politics. Students will also explore concepts and ideas that are fundamental to the government of Virginia. It is expected that the student will take the AP exam for this course. This course fulfills the government requirement for the Virginia Standards of Learning.

AP COMPARATIVE GOVERNMENT AND POLITICS

Course Number: 1093

Credit: 1

Prerequisites: Global Studies I and II

Guidelines: B+ in prerequisite courses and teacher recommendation

This elective course includes a study of comparative government and politics. It provides students with an analysis of the world's diverse political structures and practices. Through the study of political frameworks, social systems, citizenship, and the ideologies of the countries of Great Britain, China, Mexico, Nigeria, Iran, and Russia, students gain an understanding of the way people organize societies in the contemporary world. The former Soviet Union will be analyzed to examine how some of the concepts introduced apply in a unique way to the disintegration of a nation state. It is expected that the student will take the AP exam for this course.

AP ECONOMICS

Course Number: 1303

Credit: 1

Prerequisite: Global Studies I and II, Algebra II, and teacher recommendation

Guidelines: B+ in prerequisite courses

The Advanced Placement economics course is a two semester course that prepares students for the AP Microeconomics and AP Macroeconomics exams and helps them understand domestic and global economic challenges. The course helps students understand the intricacies and interrelationships in the economy and how domestic and global policies influence our economy and economic thinking. Successful completion of the course will enable the students to better understand key economic issues and concepts, become familiar with the economic thought process, and to be able to evaluate political decisions from an economic perspective.

AP EUROPEAN HISTORY

Course Number: 1104

Credit: 1

Prerequisite: Global Studies I

Guidelines: B+ in prerequisite course and teacher recommendation

European History is a college level course that prepares MLWGS students for the national College Board examination in May of the school year. Its content consists of the development and interpretation of European History since 1450. Students are expected to have a basic factual knowledge and understanding of modern European history or contemporary civilization as presented in the Global Studies course curriculum. Themes in political, diplomatic, economic, intellectual, social, and cultural history are covered. Students master the broad chronological contours of modern European History for in-depth knowledge of specialized topics. The analysis and synthesis of critical primary texts is an essential element of the course and students should arrive with a basic familiarity with this process. It is expected that the student will take the AP exam for this course.

AP HUMAN GEOGRAPHY

Course Number: 1153

Credit: 1

Prerequisite: Global Studies I

Guidelines: B in prerequisite course and teacher recommendation

This course entails the “systematic study of patterns and processes that shape human understanding, use, and alteration of the Earth’s surface. Students employ spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They also learn about the methods and tools geographers use in their science and practice” (College Board, 2013). Students work to quantify the human experience through relationships with the environment and each other. Topics include: perspectives on geography, population, language, ethnicity, religion, agriculture, political organization, and more. The themes explored constitute the foundation of many other social sciences and help give context to current events. Sample assessments include analysis of primary and secondary sources, student presentations, preparation of charts and graphs, papers, and simulations. Students are expected to take the AP exam.

AP PSYCHOLOGY

Course Number: 1606

Credit: 1

Prerequisite: Global Studies I;

Guidelines: B+ in prerequisite course and teacher recommendation

The Advanced Placement course in Psychology introduces students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. They will also learn about the methods psychologists employ in their science and practice. Emphasis is placed on ideas and contributions which psychology has made to understanding human behavior. Extensive reading explores the work of Pavlov, Jung, Maslow, Rogers, Freud, and others. Experimental techniques and implications are examined. It is expected that all students will take the AP exam for this course.

AP U.S. HISTORY

Course Number: 1053

Credit: 1

Prerequisite: Global Studies I

Guidelines: B+ in prerequisite course and teacher recommendation

AP United States History requires student involvement in an in-depth study of the political, diplomatic, intellectual, cultural, social, and economic history of the United States from the pre-Columbian period (ca. 1491) to the present. At the highest level, the course is organized around seven course themes. These themes structure the course around significant long-term trends and processes in what has become the United States. The themes provide an overarching framework for inquiry that can be used to guide students throughout the course. The themes are: Work, Exchange, and Technology; Peopling; Ideas, Beliefs, and Culture; America in the World; Environment and Geography—both Physical and Human; Politics and Power; and Identity.

The curriculum framework defines historical thinking skills that are central to the study and practice of history and implements tools used by historians when they construct and test historical arguments about the past. The rigor of the course is comparable to a freshman survey of U.S. history at most colleges and universities. Classroom instruction is conducted through lectures, student-led discussions, presentations, and cooperative work. In keeping with this advanced level, reading and writing requirements are extensive. A significant component of the course concerns the development of academic skills including; historical research, information analysis, formal research writing, appropriate source documentation, persuasive essay construction, oral presentation, and debate. It is expected that students taking the AP course will take the College Board’s AP exam in this subject area. Accordingly, emphasis is given throughout the year to the techniques and skills required to do well on the exam. A variety of instructional approaches are employed.

THE CITIZEN AND THE CONSTITUTION: “WE, THE PEOPLE” : INTENSIVE

Course Number: 1085

Credit: 1

Prerequisites: U.S. History, U.S. Government (may be taken concurrently), application process, and teacher committee review

The United States of America has one of the world’s most successful governments. This government was greatly influenced by the American people’s powerful convictions involving fundamental political concepts. These convictions were based upon the values of freedom, order, and equality. Their successful interaction and execution in a democratic environment has been a constant challenge for the American political system.

The primary goal of “We the People: The Citizen and the Constitution” is to promote civic competence and responsibility among the nation’s secondary students. What makes the program so successful is the design of its instructional material, including its innovative culminating activity. The instructional program enhances students’ understanding of the institutions of American Constitutional Democracy. At the same time, students discover the contemporary relevance of the Constitution and the Bill of Rights. The culminating activity is a simulated congressional hearing in which the students testify before a panel of judges. Students demonstrate their knowledge and understanding of constitutional principles and have opportunities to evaluate, take, and defend positions on relevant historical and contemporary issues. As an intensive level course, it will include a discipline appropriate culminating assessment.

TOPICS IN GLOBAL STUDIES: Honors or INTENSIVE

Course Number: 1701

Credit: 1

Prerequisite: Global Studies I (Honors); Global Studies I & II (INTENSIVE)

Guidelines: B+ in prerequisite courses and teacher recommendation

Topics in Global Studies is an honors level or intensive course that supplements the Social Studies curriculum by providing students with the opportunity to explore specialized topics in greater depth. The emphasis will be on topics with strong connections to modern world problems and events. The course will prepare students to make informed decisions regarding international controversies and concerns, and will draw upon history to examine these topics. The subject will rotate within the department and will be driven by faculty expertise and areas of interest. In each course students will apply the skills and concepts learned in Global Studies. Students will work extensively with primary and secondary source material, participate in teacher and student-led discussions, engage in experiential learning activities, and work independently and in groups to conduct research and present their findings. Past courses have focused on Gender Politics and Consumerism, World Religions, East Asian Studies, 20th Century Russian History, Migration and Motion: Diversity and Identity in 20th century European capital, Genocide and 20th Century Dictators and Despots. Intensive level courses will include a discipline appropriate culminating assessment.

TOPICS IN Policy, Politics, and Government: Honors or INTENSIVE

Course Number:

Credit: 1

Prerequisites: Global Studies I (Honors), (Honors); Global Studies I & II, should be enrolled in or completed either US History or US Government (INTENSIVE)

Guidelines: B+ in prerequisite courses and teacher recommendation

Topics in Policy, Politics, and Government is a course that supplements the Social Studies curriculum by providing students with the opportunity to explore specialized topics in greater depth. The emphasis will be on topics with strong connections to both past and present issues in policy and government. The course will prepare students to make informed decisions regarding controversies and concerns in the political realm. The subject will rotate within the department and will be driven by both faculty expertise and student areas of interest. In each course students will apply the skills and concepts learned in Global Studies. Students will work extensively with primary and secondary source material, participate in teacher and student led discussions, engage in experiential learning activities, and work independently and in groups to conduct research and present their findings. Courses offered will be a mixture of Non-Intensive and Intensive classes. Potential courses include

Introduction to Modern Political Theory, International Relations, Women in Politics, Commercial Society: A Primer on Ethics and Economics, Elections and the Electorate. Intensive level courses will include a discipline appropriate culminating assessment.

TOPICS IN 20th CENTURY UNITED STATES HISTORY: Honors or INTENSIVE

Course Number: 6999

Credit: 1

Prerequisites: Global Studies I (Honors); Global Studies I & II (INTENSIVE)

Guidelines: B+ in prerequisite courses and teacher recommendation

Topics in 20th Century United States History is an upper level seminar that supplements the curriculum in Honors and Advanced Placement United States History by providing students with the opportunity to explore specialized topics in greater depth. The subject will rotate within the department and will be driven by faculty expertise and areas of interest. In each course there will be an emphasis on the application of skills and concepts learned in the U.S. History survey courses. Students will work extensively with primary and secondary source material, participate in seminar discussions, engage in experiential learning activities, and work independently and in groups to conduct research and present their findings. This is an honors level course with reading, writing, and class discussion expectations that require a mature and committed history student. Past courses have focused on the Civil Rights Movement, the Korean and Vietnam Conflicts, 20th Century American Popular Culture, and American Historiography. Intensive level courses will include a discipline appropriate culminating assessment.

ENGLISH

Philosophy

In the English program at MLWGS, students read great works of literature and then learn how to examine, discuss, and write about these works. English teachers model the analysis of literature in order to teach students how to recognize and appreciate not only the literary techniques that authors use but also the ideas that authors explore. Students learn about the English language, from the grammatical construction of sentences, through the organization of a paragraph, to the assemblage of ideas into a logical essay. Students also apply these skills to the way they speak in public and share their ideas in discussion. Through the literature studied, the English program encourages students to understand and appreciate interdisciplinary connections, especially those that naturally arise between the Global Studies and English programs.

Goals

The English program strives to help each student:

- gain an appreciation of a broad scope of literature, literary movements, and recurrent themes,
- develop an understanding of literature's interdisciplinary connections,
- analyze and/or explicate a text according to its literary elements,
- improve written and oral communication,
- develop analytical and critical thinking and reading skills,
- understand writing as a process that is integral to all disciplines,
- develop an awareness of audience and adapt writing skills accordingly,
- evaluate both his/her own and peers' writing,
- participate actively and effectively in classroom discussions and collaborative activities,
- use technology to facilitate writing and/or presentations,
- develop critical questioning skills,
- expand his/her vocabulary,
- master and apply the rules of English grammar, and
- understand and develop research skills.

Program Description

The English program requires each student to complete four year-long courses. These are World Literature and Composition 9 at ninth grade, World Literature and Composition 10 at tenth grade. At the eleventh grade level, students may take either Contemporary Voices (Cycle A or B) or AP English Language and Composition. At the twelfth grade level, students may take either Contemporary Voices (Cycle A or B) or AP English Literature and Composition. Each core course translates to either an honors level or an AP level course in a traditional school curriculum. In addition, the department offers several elective courses each year, including Creative Writing and Yearbook.

The core English courses are literature-based, with student activities, projects, and assignments stemming from a survey of the writers within each division of literature. To prepare students to assess and analyze literary works, the language of literature and the elements of literary criticism are studied. While core courses survey the literature of different regions, the level of difficulty of reading and writing remains progressive and closely connected among all four years. The level of academic rigor will remain developmentally appropriate across the four-year curriculum.

To ensure writing success in all disciplines, the department uses a variety of approaches to the teaching and evaluation of writing, including the use of rubrics or specific sets of objectives for a particular assignment.

Teachers communicate expectations with students both through a syllabus and through weekly agendas. In core classes, students hone questioning and thinking skills through activities such as: formal seminars, debates, mock trials, class discussions, and cooperative learning activities. Assessment takes a variety of forms, from group projects to formal tests and reading quizzes. Individualized or differentiated instruction occurs when applicable, and activities vary within each class to meet the needs of all types of learners. Aligning with the school's global mission, the community is seen as a valuable component of the English program. Classes have produced projects that they have shared with area elementary and middle schools, and individual students have taught at neighboring elementary schools. Many students submit both prose and poetry to a variety of statewide and national contests and publications.

Although the department offers several electives, some are specifically offered on a two-year cycle or in accordance with yearly student interests.

CORE COURSES

WORLD LITERATURE AND COMPOSITION 9

Course Number: 9-2001

Credit: 1

In this ninth grade core English course, students study genres of classic literature from Europe, Russia, the Middle East, and the Indian subcontinent. To enhance their understanding of different cultures, students will study how literature, history, geography, art, and language are interrelated. Students practice writing about what they have read in addition to creating compositions on other topics, including creative and research projects. Students respond to what they have read through public speaking and discussion, while at the same time focus more specifically on grammar, sentence structure, and introductory literary analysis through exercises and isolated study.

WORLD LITERATURE AND COMPOSITION 10

Course Number: 10-2031

Credit: 1

Prerequisite: World Literature and Composition 9

The tenth grade core English course continues the study of genres of classic literature from Asia, Southeast Asia, Africa, and Latin America. Students write literary analyses as well as other types of compositions, and students gain practice both in presenting in front of the class and in participating in formal discussion. As in ninth grade, vocabulary and grammar are both studied as components of the craft of writing.

AP ENGLISH LANGUAGE AND COMPOSITION (11th grade)

Course Number: 2073

Credit: 1

Prerequisite: World Literature and Composition 9 and 10

Guidelines: B+ in prerequisite courses

Students in the Advanced Placement English Language and Composition course will pay special attention to the various elements and tools of composition available to a writer, comparable to those studied in a college freshman composition course. Students will practice both identifying and applying these techniques, especially in their preparation for the AP examination in English Language and Composition. Both formal papers and in-class essays are numerous. Students will read a number of major works by American authors, with a special focus on non-fiction.

CONTEMPORARY VOICES - Cycle A and Cycle B

Course Number: Cycle A: 2062, Cycle B: 2063

Credit: 1

Prerequisite: World Literature & Composition 10, AP Language & Composition, or Contemporary Voices (Cycle A or B)

The most innovative writers of our time may not yet have been included in current classes and anthologies. This two-year cycle, a literature course for eleventh and twelfth graders, explores major forms of writing such as poetry, drama, the novel, the short story, and nonfiction prose from a thematic perspective. Students examine both established contemporary authors and emerging poets and writers who rarely make it to school reading lists, but whose work is challenging, important, and beautiful. Some readings may deal with controversial material and mature themes. Students will analyze the techniques used by the authors they study in formal literary analysis papers, formal and informal presentations, and in seminar discussions.

Note: Students may take the course either as a junior or senior, or take both levels of the course, one in junior year and one in senior year.

AP ENGLISH LITERATURE AND COMPOSITION (12th grade)

Course Number: 2078

Credit: 1

Prerequisite: Contemporary Voices (Cycle A or Cycle B) or AP Language and Composition

Guidelines: B+ in prerequisite course

Students in the Advanced Placement English Literature and Composition course will give special attention to the techniques of literary analysis, comparable to those studied in an introductory college literature course. Students will practice the skills required in close reading of both prose and poetry, especially in their preparation for the AP examination in English Literature and Composition. Both formal papers and in-class essays are assigned often, and students will read numerous major works of literature, with a special focus on British authors.

YEARLONG ELECTIVE COURSES

CREATIVE WRITING

Course Number: 2131

Credit: 1

Prerequisite: None

Students explore various forms of discourse and audiences, including creative non-fiction, poetry, fiction, and writing for publication. The objectives include working on writing and revision, giving and taking criticism, and taking genuine risks with writing. The students build a writing portfolio of works for publication in local, regional, national, and small press publications, as well as work during the fourth quarter on large scale individual projects. Students also plan, create, and publish the MLWGS literary magazine, *The Borogove*.

LITERARY TOPIC STUDY- *The Gothic in Literature and Popular Media*

Course Number: 2246

Credit: 1

Prerequisite: World Literature and Composition 9

Why are we drawn toward the things and ideas that scare us? Authors have been exploring this very question for hundreds of years through the very broad genre known as “The Gothic.” But what exactly constitutes this form? In this course we will trace Gothic literature from its eighteenth-century origin to today. We will explore motifs of the Gothic across cultures, genres (prose, poetry, and drama), and forms of popular media (including film, graphic novels, and visual art). We will delve into strange sub-genres, from stories of ghosts and monsters, to science-fiction and cosmic horror. Beyond the visual and written texts, we will examine how Gothic literature reflects deeper societal fears through tropes: Darkness, isolation, the inexplicable and unescapable. Do you dare to face your fears?

LITERARY TOPIC STUDY - *Contemporary Indigenous Literature of the Americas*

Credit: 1

Course Number: 2151

Prerequisite: World Literature and Composition 9

Guidelines: Recommendation from your current English teacher

The indigenous peoples of North, South, and Central America were here first, and yet their literature has only just started entering the mainstream. Just as varied as the peoples themselves, this literature gives readers a look into the trials, tribulations, and celebrations of what it means to be Indigenous American. In this course we will examine works written within the last 50 years by Indigenous Americans. We will explore the variety of lived experiences expressed through novels, short stories, poetry, music, movies, and television. Because, after all, can you really understand a land if you don't understand its original caretakers?

YEARBOOK

Course Number: 2103

Credit: 1

Prerequisite: None

Yearbook is not simply a laboratory course for teaching the skills necessary for communicating the visual history of the school year. Emphasis is placed on writing and graphic design. Students represent all grade levels. Working closely together throughout the school year, they learn desktop publishing and advanced computer technology application. Artists will reap the rewards of possibly seeing their artwork on the cover of the yearbook. Writers are needed to write copy and captions that express in concise and clear language the experiences of the school year. Yearbook is a multidimensional course that seeks students who are multifaceted and willing to work with others across all high-school grade levels.

SURVEY OF AFRICAN-AMERICAN WRITERS

Course Number: 2226

Credit: 1

Prerequisite: Recommendation of current English teacher

This course focuses on the literary contributions of African-Americans. The selected works span three prolific movements in African-American writing, and the course strives to augment this traditionally marginalized voice. Students will analyze plays, poems, short stories, and a novel through class discussion, projects, and essays.

PUBLIC SPEAKING

Course Number: 2306

Credit: 1

Prerequisite: None

This course in effective communication will provide opportunities for all aspects of oral communication. Students will practice and perfect broadcasting, campaigning, public addresses, poetry reading, storytelling, entertaining, forensics, interviewing, role-playing, and speech making. Essentially, this course is designed to help the student become more confident and comfortable in formal and informal speaking environments. Selected students may participate in the Virginia High School League Forensic program.

AUTHOR STUDY

Course Number: 2236

Credit: 1

Prerequisite: World Literature and Composition I

The Author Study course allows students to focus upon one individual writer, including the world he/she lived in and the worlds that author wrote about. This course studies multiple works of literature by one author and examines that author's background, philosophy, writing style, and place in literary history. Students ask and answer questions such as: Was this writer consistent with or divergent from the standards and traditions of his/her times? What political or social commentary is evident in the works? What were the major influences on this writer's work? What are the most significant contributions this individual made to literature? Discussion in this course is primarily seminar based. Students not only write essays, some involving research, but also present the results of their studies to their classmates in a student-centered classroom environment. In the past, an author study of J.R.R. Tolkien's works have been offered; additional offerings may include Achebe, Austen, Hemingway, Hurston, Marquez, Morrison, Steinbeck, and others.

SCIENCE

Philosophy

The science program at MLWGS exposes students to inquiry-based investigations which develop the students' ability to think critically about issues and information and provides tools which are invaluable across all disciplines. Students who actively participate in the science classroom develop skills that are life-long, that outlast the retention of pure content, and that prepare the individual to contribute to the assessments and solutions of global problems. One example of a life-long skill that is emphasized in the classroom is presenting arguments in writing and supporting ideas with scientific evidence and analytical reasoning.

Goals

The Science Department at Maggie L. Walker Governor's School for Government and International Studies strives for excellence in science education through cooperative and collaborative efforts between students and staff, seeking assistance from the private sector and centers of higher education when appropriate. As part of a program that stresses national and international relationships in all disciplines, it is necessary for students to be scientifically literate on a global level. This goal is articulated in the National Science Education Standards and the performance expectations of the Next Generation Science Standards and informs the development of science curricula. The Science Department strives to provide an inquiry-based educational experience that is appropriately challenging and contemporary in both topic and technology. Through their experiences within the Science Department, students will:

- gain critical knowledge and understanding in the areas of biology, chemistry, and physics;
- explore a broad spectrum of special interests in the sciences through elective course offerings and independent research;
- develop analytical and critical thinking skills required for success in scientific endeavors;
- develop an understanding of the scientific process and research skills through all science courses;
- relate and apply abstract concepts to concrete, real-world problems using technology and mathematics to improve investigations and communication;
- explore individual scientific interests within the classroom;
- foster individual accountability to maximize academic and social growth;
- effectively utilize technology (i.e. computers, electronic sensors, online databases, software, graphing calculators) for research, learning, direct investigation, experimental analysis, and presentations in order to enhance the gathering and manipulation of data;
- be encouraged to become involved in activities such as clubs, field trips, and enrichment classes that enhance the understanding of the physical and natural sciences and promote scientific inquiry;
- be recognized for excellence in the sciences by acceptance into the Science National Honor Society;
- become aware of the role and responsibility of the scientific community in addressing local as well as global problems;
- explore how scientific knowledge changes by evolving over time; almost always building on prior knowledge.

Program Description

Three core honors-level science classes are required of all students: molecular biology is almost always taken in ninth grade; analytical chemistry, typically in tenth grade; and physics, as early as tenth grade or as late as twelfth grade. Chemistry offers an advanced level "plus" section that provides a more rigorous approach, dependent on stronger understanding of mathematical relationships and with greater depth and breadth of content and topics. A fourth year of an elective laboratory science is required in addition to the three core science classes.

As well as the required courses, a wide variety of advanced and special-interest courses are offered. Advanced Placement courses in biology, chemistry, environmental science, and physics introduce the student to college-level material. Biopsychology is a dual enrollment course with VCU, and is taught on our campus and earns both college and high school credit. Topics in Physics, Human Genetics, Human Anatomy and Physiology, Becoming a Naturalist and Automotive Concepts and Engineering (ACE), Topics in Chemistry, and Bioethics are offered as yearlong Honors-level courses. Semester courses at an Honors level include Astronomy and Meteorology. Science courses taught at an Intensive level include Introduction to Engineering as a year-long course as well as Organic Chemistry and Biochemistry as semester-long courses.

Applications of technology within the classroom involve LabQuest interfaces for data collection, data analysis and graphing. Multimedia resources add extra dimensions to classroom instruction. The various disciplines use a myriad of instrumentation within the laboratory setting such as microscopes, spectrophotometers, pH meters, oscilloscopes, voltmeters, computer-based electronic sensors, electrophoresis equipment, etc.

Teachers employ a variety of instructional techniques. While lectures and discussions are integral components of instruction, open-ended investigations and inquiry-based lessons are frequent and allow students to explore topics and construct

knowledge with guidance provided by the instructor. Individuals and small groups participate in independent library research, as well as experimental research, and present findings both in written and oral forms.

The science curriculum is differentiated both in the rigor of courses offered and in the development of assignments within each course. “Plus” level courses and unique upper level electives are available for the advanced or highly motivated learner. In all subjects, assignments are structured so that students may often choose between diverse projects and outcomes.

To help the student be successful, each student receives a course syllabus the first day of class to inform him or her of expectations, procedures, and policies. Organizational and study skills are emphasized in each course, while increased access to relevant course content and supplemental instructional materials are provided through *Schoology*, our online learning platform. Students experiencing academic difficulties can work with teachers during lunch or before and after school, as well as working with student tutors who are members of the Science National Honor Society.

Many opportunities are available to students who wish to compete with other students in the scientific arena such as in extracurricular activities like FIRST Robotics and Technology Student Association (TSA). Additional extra-curricular activities sponsored by the science department include Student Pugwash, the Environmental Club, Future Medical Professionals, and the Science National Honor Society.

SCIENCE COURSES

MOLECULAR BIOLOGY

Course Number 4001

Credit: 1

Grade: 9

This course is designed as an honors level, lab based survey of the broad themes and concepts of biology. The overarching goal of Molecular Biology is to stimulate interest in the study of biology and an understanding of biology at the cellular and molecular level through both discovery-based and teacher-directed laboratory investigations. Molecular Biology is designed with the explicit intention of developing and encouraging these scientific practices: use of representations and models to communicate scientific phenomena and solve scientific problems; planning and implementing data collection strategies appropriate to a particular scientific question; performing data analysis and evaluation of evidence; connecting and relating knowledge across various scales, concepts and representations in and across domains. Students will be introduced to scientific literature and scientific writing practices through their laboratory activities and analysis of experimental data. The students will be encouraged to think critically about scientific issues and topics that will have a major impact on their lives. Lab fee required.

ANALYTICAL CHEMISTRY

Course Number: 4031

Credit: 1

Grade: 10

Prerequisites: Biology, Geometry

Co-requisite: Algebra II

Chemistry incorporates observations, hypotheses, experiments, theories, and laws into the study of matter and its interactions. Students master chemical principles, mathematical applications, and laboratory skills while participating in student centered activities, computer simulations and experimental manipulations. Laboratory experiences are evaluated, interpreted, and summarized in formal writing. Students analyze the impacts of chemical processes and principles on our global society as well as synthesize creative solutions to address specific scientific issues. Students develop a variety of science research skills throughout the year. There are research learning opportunities provided in the course including but not limited to experimental design activities, inquiry-based activities and labs, and team research projects. Lab fee required.

ANALYTICAL CHEMISTRY PLUS

Course Number: 4032

Credit: 1

Grade: 10

Prerequisites: Biology, Geometry

Co-requisite: Algebra II

This course is designed for students with high interest in the sciences and a strong background in science and be very comfortable with numerical relationships and algebraic manipulations. The topics covered in Analytical Chemistry are also covered in this course, but at greater depth particularly in the areas of kinetics, equilibrium, and thermodynamics. The laboratory portion of the course is rigorous and requires the synthesis of concepts as the year progresses. Students planning to take AP Chemistry would benefit from the Analytical Chemistry Plus course, however it is not necessary to take the "Plus" level in order to take AP Chemistry. Students develop a variety of science research skills throughout the year. There are many research learning opportunities provided in the course including but not limited to experimental design activities, evaluation of published primary research, or inquiry-based activities and labs, and individual or team research projects. Lab fee required.

PHYSICS

Course Number: 4051

Credit: 1

Grade: 10-12

Prerequisites: Molecular Biology

Co-requisites: Chemistry or Chemistry Plus, Precalculus

Students study the following concepts of physics: motion, force, energy, momentum, electricity (static and current), waves, sound, light, electromagnetism, and modern physics. This course is laboratory centered and is designed to give students a rigorous exposure to the methods of scientific inquiry as well as a solid background in the conceptual basis of physics. Lab fee required.

AP PHYSICS 1 (Algebra based)

Course number: 4053

Credit: 1

Grade: 10-12

Prerequisite: Molecular Biology

Co-requisites: Chemistry Plus, Precalculus Plus

This course is an introductory physics course in which students explore principles of Newtonian mechanics (including rotational motion); work, energy, and power; simple harmonic motion. The course is based on the following Big Ideas: systems, fields, changes, conservation, and interactions. These Big Ideas encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the physical world. These Big Ideas are reinforced through the use of key science practices: modeling, mathematical routines, scientific questioning, experimental methods, data analysis, argumentation, and making connections. The course will allow students to establish lines of evidence and use them to develop and refine testable explanations and predictions of natural phenomena. The principles of scientific inquiry will be used to promote an engaging and rigorous experience for students. Twenty-five percent of instructional time will be devoted to hands-on laboratory work with an emphasis on inquiry-based investigations. Investigations will require students to ask questions, make observations and predictions, design experiments, analyze data, and construct arguments in a collaborative environment. **AP Physics 1 is recommended for students planning to take AP Physics C and is required for those planning to take AP Physics 2.** Lab fee required.

AP PHYSICS 2 (Algebra based)

Course number: 4054

Credit: 1

Grade: 11-12

Prerequisite: AP Physics 1

AP Physics 2 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of physics through inquiry-based investigations as they explore these topics: mechanical waves and sound; thermodynamics; electric force, field, and potential; electric circuits; magnetism and electromagnetic induction; geometric and physical optics; and quantum, atomic, and nuclear physics.

The principles of scientific inquiry will be used to promote an engaging and rigorous experience for students. Twenty-five percent of instructional time will be devoted to hands-on laboratory work with an emphasis on inquiry-based investigations. Investigations will require students to ask questions, make observations and predictions, design experiments, analyze data, and construct arguments in a collaborative environment. Lab fee required.

AP BIOLOGY

Course Number: 4103

Credit: 1

Grade: 11 – 12

Prerequisites: Molecular Biology and Analytical Chemistry

Co-requisites: Precalculus

Guidelines: B+ in previous Biology and Chemistry courses

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore topics focused on evolution, energetics, information storage and transfer, and system interactions.

The AP Biology course is organized into commonly taught units of study that provide a suggested sequence for the course. These units comprise the content and skills colleges and universities typically expect students to master to qualify for college credit and/or placement. This content is grounded in crosscutting concepts that build conceptual understanding and spiral throughout the course, called big ideas: Evolution, Energetics, Information Storage and Transmission, and Systems Interactions.

AP Biology is designed to be taken by students after the successful completion of a first-year course in high school biology and one in high school chemistry. Students will develop advanced inquiry and reasoning skills, such as designing a plan for collecting data, analyzing data both graphically and statistically, and connecting concepts in and across biological topics. The result will be readiness for the study of advanced topics in subsequent college courses – a goal of every AP course. Lab Fee required.

AP CHEMISTRY

Course Number: 4203

Credit: 1

Grade: 11-12

Prerequisites: Molecular Biology and Analytical Chemistry

Co-requisites: Precalculus

Guidelines: B+ in previous Chemistry course

Advanced Placement Chemistry is a laboratory course which provides an opportunity for students to make a comprehensive investigation of chemistry equivalent to two semesters of college level inorganic chemistry and is especially appropriate for students planning a career in biology, chemistry, chemical engineering, or the medical sciences. Students study topics including but not limited to the structure of matter, properties of matter, chemical reactions, rates of chemical reactions, thermochemistry, and equilibrium. Students are prepared to take the Advanced Placement Examination. Lab fee required.

AP PHYSICS C (Calculus Based)

Course Number: 4303

Credit: 1

Prerequisites: Molecular Biology, Analytical Chemistry, and Physics (or AP Physics I)

Grade: 11-12

Co-requisite: AP Calculus AB or BC recommended

Guidelines: B+ in previous Physics course

B+ in previous mathematics course

Students study more sophisticated mathematical approaches to concepts taught in the first year Physics class. First semester focuses on mechanics including: linear dynamics, energy, and momentum-particle systems, rotary motion, and oscillation. Second semester focuses on: electricity and magnetism culminating in Maxwell's equations in integral form. This is an introductory college-level course for physics and engineering majors. Students are prepared to take the Advanced Placement examination in Physics. Lab fee required.

AP ENVIRONMENTAL SCIENCE

Course Number: 4503

Credit: 1

Grade: 10-12

Prerequisite: Molecular Biology

Co-requisite: Analytical Chemistry

Guidelines: B+ in previous Biology course

This introductory college level course stresses fundamental scientific principles of ecology, environmental analysis, and earth systems. Also covered are political, social, and economic implications of human interaction with the environment. Major themes include: scientific method, energy conversions, interconnected earth systems, and human interaction with earth systems. Course work includes lecture, discussion, laboratory, field investigation, case studies, and independent research. Students are prepared to take the Advanced Placement Environmental Science exam. Additionally, students participate in a service learning experience called the *WE Service Program*. As a class, students investigate and learn about biodiversity and the issue of biodiversity loss. Then students work in small groups to propose a specific action plan to address the problem. After the AP exam, students implement their plans and take action at the local and global level. Students that complete the service project earn recognition on the College Board Score reports along with their AP score. Lab fee required.

ANATOMY AND PHYSIOLOGY

Course Number: 4153

Credit: 1

Grade: 10-12

Prerequisite: Molecular Biology

Co-requisite: Analytical Chemistry

This yearlong course studies both the structure and function of the organs and systems that comprise the human body. The focus of the course will concern not only the interrelationship between form and function of the organs that make up the organ systems, but also the interrelationships between the organ systems in maintaining health and homeostasis in the human body. Hands-on learning is emphasized; dissections and lab activities are integral components of the course.

Interdependence of all the human body systems will be stressed. It is critical that students develop an appreciation of the importance of homeostasis and complementarity in the human body – how the body systems work together to maintain internal constancy and the relationship between structure and function. Students will explore health issues and research through exposure to peer-reviewed literature that relates to the various body systems. Lab fee required.

ASTRONOMY

Course Number 4556

Credit: ½

Grade: 9-12

Spring Semester

PreCo-requisite: Geometry, except for 9th graders who can take Geometry as a Co-requisite

Astronomy is a semester course that includes the history of astronomy, the planetary system, light, optics, telescopes, and the nature of stars, black holes, galaxies, quasars and the fate of the universe. Fascinating facts abound. Labs and activities explore the experimental techniques and methods of data analysis used in Astronomy. There is a field opportunity to test one's learning of three dozen stars, constellations and asterisms. In both the Astronomy and the Meteorology courses, calculations are frequently used to explain natural phenomena and to solve problems. It is strongly recommended that students possess a high comfort level with quantitative representations of information. Lab fee is required.

METEOROLOGY

Course Number 4216

Credit: ½

Grade: 9-12

Fall Semester

Pre-requisite: Geometry, except for 9th graders who can take Geometry as a Co-requisite

This semester course is an introductory level survey of atmospheric science. Topics covered include the composition, structure and dynamics of the atmosphere, major determinants of weather, weather prediction, regional and global climatology, air pollution, severe weather, and human interactions with the atmosphere. Activities include meteorological measurements, real-time data analysis, weather prediction (with presentation), prediction analysis, historic data analysis, and independent research. In both the Astronomy and the Meteorology courses, calculations are frequently used to explain natural phenomena and to solve problems. It is strongly recommended that students possess a high comfort level with quantitative representations of information. Lab fee required

BIOETHICS

Course Number: 4726

Credit: 1

Grade: 10-12

Prerequisite: Molecular Biology

Guidelines: Parental informed consent

Bioethics is a full-year course that surveys current ethical concerns facing scientific and medical communities. Topics may include, but are not limited to euthanasia, abortion, living wills, genetic engineering, cloning, organ transplant, etc. Students research current information and complete an independent project as a part of the course requirement. Due to the sensitive nature of the material, parental informed consent is recommended for enrollment in this class. Lab fee required.

PHYSIOLOGICAL PSYCHOLOGY VCU (PSYC 401)

Course Number: 4283

Dual Enrollment

Grade: 11-12

VCU Credit: 3 semester hours

Prerequisites: Molecular Biology, Analytical Chemistry

MLWGS Credit: 1

Guidelines: B in prerequisite courses, AP Psychology exam with a score of 3 or better

Physiological psychology introduces the student to the biological basis of behavior. A major component of this course concentrates on how the brain controls behavior, including the senses, movement, learning, thoughts, emotions, and behavioral disorders. This course provides a general description of the field of physiological psychology, including its philosophical assumptions, its experimental methods, its theories, and its major empirical findings. Laboratory activities include both virtual and hand-on activities; other components of the course consist of lecture, speakers, and literature research. The course provides a scientific basis for forming educated opinions about issues that impact everyday life. Lab fee required.

BECOMING A NATURALIST

Course Number: 4222

Credit: 1

Grade: 10-12

Prerequisite: Molecular Biology

Becoming a Naturalist will teach students the skills necessary for observing and understanding the natural history of local ecosystems including the plants, animals, fungi, landscapes, ecological relationships, and conservation concerns of the habitats in and around Richmond. The sequence of topics will follow the seasons and the prominent flora and fauna in the area. For example, the first quarter is during the end of summer and the transition to fall, a perfect time for the class to focus on botany (plants), especially dendrology (trees), and entomology (insects).

The class will culminate with discussions on conservation ecology and environmental ethics.

Themes throughout the class will include the interconnectedness of taxa, the relatedness of form and function in anatomy and physiology, the dynamic nature of ecosystems, evolutionary history informing phenotypic diversity and adaptation, and the magnitude of biodiversity in Virginia. The importance of careful observation, the use of field notes and sketches, and a variety of strategies for identification of organisms will be stressed throughout the year. Lab fee required.

HUMAN GENETICS AND BIOTECHNOLOGY

Course Number: 4293

Credit: 1

Grade: 10-12

Prerequisite: Molecular Biology

Co-requisite: Analytical Chemistry

Guidelines: Parental informed consent

Human genetics is a yearlong course focusing on the study of inherited variations in the human population. The course covers topics ranging from human development, genetically caused disorders, and theoretical genetics to DNA technologies. New research in the field of genetics has implications at the molecular, cellular, body, family, and population levels. Students are exposed to the latest biotech concepts and perform cutting edge labs such as bacterial transformation and DNA fingerprinting. The class includes presentations by field experts, debates of ethical issues and one oral and written project on a topic of interest to the student. As this course addresses sensitive issues, parental informed consent is recommended. Lab fee required.

TOPICS IN BIOLOGY

Course Number: 4005

Credit: 1

Prerequisite: Molecular Biology

Co-requisite: Analytical Chemistry (plus *or* honors)

Topics in Biology is an honors level lab intensive course providing the student with an in-depth study of contemporary issues from a scientific viewpoint. Students expand their knowledge of biological principles through extensive experimentation, independent and group research, and evaluation of practical applications of Biology to other disciplines. Students can be expected to design and test their own experimental procedures, as well as critically evaluate accepted practices within a field of study. The course continues the laboratory intensity of the introductory Molecular Biology course (satisfying the Biology II criteria from the VDOE) while providing a true interdisciplinary experience for students, where the focus moves beyond mastery of particular content to concentrate on appropriate application and synthesis of scientific principles in order to solve a problem or explain an observed phenomenon. Field trips and guest speakers are incorporated when possible to illustrate the extensive societal impacts of subjects. Becoming a Naturalist, a study of local ecology, will be the first topic taught under this course title, although other topics could include Botany, Aquatic Ecology, Zoology, and Microbiology. The course topics are flexible and vary based upon instructor and student interest. Lab fee required.

TOPICS IN CHEMISTRY

Course Number: 4037 (Chemistry II State Code 4420)

Credit: 1

Prerequisite: Analytical Chemistry (plus *or* honors)

Co-requisite: Physics (plus *or* honors)

Topics in Chemistry is an honors level lab intensive course providing the student with an in-depth study of contemporary issues from a scientific viewpoint. Students expand their knowledge of chemical principles through extensive experimentation, independent and group research, and evaluation of practical applications of Chemistry to other disciplines. Students are expected to design and test their own experimental procedures, as well as critically evaluate accepted practices within a field of study. The course continues the laboratory intensity of the introductory Analytical Chemistry course (satisfying the Chemistry II criteria from the VA DOE) while providing a true interdisciplinary experience for students, where the focus moves beyond mastery of particular content to concentrate on appropriate application and synthesis of scientific principles in order to solve a problem or explain an observed phenomenon. Field trips and guest speakers are incorporated when possible to illustrate the extensive societal impacts of subjects. Forensic Chemistry will be the first topic taught under this course title, although other topics could include Chemistry of Art and Restoration, Environmental Chemistry, Organic Chemistry, or Culinary Chemistry. The course topics are flexible and vary based upon instructor and student interest. Lab fee required.

INTRODUCTION TO ORGANIC CHEMISTRY: INTENSIVE

Course Number: 4040

Credit: ½

Grade: 12

Prerequisites: AP Chemistry

Guidelines: "B" in prerequisite courses

The primary objective of this course is to introduce students to the chemistry of carbon-containing compounds. This course will build upon general chemistry topics covered in AP Chemistry and apply those concepts to organic molecules and reactions. Students will use molecular representations to describe the nature of organic molecules and analyze the various conformations that organic molecules can adopt. Prior knowledge of acid/base chemistry will be applied to organic molecules. Students will examine types of organic reactions, explain why organic reactions occur, and propose mechanisms to explain the outcomes of organic reactions. Finally, this course will introduce students to important organic chemistry lab techniques.

The course will include lab investigations, inquiry-based activities, analysis of scientific literature, discussion, and lecture. Lab investigations will include explorations of organic molecules and reactions. Students will design and test their own experimental procedures for many labs. Some techniques employed will include melting temperatures, thin layer chromatography, gas chromatography, UV/Vis spectroscopy, recrystallization, and distillation. Reading primary scientific literature is a difficult and important skill to master, and the analysis of carefully selected scientific papers (both historic and current) will help students develop this skill and understand how new scientific knowledge is generated and communicated. Lectures will be paired with class discussions and focused on applying content knowledge to think about and solve problems. As an intensive level course, it will include a discipline appropriate culminating assessment. Lab fee required.

INTRODUCTION TO BIOCHEMISTRY: INTENSIVE

Course Number: 4042

Credit: ½

Grade: 12

Prerequisites: AP Chemistry

Guidelines: “B” in prerequisite courses

The primary objective of this course is to introduce students to the chemistry of living organisms. The course will examine the structure and function of the four classes of biological macromolecules: proteins, DNA, lipids, and carbohydrates. The reaction mechanisms, thermodynamics, and kinetics of enzyme-catalyzed reactions will be explored. Prior knowledge of acid/base chemistry will be built upon by exploring the blood buffering system and diseases related to small changes in blood pH. Students will examine metabolic pathways involving carbohydrates as reactants and how diseases can result from changes in metabolism. Finally, the course will introduce students to important biochemistry lab techniques.

The course will include lab investigations, inquiry-based activities, analysis of scientific literature, discussion, and lecture. Lab investigations will include explorations of buffer systems, oxidative damage to DNA, identification of amino acids, and enzyme kinetics. Students will design and test their own experimental procedures for many labs. Some techniques employed will include titration, gel electrophoresis, chromatography, protein assays, and UV-vis spectroscopy. Inquiry-based activities will allow students to investigate their own questions and make sense of structure/function relationships. Reading primary scientific literature is a difficult and important skill to master, and the analysis of carefully selected scientific papers (both historic and current) will help students develop this skill and understand how new scientific knowledge is generated and communicated. Lectures will be paired with class discussions and focused on applying content knowledge to think about and solve problems. As an intensive level course, it will include a discipline appropriate culminating assessment. Lab fee required.

INTRODUCTION TO ENGINEERING: INTENSIVE

Course Number: 4417

Credit: 1

Grade: 10-12

Prerequisites: Algebra II

Guidelines: “B” in prerequisite courses

This course will introduce engineering through instruction on basic concepts. This course will introduce engineering through basic concepts of engineering theory and the design process. Students will solve problems by applying their knowledge of mathematics, natural sciences, and technical theory to analyze and design structures, products, systems, or processes of benefit to humans. The major engineering disciplines covered will include aerospace, civil, electrical, mechanical, and nuclear engineering. As part of a team, students solve hands-on problems typical of these disciplines, complete labs, and other projects. Topics included are the design process, ethics in engineering, computer aided drawing (CAD), force analysis, circuit analysis, engineering economy, human factors engineering, project management and the techniques and methods of creative problem solving. In addition to technical skills, students will also practice technical writing and oral communication skills. Students will complete an end of year team project which will include a written report, presentation, and model. As an intensive level course, it will include a discipline appropriate culminating assessment. Lab fee required. NOTE: This course does not satisfy the requirement for a fourth science for the Advanced Studies Diploma.

AUTOMOTIVE CONCEPTS AND ENGINEERING (ACE)

Course Number: 4419

Credit: 1

Grade: 11-12

Prerequisites: Algebra II

Co-requisites: Physics

Guidelines: “B” in prerequisite courses

The Automotive Concepts and Engineering course (ACE) will extend the content discussed in many Physics courses and provide students an additional STEM-related course to better prepare them for a degree in Physics, Engineering, or similar track. The ACE course provides learners with an application of topics discussed in Physics classes to include Kinematics, Inertia, Energy, Power, Thermodynamics, Friction and Fluid Dynamics.

This class begins with the basics of engines and engine components. Learners will study how gasoline and diesel, 2 and 4 stroke engines differ, and applications of both engine types. As the class progresses, major components that support the function of the powerplant and vehicle in which it resides are discussed in depth. Students learn about power delivery through

transmission systems in the second semester, along with data management in modern vehicles. Learners will leave this course with a thorough understanding of how most engines operate, and the function of each major automotive sub system. Lab fee required.

TOPICS IN PHYSICS

Course Number 4076

Credit: 1

Grade: 11-12

Co-requisite: Physics or AP Physics I

Guidelines: Students should be comfortable with mathematics at the level of pre-calculus

The course is laboratory based and expands the survey of Physics topics of the first year Physics course. Students expand their knowledge of physical principles through extensive experimentation, independent and group research, and evaluation of practical applications of Physics to other disciplines. Students are provided a true interdisciplinary experience, where the focus moves beyond mastery of particular content to concentrate on appropriate application and synthesis of scientific principles in order to solve a problem or explain an observed phenomenon. Field trips and guest speakers are incorporated when possible to provide more authentic experiences and connections to real-world applications. The topics could include Fluids, Thermodynamics, Nuclear Physics, Quantum Physics, Special Relativity, Astronomy, Cosmology, Nanotechnology, and Chaos Theory. Lab fee required.

SCIENCE LAB ASSISTANT

Course Number: 0166 and 0161

Credit: Community Service

Grade: 11-12

Prerequisites: Molecular Biology and Analytical Chemistry

Guidelines: Teacher recommendation and approval by Science Department Chair

The student assists in the preparation of stock solutions and equipment for laboratory activities, and inventories supplies and equipment as directed. The student keeps a daily log of the activities performed that is checked weekly by the Science Department Chairperson or supervising teacher. Students may be placed in any subject area lab.

MATHEMATICS

Philosophy

The Maggie L. Walker Governor's School for Government and International Studies (MLWGS) mathematics program is a rigorous college preparatory course of study. Emphasis throughout the mathematics curriculum is placed on communication, problem solving, critical thinking, creative thinking, and logical reasoning. These aims are achieved by using a variety of pedagogical methods including collaborative learning, technology-based learning, discovery through manipulatives, and the utilization of real-world applications. A variety of assessment techniques are used to account for different learning styles and individual strengths or interests. As a minimum for graduation, all students must complete a core sequence of courses through Precalculus. In addition, the mathematics department offers a variety of elective courses including AP, dual enrollment, intensive, and independent research.

Goals

The program of the mathematics department is based on a set of global objectives from which specific objectives for the individual courses are derived.

The students will:

- make connections between problem situations that arise in the real world and their corresponding mathematical models.
- understand the value of mathematics and its place in the global community.
- use mathematics as an aid to understanding other disciplines.
- use, with increasing confidence, problem solving approaches to investigate and understand mathematical concepts.
- reflect upon and clarify thinking about mathematical concepts and communicate thoughts orally and in writing.
- develop the ability to reason mathematically. This will be accomplished through various introductory experiences including exploration, discovery, visualization, and pattern recognition leading to conjecturing and the construction of logical arguments and proofs.
- develop the study skills and critical thinking skills to be successful both in mathematics and other disciplines.
- integrate the use of calculators, computer applications and other technological tools into the mathematical problem solving experience.
- prepare for standardized testing in mathematics.
- cultivate a respect for student differences through collaborative learning experiences.
- develop an awareness of career opportunities in mathematics.
- develop an awareness of the beauty, creativity, and history of mathematics.

Program Description

The mathematics department offers both college preparatory and advanced courses in mathematics. All students are required to earn 4 units of credit through a minimum of Precalculus. When students below the ninth grade successfully complete courses offered for credit in grades nine through twelve, standard and/or verified credit shall be counted towards meeting the graduation requirements. Beyond the core sequence, students are offered a variety of AP, college credit classes (dual enrollment with VCU), intensive courses and other honors classes.

The core courses consist of those recommended for college acceptance standards. While it is assumed that all MLWGS students plan to attend college, they do not all share the same background, interests, or talents. The program is designed to meet the needs of all students as they continue to grow and develop. The department uses various strategies to ensure that students are successful in attaining literacy in mathematics. Teachers in the core courses work collaboratively to design curricula, lesson plans, and assessments. This ensures that students completing a core course will have similar conceptual understanding and skills.

The mathematics department uses pedagogical techniques that include collaborative learning, discovery through manipulatives and technology, differentiation, and interdisciplinary applications. Mathematical study skills are emphasized and actively taught in all core courses. Oral communication, group effectiveness, mathematical writing, and active listening skills are incorporated into lessons. Students keep organized notebooks as study guides both for the present and future mathematics courses. Students are provided a comprehensive syllabus in all courses and teachers maintain websites with current information for each class.

The mathematics department is committed to the success of all students. Recognizing that students may need additional assistance, the department provides an after-school tutoring lab staffed with a qualified instructor two days per week. In

addition, peer tutoring is available through the Mu Alpha Theta (Mathematics Honor Society). The mathematics department also encourages students to work with their individual teachers when assistance is needed.

Students utilize technology throughout the mathematics curriculum. Graphing calculators, spreadsheets, computer-based laboratories, the Internet, and various software tools are used to develop the understanding of mathematical concepts.

Student assessment is an integral part of the curriculum. In an instructional environment that demands a deeper understanding of mathematics, testing instruments that call for only the identification of a single correct response no longer suffice. Therefore, the mathematics department uses a variety of assessments to evaluate student understanding. Assessments include tests, quizzes, oral and written presentations, projects, performance-based tasks, notebook checks, homework checks and teacher observations as well as various student self-assessments.

Core Requirements and Electives

Core curriculum requirements are Algebra I, Geometry, Algebra II, and Precalculus. Some core classes are offered at the Honors and Honors Plus levels with the Plus classes designed for the highly motivated student. The student should consider the following when choosing between the Honors and Honors Plus class:

HONORS CLASS

- Reviews previous concepts
- Pace adjusted to student need
- Focuses on conceptual understanding and skill development
- Prepares for Calculus

HONORS PLUS CLASS

- Assumes mastery of previous concepts
- Student adjusts to faster pace with more independent student learning
- Focuses on conceptual understanding with more depth and additional content
- Prepares for AP Calculus AB and AP Calculus BC

Students may choose to take Geometry and Algebra II in the same year with permission of the department chair. Students may also choose to take Geometry and Precalculus in the same year provided they have completed Algebra I and Algebra II prior to ninth grade and with permission of the department chair. Students may take as many math credits as their schedule permits upon completion of the core.

The mathematics department offers a variety of courses for the advanced student, including non-calculus, calculus and post-calculus classes. Many of these post-core classes are Advanced Placement, Dual Enrollment, or Intensive, giving the student the opportunity to earn college credit or placement upon completion of the course.

The following course descriptions are to be used as guides to aid students and parents in course selection. Course offerings are continuously expanded and adjusted to meet the needs of incoming student populations.

MATHEMATICS COURSE OFFERINGS

EQUATIONS, FUNCTIONS, AND PROBLEM SOLVING (Exceeds Algebra I Requirements)

Course Number: 3011

Credit: 1

Prerequisite: Algebra I

This course serves as an introduction to the language and structure of algebra. Properties of real numbers, arithmetic operations, and equality are developed to assist the student in acquiring the skills for manipulating equations. Conceptual understanding of linear, quadratic, and polynomial functions is obtained through graphical and algebraic examination. The context for the acquired skills and concepts is provided by a wide variety of problems. Applying algebraic strategies, the student analyzes non-routine problem situations. The course exceeds Algebra I requirements and is designed for those students who need additional preparation for the core mathematics curriculum. A graphing calculator is required (TI-84+C or other TI-84 models recommended). Students enrolled in this course are required to take the Virginia SOL Algebra I Test if not previously passed.

GEOMETRY

Course Number: 3031

Credit: 1

Prerequisite: Algebra I

Guidelines: May take concurrently with Algebra II upon approval by the department chair, counseling, and administration.

This course encompasses the core curriculum for both plane and solid geometry and is taught using a “hands-on” laboratory approach. In general, it includes developing skills and an understanding of conjecture, proof, and creative problem solving. Several cognitive organizers are presented to provide varied models for analyzing and summarizing material. Specific topics include reasoning and proof, perpendicularity and parallelism, properties of congruency and similarity, Pythagorean Theorem and related relationships, beginning right triangle trigonometry, quadrilaterals and polygons, circles, area and volume, transformations and symmetry, coordinate geometry, and constructions. Reasoning skills will be emphasized and students will broaden their mathematical knowledge and how it relates to the world around them. Teachers give historical perspectives and emphasize the laws of logic to encourage their students to relate geometry to the world at large. During the year, students are frequently involved in interdisciplinary activities. A graphing calculator is recommended (TI-84+C or other TI-~~83~~84 models recommended). Students will also utilize multiple geometry technology applications. Students enrolled in this course are required to take the Virginia SOL Geometry Test.

GEOMETRY PLUS

Course Number: 3032

Credit: 1

Prerequisite: Algebra I

Guidelines: “A” in prerequisite course and successful score on placement test. Mathematically motivated with thorough algebra background. May take concurrently with Algebra II upon approval by the department chair, counseling, and administration.

Geometry plus demands a more challenging approach to the student’s study of geometry. This course is designed for students who have demonstrated an advanced level of interest and achievement in mathematics. Many topics are covered at a rapid pace and are taught with more depth than the honors course. The focus is on a deeper understanding of the axiomatic system through a thorough understanding of logic as the basis of proof. Additional topics include transformational geometry using matrix operations and non-Euclidean geometries as time permits. Students enrolled in this course are required to take the Virginia SOL Geometry Test. A graphing calculator is required (TI-84+C or other TI-84 models recommended). Students will also utilize Desmos.

ALGEBRA II

Course Number: 3051

Credit: 1

Prerequisite: Algebra I and Geometry

Guidelines: May take concurrently with Geometry upon approval by the department chair, counseling, and administration.

This Course is designed to refine ideas and extend basic mathematical concepts introduced in Algebra I and Geometry. A common foundation is developed since students come to this course with a variety of algebraic backgrounds. Students are introduced to the four viewpoints of functions of numerical (data), graphical, algebraic (analytical) and verbal. This “Rule of Four” helps to prepare students for future fields of study, including those outside math and science. A thorough treatment of advanced algebraic concepts is provided through the study of algebraic functions and notation, “families of functions,” linear and power functions, inverse functions and function combinations such as polynomials, rational expressions and rational functions. Additional topics include equations, inequalities, systems of equations and inequalities, exponential functions, complex numbers, sequences, and series. Emphasis is placed on problem solving as well as modeling and applying mathematics to real-world situations. Conceptual understanding is achieved by exploring topics both algebraically and graphically, solving non-routine problems, communicating both orally and in writing, and utilizing available technology. A graphing calculator is required (TI-84+C or other TI-84 models recommended). Students will also utilize Desmos. Students enrolled in this course who have not already passed a Virginia Math SOL Test in high school are required to take the Virginia SOL Algebra II Test.

ALGEBRA II PLUS

Course Number: 3052

Credit: 1

Prerequisites: Algebra I and Geometry

Guidelines: A in prerequisite courses and successful score on placement test; may take concurrently with Geometry upon approval by the department chair, counseling, and administration.

This accelerated course is designed to refine ideas and extend basic mathematical concepts introduced in Algebra I and Geometry. A common foundation is developed since students come to this course with a variety of algebraic backgrounds. Students are introduced to the four viewpoints of functions of numerical (data), graphical, algebraic (analytical) and verbal. This “Rule of Four” helps to prepare students for future fields of study, including those outside math and science. A thorough treatment of advanced algebraic concepts is provided through the study of algebraic functions and notation, “families of functions,” linear and power functions, piecewise functions, inverse functions and function combinations such as polynomials, rational expressions and rational functions. Additional topics include varied techniques of solving equations and inequalities, systems of equations and inequalities, exponential functions, complex numbers, matrices, sequences, series and parametric equations. Although some topics are covered at a rapid pace, many of these are taught in more depth than in the honors course. The focus is on solving complex problems as well as modeling and applying mathematics to real-world situations. In addition, students are provided with opportunities to pursue individual interests in mathematics, through a variety of activities. Conceptual understanding is achieved by exploring topics both algebraically and graphically, solving non-routine problems, writing and analyzing both algebraic proofs, communicating both orally and in writing, and utilizing available technology. Topics from trigonometry and math analysis are included as time permits. A graphing calculator is required (TI-84+C or other TI-84 models recommended). Students will also utilize Desmos. Students enrolled in this course who have not already passed a Virginia Math SOL Test in high school are required to take the Virginia SOL Algebra II Test

PRECALCULUS

Course Number: 3071

Credit: 1

Prerequisite: Algebra II

This course extends the basic mathematical concepts introduced in Algebra II. The course emphasizes an understanding of functions using four viewpoints: numerical (data), graphical, algebraic (analytical), and verbal. This “Rule of Four” helps to prepare students for future fields of study, including those outside of math and science. A thorough treatment of trigonometry is provided through the study of trigonometric definitions, functions, identities and applications. Students investigate, analyze, and identify characteristics and properties of polynomial, rational, exponential, logarithmic, and logistic functions. Students solve real-world problems using vectors and are exposed throughout the course to the calculus concepts of limits, continuity, and rates of change. The course includes real world applications in many fields, including, but not limited to economics, sociology, biological sciences, the arts, business, finance and geography. A variety of assessments are used to reflect the greater emphasis on real world problems and mathematical models. These include journal writing, laboratories using technology, written projects, group activities, historical explorations, as well as tests and quizzes. Study and organizational skills are stressed throughout the course. Computer activities and graphing calculators are used to enhance the understanding of realistic applications through modeling and aid in the investigation of functions. A graphing calculator is required (TI-84+C or other TI-84 models recommended).

PRECALCULUS PLUS

Course Number: 3072

Credit: 1

Prerequisite: Algebra II or Algebra II Plus

Guidelines: Algebra II Plus or an A in Algebra II

This course extends beyond the core course of Precalculus. It is designed for students who have a strong interest in the fields of science, technology, engineering, and mathematics (STEM). The course emphasizes an understanding of basic functions using four viewpoints. These viewpoints are numerical (data), graphical, algebraic (analytical), and verbal. This “Rule of Four” helps to prepare students for future fields of study, including those outside of STEM. A thorough treatment of trigonometry is provided through the study of trigonometric definitions, functions, identities and applications. A rigorous approach is taken to the analysis and applications of algebraic, trigonometric, exponential, logarithmic, polynomial, rational, polar, and parametrically-defined functions with an emphasis on the graphical and analytical behavior of these functions. Students are introduced throughout the course to the calculus ideas of limits, continuity, and rates of change. Other topics may include sequences and series and their applications, conic sections, optimization problems and mathematical modeling. There is an emphasis on proofs, mathematical derivations, correct mathematical language, and notation. The course includes real world applications in many fields, including, but not limited to economics, sociology, biological sciences, the arts, business, finance, and geography. All course topics are covered in depth and/or at an accelerated pace to prepare students to take AP Calculus BC. While students are prepared for the AP testing environment, a variety of assessments are used to reflect the greater emphasis on real world problems and mathematical models. These include laboratories using technology, written projects, group activities, historical explorations, as well as tests and quizzes.

Study and organization skills are stressed throughout the course. Computer and graphing calculators activities are used to enhance the understanding of realistic applications through modeling and aid in the investigation of functions. A graphing calculator is required (TI-84+C or other TI-84 models recommended).

THE HISTORY OF MATHEMATICS--Topics in Mathematics: INTENSIVE

Credit: 1

Course Number: 3531

Prerequisites: Precalculus

Guidelines: B in prerequisite courses or approval of the department chairs.

The primary focus of this course is the development of mathematics within global and historical contexts. Most of the topics and mathematicians studied are from the time period from 500 BCE to 1800 CE. The course covers the origins and major developments of geometry, algebra, and trigonometry, and it stresses the interrelationships between topics from different times, global regions, and academic disciplines. The class examines the lives and times of the men and women who were instrumental in advancing mathematical understanding, and great emphasis is placed on viewing each person's successes and failures from appropriate chronological, intellectual, and cultural perspectives. Throughout the course of study, each student's mathematical knowledge from the MLWGS core classes is combined with his/her understanding from global studies and international language and culture classes. Ancient as well as modern problem-solving techniques are stressed in the course. For those students who either are simultaneously taking or have completed calculus, the course is differentiated in order to build upon their expanded knowledge. As an intensive level course, it will include a discipline appropriate culminating assessment.

APPLICATIONS OF CONTEMPORARY DISCRETE MATHEMATICS: Intro to Contemporary Mathematics

Course Number 3214

Credit: 1

Prerequisites: Precalculus

Guidelines: B in prerequisite courses

This course explores a broad range of interdisciplinary topics in discrete mathematics as applied to humanities, government art, and the social and management sciences. Topics may include election theory, weighted voting, fair division, apportionment, scheduling, game theory, networks, probability, cryptography, and other topics as time permits. Students gain an appreciation of the value of mathematics in modern global society and confidence in their ability to apply their mathematical skills. Individual and group projects encourage students to use their creativity along with their writing and verbal skills. Quarterly mathematical current event articles will help students keep up with today's mathematical world. This course offers an alternative to those students who do not wish to take calculus in high school, who plan to major in a field that does not require calculus, or who have taken or plan to take calculus, but wish to explore non-calculus-based mathematical modeling.

DATA ANALYTICS

Course Number: 3076

Credit: 1

Prerequisite: Precalculus

Guidelines: C in prerequisite course

Data Analytics is an applied mathematics course that utilizes data science to build upon the foundation of previous mathematics courses. Data Analytics is an inquiry-based course that focuses on real-world applications from cross-curricular topics such as epidemiology, climatology, operations research, government and economics. Students will do research, collect data, analyze the data, synthesize the results and present their findings. In addition, students will critically examine data analysis and forecasts encountered in the media.

CALCULUS WITH APPLICATIONS

Course Number: 3095

Credit: 1

Prerequisite: Precalculus

Guidelines: C in prerequisite courses

This course consists of a non-rigorous approach to differential and integral calculus. There is an emphasis on applications. The course concentrates on applied mathematics including higher-level calculus topics such as multivariate calculus incorporating the use of polynomial, rational, piecewise, exponential, and logarithmic functions. In addition, the interpretations and applications of the students' solutions are emphasized as well as decisions based on these solutions. Students use graphing calculators, Desmos, the Internet, and spreadsheet software (Excel). These tools are used to assist students in their critical analysis of real-world situations. This course is designed for students who are not yet ready to or

would rather not pursue the more rigorous Calculus courses such as AP Calculus AB, AP Calculus BC, or Calculus with Analytic Geometry I. A review of precalculus topics will be covered in the second semester to allow students the opportunity to pursue VCU Calculus with Analytic Geometry I after successful completion of this course. A graphing calculator is required (TI-84+C or other TI-84 models recommended).

CALCULUS WITH ANALYTIC GEOMETRY I (VCU MATH 200)

Course Number: 3244

Prerequisites: Precalculus and an acceptable score
on VCU math placement test

Grades: 11-12

Guidelines: B in prerequisite course

Dual Enrollment

VCU Credit: 4 semester hours

MLWGS Credit: 1

This course covers concepts and skills found in a first semester calculus course taught at the college level, and it provides the student with a comprehensive introduction to calculus. It begins with a thorough review of polynomial, rational, trigonometric, logarithmic, exponential, and piecewise-defined functions. The calculus topics emphasized include limits, continuity, derivatives, differentials, antiderivatives, definite integrals, and applications. The concepts and problems in the course are studied from multiple perspectives including geometric, numerical, analytical, and verbal. Exploring interdisciplinary applications by means of graphing calculators and computers is another important facet of the course. The historical development of calculus is often used to motivate conceptual ideas and applications. The primary difference between Calculus I and AP Calculus AB is pacing.

CALCULUS WITH ANALYTIC GEOMETRY II (VCU MATH 201)

Course Number: 3264

Prerequisite: C+ in VCU Math 200 or AP AB Calculus with
a 3, 4, or 5 on the AP Exam

Guidelines: B in prerequisite course

Grades: 11-12

Dual Enrollment

VCU Credit: 4 semester hours

MLWGS Credit: 1

This course covers concepts and skills found in a second semester calculus course taught at the college level. It also satisfies the requirements of AP Calculus BC, and thus is an ideal choice for the student seeking a second semester of Calculus. The course begins with a review of the basic concepts of integration, including the Fundamental Theorem of Calculus and the substitution technique. Additional topics include applications of the definite integral, additional techniques of integration, l'Hôpital's Rule and improper integrals, slope fields and differential equations, polar and parametric functions, and infinite sequences and series (emphasizing power and Taylor series representation of functions). Students will learn to use computer algebra and graphing software and/or CAS calculators in problem-solving situations. The historical development of calculus may be used to motivate conceptual ideas and applications. Students are eligible to take the AP Calculus BC test as an additional assurance of college credit and/or placement.

AP CALCULUS AB

Course Number: 3103

Prerequisites: Precalculus

Guidelines: B in Precalculus Plus or B+ in Precalculus

Credit: 1

This course provides a comprehensive introduction to calculus equivalent to that of a first-semester college calculus course. The material is intended to be challenging and demanding and designed to be taught over a full academic year. The AP Calculus AB Curriculum Framework specifies the curriculum - what students must know, be able to do, and understand. AP Calculus AB is structured around the foundational themes of change, limits, and analysis of functions. Major units of study are limits, derivatives, and integrals. In this course, the concept of limits is foundational; the understanding of this fundamental tool leads to the development of more advanced tools and concepts that prepare students to grasp the Fundamental Theorem of Calculus, a central idea of AP Calculus. Calculus is considered a fundamental tool in many fields of study including science, business, and engineering. This course emphasizes the concepts of differential and integral calculus and provides experience in the methods and applications of these concepts. The unifying themes are limits, derivatives, integrals, approximation, and modeling, and they are developed into a cohesive whole via the functions and skills learned in the MLWGS Core Curriculum. The Mathematical Practices for AP Calculus will be utilized frequently and in diverse contexts to enable students to establish mathematical lines of reasoning and to apply mathematical concepts and tools to solve problems. For example, the concepts and problems in this course are studied geometrically, numerically, analytically, and verbally. The graphing calculator and other technology is used to facilitate discovery and reflection, and the graphing calculator is required on the AP Examination. It is expected that students who complete this course will seek college credit and/or placement by taking the AP Calculus AB test in the spring. The score on the AP exam that is necessary for college credit or placement varies depending on the institution. For more details on the AP Calculus AB and BC Course and Exam Description including the Curriculum Framework, please visit the College Board website.

AP CALCULUS BC

Course Number: 3113

Prerequisites: Precalculus Plus

Guidelines: B+ in Precalculus Plus

Credit: 1

The curriculum for AP Calculus BC is equivalent to a college two semester sequence in a single-variable calculus course. The material is intended to be challenging and demanding, and the curriculum is covered at a rapid pace. The curriculum of the College Board Advanced Placement Program for both AP Calculus AB and BC is followed; it specifies what students must know, be able to do, and understand. The AP Calculus BC course of study is organized around the foundational themes of change, limits, and analysis of functions. Major units of study are limits, derivatives, integrals, and series. AP Calculus BC is an extension of Calculus AB rather than an enhancement; thus Calculus BC covers additional topics such as techniques of integration, the study of polar and parametrically-defined functions, and infinite series with an emphasis on power and Taylor series representations of functions. The Mathematical Practices for AP Calculus will be utilized frequently and in diverse contexts to enable students to establish mathematical lines of reasoning and to apply mathematical concepts and tools to solve problems. For example, the concepts and problems in this course are studied geometrically, numerically, analytically, and verbally. The graphing calculator and other technology is used to facilitate discovery and reflection, and the graphing calculator is required on sections of the AP Examination. It is expected that students who complete this course will seek college credit and/or placement by taking the AP Calculus BC Test in the spring. The score on the AP exam that is necessary for college credit or placement varies depending on the institution. For more details on the AP Calculus AB and BC Course and Exam Description, including the Curriculum Framework, please visit the College Board website.

BASIC PRACTICE OF STATISTICS (VCU STAT 210)

Course Number: 3404

Prerequisite: Precalculus AND an acceptable score on VCU math placement test OR an acceptable score on the AB Calculus AB or BC Exam

Grades: 11-12

Dual Enrollment

VCU Credit: 3 semester hours

MLWGS credit: ½

First Semester

This course consists of the study of probability and statistical concepts with incorporated research techniques. It is further enhanced by student research, applications, and technology. The course is designed so students will gain a conceptual understanding of descriptive and inferential statistics and its function in research. Topics include examining distributions, examining relationships, producing data, sampling distributions and probability, and introduction to inference. Emphasis is placed on applications in diverse fields of study by extracting data from areas such as medicine, economics, business and finance, engineering, sociology, and education. Students utilize graphing calculators, Excel charts and graphs, and statistical tables to aid in their exploration and experimentation. Students participate in hands-on labs and complete a group research project. In addition, students learn how to be consumers of statistics and how to critically examine statistics presented in the media and in research. A TI-83/84 model graphing calculator is required.

APPLICATIONS OF STATISTICS (VCU STAT 314)

Course Number: 3406

Prerequisite: C+ in VCU STAT 210

Grade: 11-12

Dual Enrollment

VCU Credit: 4 semester hours

MLWGS Credit: ½

Second Semester

This course continues the study of probability and statistical concepts with incorporated research techniques. It is further enhanced by student research, applications, and technology. The course is designed so students will gain a conceptual understanding of descriptive and inferential statistics and its function in research. Topics include estimation and hypothesis testing for two sample problems, one factor analysis of variance and multiple comparisons, randomized block designs and analysis, inferences on categorical data, including chi-square test for independence for contingency tables, simple linear regression and correlation, and multiple linear regression. Emphasis is placed on applications in diverse fields of study by extracting data from areas such as medicine, economics, business and finance, engineering, sociology, and education. Students utilize graphing calculators, Excel charts and graphs, and statistical tables to aid in their exploration and experimentation. Students participate in hands-on labs and complete an individual research project. In addition, students learn how to be consumers of statistics and how to critically examine statistics presented in the media and in research. Students are eligible to take the AP Statistics test as an additional assurance of college credit and/or placement. A TI-83/84 model graphing calculator is required.

MATH MODELING: INTENSIVE

Course Number: 3243

Prerequisite: AP Calculus or VCU Calculus with Analytic Geometry

Guidelines: B in prerequisite course

MLWGS Credit: 1

This course enhances problem-solving capabilities and introduces students to the modeling process. Modeling serves as a bridge between the study of mathematics and the applications of mathematics to various fields. The student investigates meaningful and practical problems from common experiences encompassing many academic disciplines, including the physical and life sciences, operations research, engineering, management, and government and international studies. All facets of the mathematical modeling process are covered, including creative and empirical model construction, data collection, and model analysis. Topics include linear and multiple regression models, differential equation models, probability and simulation models, optimization models, linear programming and case studies. Students are required to participate in the COMAP HiMCM modeling competition. As an intensive level course, it will include a discipline appropriate culminating assessment.

MULTIVARIABLE CALCULUS: INTENSIVE

Course Number: 3244

MLWGS Credit: 1

Prerequisite: AP Calculus BC or Calculus II (VCU 201)

Guidelines: B in prerequisite course

In this course, students will explore the calculus of vector-valued functions and of functions of more than one variable. It begins with a review of polar and parametrically defined functions and their calculus followed by vector-valued functions and vector operations. The student will then thoroughly examine functions of several variables, rectangular, cylindrical and spherical coordinate systems, partial derivatives, optimization techniques (including Lagrange multipliers), multiple integrals, line and surface integrals, and the theorems of Green, Gauss, and Stokes. When appropriate, real-world applications and historical connections will be included. Computer algebra and graphing software and computer algebra system (CAS) calculators are used extensively to enhance the understanding of abstract concepts through geometrical interpretation. As an intensive level course, it will include a discipline appropriate culminating assessment.

MATHEMATICAL REASONING: INTENSIVE

Course Number: 3245

MLWGS Credit: ½

Prerequisite: AP Calculus BC or Calculus II (VCU 201)

Guidelines: B in prerequisite course

This course is paired with Linear Algebra and taught in the fall semester. It provides the student with an introduction to the concepts of mathematical reasoning and the writing of proofs in an elementary setting including direct, indirect and induction proofs. Illustrations of the concepts include proofs from mathematical logic, elementary set theory, elementary number theory, number systems, foundations of Calculus, relations, equivalence relations, graph theory, functions and counting with emphasis on combinatorial proofs. Math Reasoning is generally a core requirement for mathematics and applied mathematics majors. As an intensive level course, it will include a discipline appropriate culminating assessment.

LINEAR ALGEBRA: INTENSIVE

Course Number: 3250

MLWGS Credit: ½

Prerequisite: AP Calculus BC or Calculus II (VCU 201)

Guidelines: B in prerequisite course

This course is paired with Mathematical Reasoning and taught in the spring semester. The course is designed to study systems of linear equations, vector spaces, linear dependence, bases, dimension, linear transformations, matrices, determinants, quadratic forms, orthogonal reduction to diagonal form, eigenvalues, and eigenvectors with a variety of applications. The theory is developed in a formalistic (proof-based) manner balanced with many examples, applications, and geometric intuition. Graphing calculators and other software are integrated into the course as tools for computation and visualization. A course of this type is typically required of mathematics and engineering majors. As an intensive level course, it will include a discipline appropriate culminating assessment.

INTERNATIONAL DIMENSIONS OF MATHEMATICS

Course Number: 3501

Credit: 1

Guidelines: Permission and individual learning plan arranged through the Mathematics Department Chairperson and Associate Director

This course is a self-directed course designed for the student who desires to study diverse cultures while traveling to relevant sites to obtain knowledge and skills appropriate for multicultural understanding. Since mathematics is a product of the international community, past and present, the focus will be on the following topics: the study of the multicultural nature and history of mathematics, the examination of mathematics as an international language, the analysis of the logic, reasoning, and nature of mathematics within the culture, the survey of mathematical knowledge deemed important for functional literacy

within the culture, and the analysis of cultural issues that impact the type of mathematics studied or the way it is studied at the secondary level. Students will attend mathematics classes during their stay to both maintain their level of mathematical competency and to extend their mathematical knowledge. A course syllabus is provided to assist the student in designing their individual learning plan for the pre-departure phase, the travel phase, and the post-travel phase. **Must be taken in conjunction with an international trip.**

TECHNOLOGY

Philosophy

Computers, as tools for design, modeling, information processing, communication, and system control, have greatly increased human productivity and knowledge. To live, learn, and work successfully in an increasingly complex and information-rich society, students must use technology effectively. The technology program is an innovative multifaceted course of study that emphasizes communication, problem solving, critical thinking, creative thinking and logical reasoning. These aims are achieved by using a variety of pedagogical methods including collaborative learning and the utilization of real-world applications. The most effective learning environments meld traditional approaches and new approaches to facilitate learning of relevant content while addressing individual needs. A variety of assessment techniques are used to account for different learning styles and individual strengths or interests.

Goals

The program of the technology department is based on a set of global objectives from which specific objectives for the individual courses are derived.

The students will:

- identify capabilities and limitations of contemporary and emerging technology resources and assess the potential of these systems and services to address personal, lifelong learning, and workplace needs,
- make informed choices among technology systems, resources, and services,
- analyze advantages and disadvantages of widespread use and reliance of technology in the workplace and in society as a whole,
- demonstrate and advocate for legal and ethical behaviors among peers, family, and community regarding the use of technology and information,
- use technology tools and resources for secure managing and communicating personal/professional information (e.g., finances, schedules, addresses, purchases, correspondence),
- routinely and efficiently use online information resources to meet needs for collaboration, research, publications, communications, and productivity,
- select and apply technology tools for research, information analysis, problem solving, and decision-making in content learning,
- investigate and apply expert systems, intelligent agents, and simulations in real-world situations, and
- collaborate with peers, experts, and others to contribute to a content-related knowledge base by using technology to compile, synthesize, produce, and disseminate information, models, and other creative works.

The following course descriptions are to be used as guides to aid the student and parents in course selection. Course offerings are continuously expanded and adjusted to meet the needs of incoming student populations.

AP COMPUTER SCIENCE PRINCIPLES

MLWGS Credit: 1

Course Number: 9061

Prerequisite: Algebra II

This course introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. With a unique focus on creative problem solving and real-world applications, *AP Computer Science Principles* prepares students for college and careers in the world of technology. Whether it's 3-D animation, engineering, music, app development, medicine, visual design, robotics, or political analysis, computer science is the engine that powers the technology, productivity, and innovation that drive the world. Computer science experience has become imperative for today's students as they enter the workforce of tomorrow. The AP Program designed *AP Computer Science Principles* with the goal of creating leaders in computer science fields and attracting and engaging those who are traditionally underrepresented with essential computing tools and multidisciplinary opportunities.

AP COMPUTER SCIENCE A

Course Number: 9071

Credit: 1

Prerequisite: Precalculus

AP Computer Science A introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using

the Java programming language. This course also requires a minimum of 20 hours of hands on, problem based, group focused labs corresponding to curriculum concepts.

INTERNATIONAL LANGUAGES

Philosophy

Maggie L. Walker Governor's School for Government and International Studies (MLWGS) International Language program is a college preparatory program with language proficiency and cultural understanding integrated throughout. The International Language faculty believes that language is culture, for it is through language that thoughts, attitudes, and ideas are expressed. Our International Language program meets the individual needs of gifted students through a wide variety of teaching techniques that combine oral, aural, and written language. The emphasis is on successful communication. International language experiences form an integral part of our program. All MLWGS students complete four years of one international language and two years of a second. They may elect to complete additional years of study, either in the languages or in elective interdisciplinary courses offered by the faculty of the International Language Department.

Goals

The International Language program's objectives form the basis of each course within the International Language Department. The objectives emphasize connections between the target culture and the student's culture. Students:

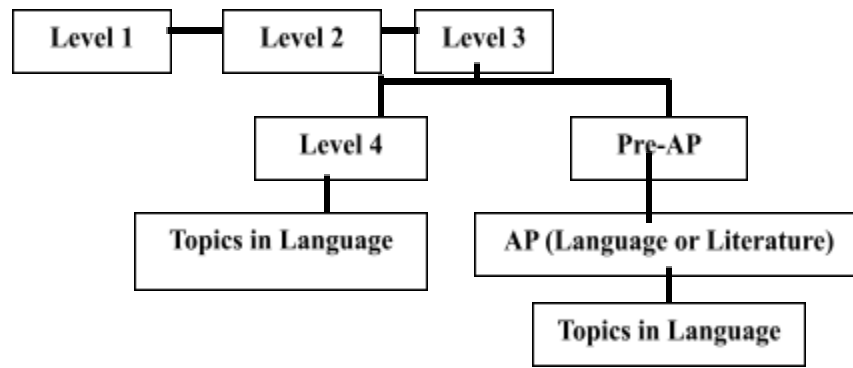
- communicate orally and in writing across cultures using international languages to develop insight into their own language and culture
- acquire new information and content not studied in their native language curriculum
- make linguistic and cultural connections between international languages and other disciplines
- demonstrate familiarity with the intellectual, artistic, and literary contributions of international cultures
- develop an awareness of the importance of international languages in the global community
- obtain information to expand knowledge from authentic documents, media presentations, and human resources
- use the language to communicate outside the school setting, explore the applications of the international language in the immediate community, and use technology to expand awareness of the global community
- become aware of higher educational and career applications of international language proficiency
- conduct research using international languages
- develop insight into the similarities and differences between the governmental structures of international cultures and the American system

Program Description

Languages Taught:	American Sign Language, Arabic, Chinese, French, German, Classical Greek, Italian, Japanese, Latin, Russian, and Spanish
4 Year Sequence Languages:	Chinese, French, German, Latin, and Spanish
2 Year Sequence Languages:	American Sign Language, Arabic, Classical Greek, Italian, Japanese, Russian
Elective Courses:	After finishing the core requirements, all language courses count as electives. In addition, the department offers a number of electives depending on student interest and staff availability
Elective Courses Taught in English:	The department tries to offer non-target language courses whose emphasis reflects the cultural environment of language study. In the past, the department has offered courses in Mythology, English Etymology, Art History, and Greco-Roman Civilization.

The following languages are guaranteed for at least four years: Chinese, French, German, Latin, and Spanish. Additionally, the following languages may be used to complete the two-year requirement: American Sign Language, Arabic, Classical Greek, Italian, Japanese, and Russian.

Sequence of Study:



General Guidelines for Placement: Students shall be placed in a language class where they will be challenged while having a reasonable expectation of success. In the case of a student who has had special language experiences or wishes to follow an accelerated sequence of study, that student will take an appropriate assessment to determine the best placement.

Levels: All classes are taught at the “Honors” level or Advanced Placement Level (AP). In four-year languages, the AP sequence consists of a Pre-AP course and the subsequent AP course in the target language.

Skills: Language pedagogy reflects four skill areas in most languages: reading, composition, speaking and listening. A speaking component is not included in Classical Greek or Latin, nor is there a composition component in ASL.

Culture: A significant portion of each language course covers the cultural environment of the language. Cultural topics include: politics, governmental institutions, literature, architecture, travel, education, philosophy, history, popular culture, music, archaeology, folklore, athletics, and gender issues.

Pedagogy: Language pedagogy involves a wide range of activities designed to help students acquire both a new language and awareness of a new culture. These activities may include role play, dramatic presentations, written presentations, internet research, debates, and portfolios.

Travel: Each year the department may offer a variety of travel opportunities such as exchanges, service trips and interdisciplinary study trips. Students are encouraged to participate in a variety of travel opportunities when school is not in session.

Honors: The department regularly participates in National Language Honor Societies and inducts new students into the various honor societies in the spring. Honor societies include: American Sign Language, Chinese, French, German, Italian, Japanese, Latin, Russian, and Spanish. In addition, many languages offer a national language examination or language essay competitions.

Language Conventions: Some languages hold annual state conventions. Department faculty and numerous students attend these conventions. At these conventions language students make presentations of their creativity and artistic talents, undertake academic competitive testing, and participate in the overall program of the convention.

Language Clubs: Currently there are the following language clubs: American Sign Language, Arabic, Club Asia (Chinese & Japanese), French, German, Italian, Classical (Greek & Latin), Russian, and Spanish.

Assemblies: Each year the department holds a National Language Honor Society induction ceremony, and other assemblies as appropriate.

Maggie L. Walker Governor’s School requires students to complete four years of one international language and two years of a second. Students need to keep in mind that their choice in a language to fulfill the four-year requirement is made in their 9th grade scheduling. The department encourages the students to study their chosen languages beyond the minimum requirement and to explore other language courses as electives.

LANGUAGE COURSES

AMERICAN SIGN LANGUAGE I

Course Number: 6201

Credit: 1

Prerequisite: None

Throughout the study of ASL, students develop basic communicative skills in this visual and gestural language. Students gain an understanding of Deaf culture, the syntax and grammatical rules of ASL, and a basic vocabulary allowing for interaction with the Deaf community.

AMERICAN SIGN LANGUAGE II

Course Number: 6211

Credit: 1

Prerequisite: ASL I

This course provides students a more sophisticated and in-depth study of ASL structure and vocabulary. The course emphasizes linguistic aspects of ASL, including, for example, classifiers, syntax, locatives, placement, and various sentence types. It also expands skills in expressive and receptive use of ASL.

AMERICAN SIGN LANGUAGE III

Course Number: 6221

Credit: 1

Prerequisite: ASL II

This course focuses on the development of skills in narration, utilizing the applications of non-manual behaviors and ASL structure. Fluency in expressive signing, speed and rhythm, and visual comprehension skills are emphasized. Additional readings and discussion of deafness and Deaf culture enhance the student’s knowledge and ASL skills. Extensive interaction with the Deaf community is an integral part of this course.

ARABIC I

Course Number: 5901

Credit: 1

Prerequisite: None

In this course the students study Modern Standard Arabic (MSA). MSA is the primary language of the Middle East, is used in contemporary literature and the mass media, and is the universal formal and written form of Arabic learned in schools across the Arab world. The emphasis is on providing students a foundation for communication, including writing, reading, oral, and listening skills, and deepening their knowledge of the cultures where Arabic is the primary language. Students are introduced to the Arabic Alphabet and sound systems, engage in simple conversations on a range of everyday topics, construct sentences, ask and answer questions, apply basic grammatical structures, read and write Arabic script, and use simple authentic written materials. At the conclusion of the level-one course, students are able to use Arabic for simple oral and written communication, for interpretation of spoken and written information, and for presentations to audiences of listeners and readers, with cultural knowledge integrated throughout their communicative efforts. This course is taught in Arabic as much as possible.

ARABIC II

Course Number: 5911

Credit: 1

Prerequisite: Arabic I

In this course the students continue their study of Modern Standard Arabic (MSA), building on the communication skills learned in level one. Students expand their vocabulary, read passages of increasing length and sophistication in order to enhance their discussion and writing skills, read simple authentic written materials and identify the main ideas, increase the level of complexity of the grammar used, summarize short passages in a simple fashion, develop their ability to use some culturally appropriate idiomatic expressions, and write about unfamiliar topics using familiar phrases. This course includes subjects of historical and social significance in the Arab World, an introduction to biographies and works of famous Arab authors, and exploration of current events and issues through news articles and other authentic materials. At the conclusion of the level-two course, students are able to converse in Arabic using complex grammatical structures and discuss less familiar topics. This course is taught in Arabic.

ARABIC III

Course Number: 5921

Credit: 1

Prerequisite: Arabic II

Arabic III offers students the opportunity to investigate advanced grammar and linguistic structures; read and write more-advanced texts; enhance their ability to communicate with others through written and spoken language; understand and appreciate the cultural context in which Arabic is used; reflect on their own culture through the study of Arabic cultures; and develop their ability to convey meaning effectively in a range of contexts. The course will extend both students' awareness of the system of structures underlying the language and their ability to apply and adapt this knowledge.

The outcomes described for Arabic 3 should be regarded as the basis for the further development of students' knowledge and skills in subsequent (e.g., collegiate) study of the Arabic language and culture. The outcomes for Arabic 1 and II will be incorporated into the teaching and learning for students commencing their language study in Arabic III.

CHINESE I

Course Number: 5501

Credit: 1

Prerequisite: None

This course provides a foundation for learning Standard Mandarin Chinese. Based on the textbook *跟我学汉语 Gen Wo Xue Hanyu I (Learn Chinese with Me I)*, in addition to other commonly used high school Chinese textbooks, this course introduces basic Chinese grammar and phonics. Chinese culture is an integral part of this class. Reading and writing are limited in scope and guided through the use of learned vocabulary and language structures. By the end of the course, students learn to write 120 characters and recognize 200+ characters. Students will also be able to understand, converse, read and write about simple everyday topics.

CHINESE II

Course Number: 5511

Credit: 1

Prerequisite: Chinese I

This course is based on textbook *跟我学汉语 Gen Wo Xue Hanyu 2 (Learn Chinese with Me II)*, in addition to other commonly used high school Chinese textbooks. In this course, students will build upon the foundation in Chinese 1 and continue to develop listening, speaking, reading and writing skills in Standard Mandarin. Chinese culture will again be an integral part of this class. By the end of the course, students will learn to write 170-180 characters and recognize 300-450 more characters. Students will also be able to understand, converse, read and write about everyday topics with increasing sophistication.

CHINESE III

Course Number: 5521

Credit: 1

Prerequisite: Chinese II

This course is based on textbook *跟我学汉语 Gen Wo Xue Hanyu 3 (Learn Chinese with Me 3)*. Students develop language skills necessary to carry out oral and written activities and utilize analytical and abstract thinking skills. Students read a variety of authentic materials to broaden their range of vocabulary in Chinese. Students focus on conversation and compositional skills by preparing dialogues and short compositions about selected topics. Students review all characters learned from Chinese 1 and 2 and learn additional characters.

CHINESE IV

Course Number: 5531

Credit: 1

Prerequisite: Chinese III

This course uses the textbook *Integrated Chinese Level 1 Part 2 and Level 2 (中文听说读写 Zhongwen Ting Shuo Du Xie)*. This course extends the previous year's work and helps students refine and perfect Standard Mandarin language skills for use beyond the classroom. Students will consider current events and social issues in the Chinese language and social context. Students will learn to write 360-390 characters.

AP CHINESE LANGUAGE AND CULTURE

Course Numbers: 5553

Prerequisite: Chinese IV

Credit: 1

The course uses the textbook *Integrated Chinese Level 2* (中文听说读写 *Zhongwen Ting Shuo Du Xie*) and is structured around the Chinese AP exam, which focuses on accuracy in speaking, listening, reading and writing at a high level. Instructional content will reflect interests shared by the students and teacher. In addition to the textbook, the course uses a variety of audio and visual materials, including newspapers, magazines and videos on current events. During the course, the students will develop a strong command of vocabulary and structure and be able to understand spoken Chinese in various conversational situations. The students are expected to maintain accurate grammar in writing and speaking. This course will prepare students for the AP Examination, the College Board Achievement Test, and college level Chinese courses.

FRENCH I

Course Number: 5101

Prerequisite: None

Credit: 1

French I is an introductory language course which develops student proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of French); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). The goal for students is to be able to understand and speak about everyday topics. Reading and writing skills are guided through the use of contextual vocabulary and grammatical structures. The French language is presented with an emphasis on the geography and cultures of French-speaking countries. Workbook required.

FRENCH II

Course Number: 5111

Prerequisite: French I

Credit: 1

French II continues to build on the communicative skills introduced in French I. Through the use of student interaction, teacher-directed activities, and multi-sensory activities, the students continue to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of French); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). Vocabulary, grammar, composition, and cultural awareness are expanded through the use of text-based selections and level-appropriate authentic materials. Workbook required.

FRENCH III

Course Number: 5121

Prerequisite: French II

Credit: 1

The French III course continues to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of French); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). Using authentic materials, the students expand their knowledge of vocabulary, grammar and culture. They are able to analyze, synthesize, and compare and contrast historical, cultural, and current events in French utilizing a broad range of authentic materials. Workbook required.

FRENCH IV

Course number: 5131

Prerequisite: French III

Credit: 1

The French IV course continues to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of French); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). Students exchange and support opinions on a variety of topics related to contemporary and historical events and issues. Students model native speakers, read authentic texts, and produce compositions in French. Students use French to access information in other subject areas and to compare and contrast cultural elements in French-speaking countries with their own. The goal of this course is to reinforce and expand the knowledge of the French language and the diverse cultures of the French-speaking world and to practice and apply the skills necessary for future use, academic study, and to become informed 21st century global citizens. Workbook no longer required for French IV.

AP FRENCH LANGUAGE AND CULTURE

Course Number: 5153

Credit: 1

Prerequisite: Pre-AP French

Guidelines: A “B” or better in Pre-AP French, an “A” in French IV, or teacher recommendation

The goal of this course is to advance the acquisition and development of the four language skills: listening comprehension, speaking, intensive reading and writing. Language and culture are centered around the AP Exam themes of contemporary life, personal and public identities, families and communities, global challenges, science and technology, and aesthetics and the arts. The course AP French Language and Culture also provides an advanced-level review of grammar and vocabulary. Workbook required.

GERMAN I

Course Number: 5201

Credit: 1

Prerequisite: None

German I is an introductory language course which develops student proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of German); the Interpretive Mode (understanding of oral and written messages); the Presentational Mode (communicating with oral or written language). The goal for students is to be able to understand and speak about everyday topics. Reading and writing skills are guided through the use of contextual vocabulary and grammatical structures. The German language is presented with an emphasis on the geography and cultures of German-speaking countries. No workbook is required.

GERMAN II

Course Number: 5211

Credit: 1

Prerequisite: German I

German II continues to build on the communicative skills introduced in German I. Through the use of student interaction, teacher-directed and multi-sensory activities, the students continue to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of German); the Interpretive Mode (understanding of oral and written messages); the Presentational Mode (communicating with oral or written language). Vocabulary, grammar, composition, and cultural awareness are expanded through the use of text-based selections and level-appropriate authentic materials. There is no workbook required.

GERMAN III

Course Number: 5221

Credit: 1

Prerequisite: German II

The German III course continues to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of German); the Interpretive Mode (understanding of oral and written messages); the Presentational Mode (communicating with oral or written language). Using authentic materials, students expand their knowledge of vocabulary, grammar and culture. They are able to analyze, synthesize, and compare and contrast historical, cultural, and current events in German. Utilizing a broad range of authentic materials, students gain knowledge of the diverse cultures of the German-speaking world. There is no workbook required.

GERMAN IV

Course number: 5233

Credit: 1

Prerequisite: German III

The German IV course continues to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of German); the Interpretive Mode (understanding of oral and written messages); the Presentational Mode (communicating with oral or written language). Students will exchange and support opinions on a variety of topics related to contemporary and historical events and issues. Emphasis will be on modeling native speakers, reading authentic texts, producing composition, and discussing current events in German. Students will also use German to access information in other subject areas and to compare and contrast cultural elements in German-speaking countries with their own. The goal of this course is to reinforce and expand the knowledge of the German language and the diverse cultures of the German-speaking world. Students will practice and apply the skills necessary for future academic study as well as for personal endeavors and will become informed 21st century global citizens. There is no workbook required.

AP GERMAN

Course Number: 5253

Credit: 1

Prerequisite: Pre-AP German or German IV

Guideline: B” or better in Pre-AP German or German IV

AP German continues a student’s learning of German language and culture. The course is structured around the AP exam that focuses on accuracy in speaking, listening, reading, and writing at a high level. Instructional content reflects interests shared by the students and teacher. In addition to the textbook, a variety of authentic audio and visual materials is used, including newspapers, magazines, and authentic videos on current events. Within the course, the student develops a strong command of vocabulary and structure, and is able to understand spoken German in various conversational situations. This course prepares students for the AP Examination in German, the College Board Achievement Test, and college level German courses.

GREEK I: INTRODUCTION TO CLASSICAL GREEK

Course Number: 6901

Credit: 1

Prerequisite: None

This course begins the study of Classical Greek and focuses on elementary vocabulary, grammar, and morphology. Through the readings of simple prose, students learn the elements of ancient Greek culture and daily life. Continuous emphasis is placed on derivatives, Greek literature, architecture, archeology, philosophy, mythology, history, and Athenian political institutions. At least one major work of Greek literature (e.g., Homer’s *Odyssey*) is read throughout the year.

GREEK II: INTERMEDIATE GREEK

Course Number: 6911

Credit: 1

Prerequisite: Greek I

In this course the student continues to learn the morphology and syntax of classical Greek. More complex grammar is introduced through societal and historical readings. Cultural emphasis is placed upon the Greek Renaissance, Archaic Age and Classical Age. Students explore the Greek achievement in government, letters, architecture, and artistic expression. By the end of the year the student is reading the authentic prose of Herodotus and Xenophon.

ITALIAN I

Course Number: 5801

Credit: 1

Prerequisite: None

This course is an introductory course designed to provide students with basic speaking and understanding skills for everyday situations. Students explore various aspects of Italian culture. Students practice all four basic skills: listening, speaking, reading and writing. Vocabulary and grammatical structures are presented through communicative expressions and situations. Students are encouraged to use Italian in the classroom as much as possible. Workbook required.

ITALIAN II

Course Number: 5811

Credit: 1

Prerequisite: Italian I

This course reviews and expands upon the essential points of grammar covered in the first year course. Students are encouraged to go from familiar material to more complex constructions through daily reading and speaking in Italian. Class readings form the basis of written work to develop composition skills. Students are encouraged to present their own points of view and relate the readings to their own experience, while using both spoken and written Italian. Workbook required.

ITALIAN III

Course Number: 5821

Credit: 1

Prerequisite: Italian II

In Italian III, students continue to develop their communicative competence by interacting orally and in writing with other Italian speakers, understanding oral and written messages in Italian, and making oral and written presentations in Italian. They communicate on a variety of topics at a level commensurate with their study, using more complex structures in Italian and moving from concrete to more abstract concepts. They comprehend the main ideas of the authentic materials that they listen to and read and are able to identify significant details when the topics are familiar. Students develop the ability to discuss in Italian, the topics related to historical and contemporary events and issues. The study of Italian films is included in this course.

JAPANESE I

Course Number: 5601

Credit: 1

Prerequisite: None

This course is an introductory class to the Japanese language with an emphasis on listening and speaking. Students will learn vocabulary and grammatical forms to gain the ability to engage in simple conversation and learn how to read and write in two Japanese alphabet systems, *Hiragana* and *Katakana*, and begin to study the third Japanese writing system, *Kanji*. Students will gain exposure and hands-on experience with Japanese cultural traditions and cultural trends. Workbook required.

JAPANESE II

Course Number: 5611

Credit: 1

Prerequisite: Japanese I

This course is a continuation of Japanese I and further develops students' Japanese language skills. Students will expand their vocabulary and grammatical knowledge and become able to hold a conversation with native Japanese speakers in both formal and casual speech styles. Students will also learn to read and write 120 *Kanji* characters. Students will explore and engage in more in-depth discussions on specific Japanese cultural traditions and current trends.

JAPANESE III

Course Number: 5621

Credit: 1

Prerequisite: Japanese II

This course is a continuation of Japanese II and further develops students' language skills in all four modes of communication—reading, writing, speaking, and listening. Students will continue to expand their vocabulary and grammatical knowledge and be able to engage in conversations on complex topics with native Japanese speakers. Students will also broaden their knowledge of *Kanji* being able to read and write a total of 240 characters. Students will foster their critical thinking skills through open-ended discussions of Japanese cultural topics in the Japanese language.

LATIN I

Course Number: 5301

Credit: 1

Prerequisite: None

This course lays the foundation for reading and understanding simple Latin prose. Linguistic emphasis is placed on grammar, morphology, vocabulary, reading skills, and comprehension. Roman culture is studied by following the adventures of a Roman family in connected reading passages. Additionally, Roman mythology, architecture, society, history, and English derivatives are studied throughout the first year.

LATIN II

Course Number: 5311

Credit: 1

Prerequisite: Latin I

In this course students build upon the skills they have learned in the previous year in order to comprehend Latin that becomes increasingly more sophisticated. Students are introduced to complex grammatical structures within the context of mythological stories. There is continued emphasis on Roman life, mythology, derivatives, and history. During the second half of the year, short pieces of authentic Latin literature are used as a learning tool to introduce the student to Classical Latin authors and the history in which the readings are set. Workbook recommended.

LATIN III

Course Number: 5321

Credit: 1

Prerequisite: Latin II

In this course students build upon the skills they have learned in Latin II in order to comprehend Latin that becomes increasingly more sophisticated. This course expands on morphology and linguistic constructions taught in Latin II. Students continue to study increasingly more complex authentic Latin literature as they continue to explore Classical Latin authors and

history. The history and culture of Republican Rome, as well as Greco-Roman mythology, are addressed. Workbook recommended.

LATIN IV

Course Number: 5341

Credit: 1

Prerequisite: Latin III

This course is appropriate for the student prepared to continue the study of Latin, but not at the rigorous pace demanded by the AP trajectory. Latin IV offers the student additional review of the forms and constructions taught in earlier Latin courses which may be accomplished by studying Latin prose and poetic authors such as Cicero, Ovid, Virgil, Plautus, Horace, and Catullus. The primary focus of this course is to introduce the student to holistic Latin texts and their literary analysis. The mythology, history, politics, and culture, which are essential to an understanding of these works, are explored.

LATIN V: ADVANCED TOPICS IN LATIN LITERATURE

Course Number: 5344

Credit: 1

Prerequisite: Latin AP or Latin IV

This course focuses on one or two Latin authors from the golden age of Latin literature and is designed as a post Latin AP or Latin IV option for a student who is well-prepared to read and analyze holistic selections of authentic Latin authors. Latin V also offers the student a review of advanced Latin syntax taught in earlier levels of Latin which are appropriate to the study of Latin prose and poetic authors, such as Cicero, Ovid, Virgil, Horace, and Catullus. The mythological, historical and political topics are also explored in conjunction with daily Latin readings as a crucial aspect of literary analysis and textual exegesis.

Objectives:

- to read, translate and interpret selections of Latin authors, both prose and poetry
- to review and learn advanced Latin syntax
- to develop a greater understanding of the Language through the study of grammar and derivatives
- to continue to use orally and listen to Latin as part of the learning process
- to develop an understanding of Roman culture and civilization
- to reinforce learning through linguistic connections with the Romance languages
- to develop an understanding of cultural and historical similarities and difference between the Roman world and the United States
- to learn and perfect skill of critical analysis and textual exegesis
- to learn and apply various Latin poetic meters
- to develop skills essential for writing interpretive essays
- to write analytical commentaries on selected passages of Latin authors

Related Topics: Classical Mythology, Greco-Roman Philosophy, Latin, Grammar, Roman History; Roman Literature; Linguistic Terms and Figures of Speech; Augustan Authors, Roman Rhetoric, Hellenization.

Texts: To be provided by the instructor

Pre-AP LATIN

Course Number: 5342

Credit: 1

Prerequisite: Latin III

Guidelines: An "A" in Latin III or teacher recommendation

This course is designed as the first part of a two-year advanced sequence and is geared to those students who have thoroughly mastered Latin morphology and grammar. Students read large selections of those authors and works from the AP syllabi, such as Caesar, Horace, and Vergil and students focus on the politico-historical environment of the 1st century BC. This course introduces the students to detailed methods of critical analysis of Latin literature. Additionally, the students learn how the historical setting of these authors helps in literary interpretation. Workbook recommended.

AP LATIN LITERATURE: Caesar and Vergil

Course Number: 5363

Credit: 1

Prerequisite: Latin Pre-AP

Guidelines: A "B" or better in Latin Pre-AP or teacher recommendation

Course Description: This course is designed for fifth year students who have thoroughly mastered the forms and constructions of Latin prose and poetry and are ready to move onto an in-depth literary study of individual authors of prose and poetry. Students are expected to move beyond the mechanics of translation to literary and stylistic analysis of Latin prose and poetry. Precise knowledge of vocabulary, translation (prepared and at-sight) and critical analysis are emphasized as preparation for the Advanced Placement Examination. Latin AP: Caesar & Vergil is a detailed course that focuses on Caesar's *Commentarii de Bello Gallico* and Vergil's *Aeneid*. The AP Syllabus (reading list) is precisely followed with additional passages from the corpus of Caesar and Virgil and related authors also read. Students are expected to learn the metrical patterns of hexametric poetry, to read and understand scholarly commentaries on Vergil's *Aeneid* and Caesar's *Commentarii de Bello Gallico* and to compose in English sensitive appraisals of the text on specified topics and themes. In accordance with the AP Syllabus selections from both Caesar and Vergil are read in English translation and analyzed from literary, cultural and historical perspectives. In conjunction with daily reading of Latin texts this course explores the social and political history of late Republican Rome and the early Principate.

RUSSIAN I

Course Number: 5701

Credit: 1

Prerequisite: None

This course is an introductory language class with emphasis on listening and speaking. Students learn the Cyrillic alphabet and a corpus of vocabulary and grammatical forms sufficient as a basis for both novice communication and continued study. Instruction allows for individual expression and creativity in communication and role playing assignments. Interactive and multisensory techniques utilizing visual aids, televised materials, props, and game activities are employed in order to accommodate differences in learning styles. Workbook recommended.

RUSSIAN II

Course Number: 5711

Credit: 1

Prerequisite: Russian I

This course is a continuation of Russian I and completes the study of basic grammar and the declension system. Topics to be discussed include: a review of elements of Russian I, the instrumental case and the genitive plural, verbs of motion, prepositions and prefixes and the formation of participles. Students will apply new information in dialogues, plays, and free writing. Students also are made aware of cultural differences in given contexts, which affects their responses. Supplements to the course include short literary works and selected films that depict the history, culture, and life style of the Russian people. Workbook recommended.

RUSSIAN III

Course Number 5721

Credit: 1

Prerequisite: Russian II

Students are expected to display and sharpen their proficiency in written and oral Russian, in its grammar and vocabulary, by meeting sophisticated oral/aural challenges and by comprehending, interpreting, and responding to advances texts; demonstrate an enhanced capacity for competently self-directed written and oral work in the field; and develop and display a mature understanding of diverse elements of Slavic culture, including history geography, folklore, and the arts. Particularly important is the mastery of oral and aural skills in contextually-based, individual and small-and large-group oral situations. Students will process and employ elements of advanced stylistics and grammar in conversations, compositions, and sophisticated readings in the target language.

SPANISH I

Course Number: 5401

Credit: 1

Prerequisite: None

Spanish I is an introductory language course which develops student proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of Spanish); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). The goal for students is to be able to understand and communicate about everyday topics. Reading and writing skills are guided through the use of contextual vocabulary and grammatical structures. The Spanish language is presented with an emphasis on the geography and cultures of Spanish-speaking countries. Workbook required.

SPANISH II

Course Number: 5411

Credit: 1

Prerequisite: Spanish I

Spanish II continues to build on the communicative skills introduced in Spanish I. Through the use of student interaction, teacher-directed activities, and multi-sensory activities, the students continue to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of Spanish); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). Vocabulary, grammar, composition, and cultural awareness are expanded through the use of text-based selections and level-appropriate authentic materials.

Workbook required.

SPANISH III

Course Number: 5421

Credit: 1

Prerequisite: Spanish II

The Spanish III course continues to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of Spanish); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). Using authentic materials, the students expand their knowledge of vocabulary, grammar and culture. They are able to analyze, synthesize and compare/contrast cultural, historical, and current events. Utilizing a broad range of authentic materials, students gain knowledge of the diverse cultures of the Spanish-speaking world. Workbook required.

SPANISH IV

Course number: 5431

Credit: 1

Prerequisite: Spanish III

The Spanish IV course continues to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of Spanish); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). Students will exchange and support opinions on a variety of topics related to contemporary and historical events and issues. Emphasis will be on modeling native speakers, reading authentic texts, producing compositions, and discussing current events in Spanish. Students will also use Spanish to access information in other subject areas and to compare and contrast cultural elements in Spanish-speaking countries with their own. Workbook required.

PRE-AP SPANISH

Course Number: 5434

Credit: 1

Prerequisite: Spanish III

Guidelines: B+ in Spanish III or teacher recommendation

Pre-AP Spanish Language is the first course in a two-year sequence designed for students interested in taking the AP Spanish Exam. This course continues to develop proficiency in the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of Spanish); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). Students read, summarize and discuss authentic texts, mimic native pronunciation, and research a variety of topics in Spanish. The goal of this course is to reinforce and expand the knowledge of the Spanish language and the diverse cultures of the Spanish-speaking world. Students will practice and apply the skills necessary for future academic study as well as personal endeavors and will become informed 21st century global citizens. Pre-AP Spanish requires advanced levels of grammatical accuracy, reading comprehension, essay writing, speaking, and listening comprehension. Students begin their preparation for successful completion of the AP exam by practicing strategies using a testing format similar to that of the AP Exam. Workbook required.

AP SPANISH LANGUAGE AND CULTURE

Course Number: 5453

Credit: 1

Prerequisite: Pre-AP Spanish

Guidelines: B or better in Pre-AP Spanish or teacher recommendation

The goal of this course is to advance the acquisition and development of the four language skills through the three modes of communicative competence: the Interpersonal Mode (interaction with other speakers of Spanish); the Interpretive Mode (understanding of oral and written messages); and the Presentational Mode (communicating with oral or written language). Language and culture are presented through a variety of authentic materials and incorporate many student-led activities. Students will practice and apply the skills necessary for future academic study as well as personal endeavors and will become

informed 21st century global citizens. AP Spanish Language and Culture provides an advanced-level review of grammar and vocabulary. Students continue their preparation for successful completion of the AP exam by practicing strategies using a testing format similar to that of the AP Exam. Workbook required.

AP SPANISH LITERATURE AND CULTURE

Course Number: 5463

Credit: 1

Prerequisite: Pre-AP Spanish

Guidelines: B+ or better in Pre-AP Spanish or teacher recommendation

The Advanced Placement AP Spanish Literature and Culture course is equivalent to a third-year college Introductory Literature course, designed for students interested in the study and analysis of representative literary works from Spain and Latin America, ranging from the Medieval and Golden Age to modern works from the Twentieth Century. This course continues to develop proficiency in the three modes of communicative competence: The Interpersonal Mode (interaction with other speakers of Spanish); The Interpretive Mode (understanding of oral and written messages); and The Presentational Mode (communicating with oral or written language). Students will read, discuss, and analyze authentic texts in the Spanish language while developing critical reading and analytical writing skills in Spanish. Students will examine the literature in relationship to its artistic, historical, social, and cultural contexts. In preparation for successful completion of the AP Exam, students will practice exam strategies using a testing format similar to that of the AP Exam. Workbook required.

SPANISH FOR HERITAGE SPEAKERS

Course Number: 5481

Credit: 1

Prerequisite: Counselor/teacher recommendation and placement test at Spanish IV

This course is designed for students within the target population to address the specific linguistic needs that L2 Spanish and Hispanic/Latinx Heritage students often have learning English that cannot adequately be addressed in any current Spanish classes, through advanced and culturally specialized grammar content. It will also broaden the horizons of L1 Spanish students through a reflective understanding of the diverse nature of Hispanic identities, both locally in the United States and globally, through comparisons and connections with literature and historically salient cultural media forms. Through this process, they will acquire college-level Spanish vocabulary related to business and economics, science and technology, health and well-being, international communication, and fine arts. This course is an elective course toward the two- or four-year language requirement, and it will culminate with a community engagement final project and presentation to empower students as young adult leaders and bilingual speakers in each of their communities.

INTERNATIONAL LANGUAGE ELECTIVES

Elective courses taught in the target languages or in English and do not satisfy the MLWGS International Language requirement. Elective courses are offered based on student interest and faculty availability.

FRENCH CONVERSATION AND FILM VCU (FREN 307) *pending VCU approval*

Course Number: 5165

Dual Enrollment

Prerequisite: Completion of French IV or above

VCU Credit: 3 semester hours

Guidelines: B or above in prerequisite course

MLWGS Credit: 1

Grade: 11-12

This course is designed to develop students' conversational skills, oral comprehension ability, and knowledge of contemporary and historic culture through discussion of selected French-language films. Topics will include the history of Francophone film, the role of film in influencing the way in which historical events are understood by the public, the distortions of historical fact in film, the role of politics in films and film-making, and the influence of cultural information portrayed for international audiences on their interactions and/or interpretations of Francophone cultures.

TOPICS IN FRENCH

Course Number: 5171

Credit: 1

Prerequisite: French IV, Pre-AP French or AP French

Topics in French is offered as an elective course to students who have completed their 4 year language requirement. Topics rotate based on student interest and faculty availability. The specific topics of this course stress oral, reading, composition, and aural skills through French literature, cinema, television, radio, journals, newspapers, and magazines. Chosen topics are studied in-depth and allow for student choice and research strategies. Through lectures, outside speakers, site visits,

discussions and analysis of text, students investigate aspects of course content. Contemporary media from France and Francophone countries provide students with current and unusual vocabulary. Individual topics and focuses of this course are designed to build upon the knowledge base and French fluency reached in the previous 4 years of study. Students use the Internet connections to chat with French teens and exchange ideas with Francophone students all over the world.

FRENCH LITERATURE

Course Number: 5163

Credit: 1

Prerequisite: Pre-AP French

Guidelines: B or higher in Pre-AP French

French Literature is offered in accordance with teacher availability and student demand. It is designed to prepare students for advanced study in French Literature. Students focus on the development of reading and discussion skills, the technique of the "explication de texte," and on in-depth literary analysis. Students read selected literary works, review French grammar, expand vocabulary, and develop their composition skills. Purchase of anthology recommended.

TOPICS IN GERMAN

Course Numbers: 5271

Credit: 1

Prerequisite: German IV

In this course students deepen their immersion into the German language and culture. The topics selected reflect areas of student and teacher interest, current events, contemporary issues, and the school's interdisciplinary mission. An example of a possible topic is the role of Germany in the European Union and its relationship to the United States. Students use contemporary German literature, online newspapers and journals, film, and Internet websites to investigate the topic and connect with students in German schools to discuss related issues, practice and improve their speaking and writing skills, and strengthen their critical thinking skills. They interpret, synthesize, and evaluate information from a variety of sources from German-speaking cultures and make oral and written presentations about their findings. This approach helps students connect their learning of German language and culture to modern issues and concerns within the national and international context. This course is conducted solely in German.

TOPICS IN SPANISH

Course Number: 5471

Credit: 1

Prerequisite: Spanish IV, Pre-AP Spanish or AP Spanish

Guidelines: "B+" or higher in Spanish IV

Topics in Spanish is offered as an elective course to students who have completed their 4 year language requirement. Topics rotate based on student interest and faculty availability. This course is conducted mostly in Spanish. Chosen topics are studied in-depth and allow for student choice and research strategies. Through lectures, outside speakers, site visits, discussions and analysis of text, students investigate aspects of course content. Students work toward increased fluency and self-confidence in speaking Spanish. Students develop conversational skills through the following means: organized debates, readings from original and current sources to enrich the vocabulary, assigned topics for class discussions, writing and performing plays, singing popular songs to practice pronunciation and intonation. Students use the Spanish language as a key to Hispanic art and literature. Individual topics and focuses of this course are designed to build upon the knowledge base and Spanish fluency reached in the previous 4 years of study. Close examination of the Hispanic community in Richmond through service learning may be a focus of this course.

The following elective courses are taught in English. Elective courses are offered based on student interest and faculty availability.

CLASSICAL MYTHOLOGY

Course Number: 5485

Guidelines: Good academic standing

Grade: 11-12

MLWGS Credit: 1

Classical Mythology investigates the role of myths in the artistic, intellectual, religious, philosophical, literary, and artistic expression of Western Civilization. The course begins with a survey of the mythic systems of Near Eastern cultures (Egyptian, Sumerian, and Babylonian) and the mythology of Greece in which the focus is the pervasive role of myth in all aspects of culture. Students explore the evolution of classical myth in Rome and the European Renaissance. Students expand the evolutionary process of myth-making by creating and reinterpreting myth in light of contemporary values.

ENGLISH ETYMOLOGY

Course Number: 6806

Prerequisite: None

Semester Course

Credit: ½

This course examines the influence of the Greek and Latin languages on the vocabulary of English which owes about 65 percent of its vocabulary to those languages. Topics of study include English word formation; Greek and Latin roots used in English, relationship between Romance Languages and their influence on English, and language evolution. The course covers specialized vocabulary using medical, scientific, and legal terminology based on the mythological and philosophical achievement of Greece and Rome.

THE FOUNDATIONS OF DEMOCRACY

Course Number: 6976

Prerequisite: None

Credit: 1

This course explores the political evolution of democracy from classical antiquity through the Middle Ages. Political institutions from monarchy, theocracy, tyranny, aristocracy, and oligarchy are studied as precursors to democracy. Primary sources from political historians and philosophers are read to reconstruct the argument for and against democracy and as the foundation for modern political theory. Governmental institutions from Greece, Rome, and Medieval Europe (secular & religious) are studied in light of their influence on French and American ideals and democratic revolutions.

GRECO-ROMAN ART

Course Number: 6957

Prerequisite: None

Semester Course

Credit: ½

This course surveys the architectural achievement of the civilizations of Greece and Rome from Greek Archaic-Classical Periods through the European spread of the classical canons of the Roman Empire. Architectural styles from religious, political, athletic, entertainment, commercial, and domestic arenas and the relationship between form and function are studied. Classical sites like the Acropolis, Delphi, Pompeii, and the Roman Forum form a central core to this course. Lastly, the influence of Classical architecture on the European Renaissance, modern Europe and America concludes the survey. Local and regional field trips are an integral part of this course.

GREEK CIVILIZATION

Course Number: 6946

Prerequisite: None

Semester Course

Credit: ½

This course offers an in depth examination of the various forms of Greek literature in English translation. Works of epic, drama, philosophy, and poetry have defined the character and genius of the ancient Greeks and have consequently had a great

impact on western civilization. The exploration of this literature offers a commentary on the Greeks as well as ourselves as human beings. A study of Greek literature is also a study of fascinating mythology and profound philosophy.

ROMAN CIVILIZATION

Course Number: 6936

Prerequisite: None

Semester Course

Credit: ½

This course offers an investigation of Roman literature in English translation from epic to love poetry and beyond. Latin Literature, especially from the Augustan period, reveals much about the lives of the ancient Romans; the literary products are loaded with social and political meaning and yet the individual voice of the author is never lost. A study of Latin literature is also a study of interesting lives and intriguing events.

SLAVIC FOLKLORE

Course Number: 6626

Prerequisite: Global Studies I and II

Credit: 1

This course examines traditional Slavic culture, its distinctive life cycle and seasonal ritual, material culture, demonology, oral folk narratives, and the beliefs and values that underlie all these phenomena. Through English-language lectures and seminar-style discussions, group and individual analysis of data and artifacts, and presentations of student research of translated documents, the traditional Slavic worldview is studied in an effort to understand its origins, rationales, development, and longevity, with an eye toward understanding universal culture principles through comparative analysis.

Visual and Performing Arts

Philosophy

Maggie L. Walker Governor's School for Government and International Studies Visual and Performing Arts program includes courses in visual art, music, and drama. Emphasis throughout the arts curriculum is placed on independent thinking and experiential activities. The department strives to establish clear links with national and state standards while meeting the particular needs of gifted students.

Instruction in the Visual and Performing Arts program emphasizes the development of literacy in each content area. For example, in studio art classes, students develop "visual literacy" by learning the particular "language" of the visual arts and producing works of art in a wide variety of art media. In addition, students have the opportunity to explore issues of aesthetics, to become intelligent critics of works of art, and to be exposed to practitioners of the arts so that they come to develop real-life knowledge drawn from the experiences of these individuals.

The department focuses on the interconnectedness of the disciplines within the context of interdisciplinary global concepts. Instructional strategies provide conditions that allow students to develop their own particular talents, that recognize and develop students' learning styles in multiple intelligences, and that respect the integrity of each student's personal creative expressions.

The Visual and Performing Arts program serves a significant number of MLWGS students with its numerous outstanding elective courses in the arts. The department works with students who come with varying degrees of prior experience in these areas and encourages growth according to individual abilities and needs.

Program Goals

The program of the Fine Arts Department is based on a set of global objectives from which specific objectives for the individual courses are derived.

The students will:

- experience and understand many creative challenges in the visual, instrumental, choral, and dramatic arts;
- develop knowledge and skills in the arts drawn from real life experiences of practitioners in the arts;
- understand that education in the arts is as important as education in science, social studies, math, and languages for negotiating the complexities of the global community;
- incorporate interdisciplinary experiences to effectively emphasize connections between the arts and other subject areas;
- internalize information and, as active and original thinkers, transform and interpret this information through the various venues of the creative arts;
- develop their unique talents in an atmosphere that allows for individual styles of learning and multiple intelligences;
- experience diversity, variety, and heterogeneity rather than standardization and uniformity in their interpretation of creative challenges;
- work in an atmosphere that both respects and nurtures their personal beliefs in artistic expressions and provides opportunities based on individual needs and interests;
- be exposed to the many exciting professions in the arts through experiences such as field trips, visiting artists, and mentorships;
- become aware of how the arts are a part of their everyday lives;
- develop critical thinking skills through verbal and written critiques and through the incorporation of the philosophical issues of aesthetics;
- be exposed to arts-related literature: critical, biographical, and autobiographical;
- develop an understanding of the history of the various art forms within the context of the history of mankind; and
- appreciate the mental health and stress-reducing benefits of various creative pursuits.

Program Description

MLWGS Visual Arts Program

In studio art classes, students experience a wide variety of art media. Written work includes art critiques based on museum and gallery visits, as well as creative writing options that are motivated by works of art.

The following are some highlights of the studio art program:

Annual Regional "Scholastic Arts Competition" - This event is a juried art show. Governor's School students consistently achieve high recognition in this annual national art contest and exhibition.

Annual Student Art Exhibit- This event is a month-long exhibit of student art work held in the spring and celebrates the importance of the Arts within the school culture.

Annual Senior Art Exhibition - Seniors in advanced art classes work towards an off-site group show of their own. This event provides students an opportunity to show their work in a professional venue.

Opportunities for pARTnerships– Students may apply to a series of workshops with our neighborhood arts organizations such as glass blowing, screen printing, and ceramic wheel throwing.

Guest Artists - Many artists visit the art classes and distinguished art professionals are invited to make presentations to fine arts classes. These opportunities greatly enrich the program and provide a forum for interesting dialogue.

MLWGS Music Program

Student participants in the MLWGS music program will:

- develop the ability to read and notate music;
- develop an understanding of music through experiences in singing, playing instruments, and listening;
- create and/or perform compositions that transform student's thoughts and emotions into concrete forms of human musical expression;
- exercise critical-thinking skills by investigating and analyzing all facets of the music discipline;
- demonstrate knowledge of and responsibility for the ethical use of equipment, instruments, methods and technologies;
- demonstrate understanding of the relationship between music, history and culture;
- make connections between music and other fields of knowledge;
- articulate personal aesthetic preferences and apply aesthetic criteria for making artistic choices; and nurture a lifelong appreciation for music as an integral component of an educated, cultured society.

Instrumental Music Program

The Maggie Walker Governor's School instrumental music program enables students to acquire more advanced technical and expressive musical skills and demonstrate a mature level of musicianship. As a participant in the MLWGS instrumental music program, students discuss relationships between musical concepts and the concepts of other disciplines and are involved in exploring various cultures, styles, composers, and historical periods. Students are provided with opportunities to participate in local, district, regional, and state events. Curricular ensembles include Intermediate Band, Advanced Band, Percussion Ensemble, Intermediate Orchestra, Advanced Orchestra, and Artist Orchestra. Extracurricular ensembles include Jazz Combo and Cantante Chamber Strings.

Choral Program

The MLWGS Chorus engages in a diverse choral repertoire with an international perspective. Expressive and interpretive skills are developed through performance of a wide array of musical genres. Students discuss, evaluate, and perform concepts of music theory, music history, and musical style. Performances include a variety of programs at the local and regional level. Students participate in Regional Chorus and other related District I events. Extracurricular ensembles include Deadbeats A Cappella Group.

MLWGS Drama Program

Students in the MLWGS Drama program engage in a variety of curricular and extra-curricular activities. These include developing skills in improvisation, acting, production, designing, and directing. They will explore their role in an ensemble through long-term group work and collaboration with their fellow students. The capstone project of all drama classes is original theatrical productions devised by the students in class, and presented at the annual one-act festival. The Drama program gives students practical experiences which supplement their exposure to classic texts, presentation and public speaking skills, and exploration of the theatrical styles of global cultures.

In addition to the drama class, the student led Drama club offers opportunities to perform in mainstage productions such as the fall play and spring musical.

VISUAL ART AND ART HISTORY COURSES

ART I

Course Number: 7101

Credit: 1

Prerequisite: None

Art I is a comprehensive introduction to art making, art history, and art appreciation for students with little or no prior art experience. This foundational course provides students of all ability levels with the knowledge and skills needed to show personal growth. Experiences with two and three-dimensional art materials and processes are designed to foster skills in craftsmanship, critical thinking, fluency in the formal language of art, and an awareness of cultural, global, and personal themes. Observational drawing is an essential component of the Art I curriculum as it supports the foundation of cognitive and practical learning modalities. Students are encouraged to take advantage of these basic skills in order to tap into their own artistic vision/voice. Fee required.

ART II

Course Number: 7111

Credit: 1

Prerequisite: Art I or teacher approval based on student non-sequential application

Art II allows students to explore art making, art history, and art appreciation in greater depth than in Art I. Observational drawing remains an essential component of the Art II curriculum as it supports the continued development of cognitive and practical learning modalities. Additional two and three-dimensional studio experiences will supplement the basic skills learned in Art I while refining abilities in craftsmanship, critical thinking, fluency in the formal language of art, and an awareness of cultural, global and personal themes. These elevated experiences will allow students to make critical choices as they seek their own artistic vision/voice.

Fee required.

ART III

Course Number: 7121

Credit: 1

Prerequisite: Art II or teacher recommendation

Art III offers the intermediate/advanced art student an opportunity for more extensive explorations of art making, art history, and art appreciation. Observational drawing remains an essential component of the Art III curriculum but a focus on three-dimensional studio experiences will support a well-rounded experience with media and ideas. Students will work to develop actual and virtual portfolios as they further refine abilities in craftsmanship, critical thinking, fluency in the formal language of art, and an awareness of cultural, global and personal themes. These intermediate/advance experiences will allow students to make critical choices as they clarify their own artistic vision/voice, in preparation for advanced study in Art IV. Fee required.

ART IV: INTENSIVE

Course Number: 7143

Credit: 1

Prerequisite: Art III

Guidelines: Teacher recommendation

The advanced student has a variety of studio art experiences in selected areas concentrating on areas of particular individual interest. Each student's experience with media must be well rounded, and include both two and three-dimensional work. Students work toward developing a well-rounded portfolio that fulfills a substantial portion of college portfolio requirements. There is an expectation of additional studio time, outside of class, to complete additional projects. This course may be followed by Art V, in which the student completes the portfolio and exhibits the work in a capstone off-campus group exhibition. Fee required. Additional fees may be required to cover the cost of materials and expenses incurred by a student for special projects. As an intensive level course, it will include a discipline appropriate culminating assessment in the form of participation in the off-campus exhibition.

ART V: INTENSIVE

Course Number: 7152

Credit: 1

Prerequisite: Art IV

Guidelines: Teacher recommendation

In this course, the advanced student has a variety of studio art experiences in selected areas concentrating on areas of particular individual interest. For the student with a strong commitment to studio art, this course encourages the extended

development of a portfolio for possible submission to the AP Program and/or for college submission. There is an expectation of additional studio time, outside of class, to complete additional projects. Art V students will exhibit the work in a capstone off-campus group exhibition as well as in a solo on-campus exhibition. Fee required. Additional fees may be required to cover the cost of materials and expenses incurred by a student for special projects. As an intensive level course, it will include a discipline appropriate culminating assessment in the form of exhibitions.

PHOTOGRAPHY IN THE FINE ARTS

Credit: 1

Course Number: 7750

Guidelines: Good academic standing

Grade: 9-12

The emphasis of this course is on photography to express ideas, concepts or emotions rather than to document a subject. The class is for both students with no experience and those who have taken VCU/Dual and instruction will be differentiated to accommodate the depth of previous work. Students will learn to use different types of analog cameras to create negatives and to use the black and white darkroom to make prints that work as fine art pieces. They will also learn to combine prints with art techniques for mark making, painting, sculpting and, working conceptually.

The class will have two overriding themes to alternate every other year; “Time and Space” and “Truth and Beauty” will provide this conceptual structure and variety for students who may want to repeat this course. Assignments will encourage the students to consider these topics. Learning will take place through shooting and printing demonstrations, looking at the work of historic and contemporary artists, collaboration with other arts organizations, lectures by visiting fine art photographers, and studying related critical theory. The class will make numerous field trips including the annual Fine Arts trip to Washington, DC, local galleries, museums and artists studios. We will also venture off campus for location shooting.

DARKROOM VCU (PHTO 243)

Course Number: 7819

Guidelines: Good academic standing

Grade: 11-12

Dual Enrollment

VCU Credit: 3 semester hours

MLWGS credit: 1

This course is designed to explore the basics in black and white photography. Emphasis is on giving students general information on understanding the photographic process for fine art and personal use. It includes exploration of composition. Students work with light sensitive materials and photographic chemicals. They gain thorough knowledge of the operation of a 35mm camera. The basic history of photography is also covered in this class. Students must provide a 35mm adjustable camera and purchase film, paper and other materials as needed.. Fee required.

COMMERCIAL PHOTOGRAPHY

Course Number: 7851

Credit: 1

Prerequisite: Darkroom VCU or permission of instructor

Guidelines: Teacher recommendation

This is a higher level photography course for students who want to build on the fundamentals gained in Darkroom VCU (Course Number 7819). The course is a studio art class and mixes lecture, demonstration, field trips, shooting and film processing and printing to help the student understand how commercial photography is made and used. Types of assignments include studio lighting, night photography, studio and location portraits, documentary photography, tableau and alternative processes. Portfolio development is also covered. Each semester students are required to create and exhibit a group of images that work together to express a theme or idea. Fee required.

ELEMENTS OF THE MOVING IMAGE VCU (PHTO 233) “Film Studies”

Course Number: 7751

Guidelines: Good academic standing

Grade: 11-12

Dual Enrollment

VCU Credit: 4 Semester Hours

MLWGS Credit: 1

This film studies course examines the impact feature films have on our culture and their relationship to modern society. It includes the exploration of how motion pictures are constructed from the screenplay to the screening. Students watch films and dissect them to study their every nuance using a Visual Literacy framework. Emphasis is on the elements of filmmaking including directing, acting, writing, cinematography, editing, set design, art direction, production design, costuming, and music scoring. Students are required to write and submit responses to the films screened as well as take a final cumulative exam.

TOPICS IN DIGITAL ARTS

Course Number: 7900

Credit: 1

Prerequisite: None

In this course, students work with the latest computer technology as it relates to art and design in the digital age. This will consist of topic courses which will change yearly based on teacher expertise, student interest, and rapidly changing technology. Topics may include New Media Art, Graphic Design, and digital collaboration in politics and government. This course offers the opportunity for students to learn and create artwork using technology as the medium and allows our students to become proficient in the skills needed for the wired 21st century. Instruction focuses on thematic project-based learning activities and related to authentic “real-world” situations which will drive the coursework. Technology serves as the tool for student generated content. This broad and flexible focus will allow for speed in addressing the fast- changing uses of technology as well as being able to support the mission of the school by addressing the emerging application of digital communication and media in government, politics, and international affairs. The curriculum in Graphic Design and New Media in the Fine Arts will be taught under this course title through alternating school years to offer two consecutive courses of Topics in Digital Arts. Fee required.

TOPICS IN ART HISTORY

Course Number: TBA

Credit: 1

Prerequisite: None

This Fine Arts course is an introduction to the history and methodologies of global art history through the development of painting, sculpture, architecture, and related visual arts of major world cultures. The course is made up of lectures, class discussions, and field trips to places such as the Virginia Museum of Fine Arts, the National Gallery of Art, and Anderson Gallery (VCU). While learning to analyze works of art visually and thematically, students will also explore the changing functions of artworks, and the changing role of the artist throughout selected periods in history. Stylistic development will be explored in relation to the social, cultural, and political contexts in which the works were created. The class will have multiple themes each year depending on student interest. Examples of possible topics include Survey of World Art, Art of the Italian Renaissance, American Art History, Egyptian Art and Architecture, Women in the Visual Arts, 19th and 20th Century Art, and Issues in Contemporary Art.

MUSIC COURSES

INTERMEDIATE ORCHESTRA

Course Number: 7401

Credit: 1

Grade: 9th - 12th

Prerequisites: Middle School orchestra experience; beginners are welcome to join.

Intermediate Orchestra enables students to continue to develop musicianship and music literacy. Students use more articulations and bowings, perform scales and music in a wider range of keys, and perform music at Grade Levels 2–4 of the Virginia Band and Orchestra Directors Association (VBODA). Ensemble skills become more developed as students participate in intermediate-level ensemble settings. Through playing, improvising, and writing, students create melodic and rhythmic variations. Students compare and contrast career options in music. They describe musical concepts, respond to music, investigate music's relationship to other disciplines, and analyze various cultures, musical styles, composers, and historical periods. Students are provided with opportunities to participate in local, district, regional, and state events. Attendance at scheduled rehearsals and performances both in and out-of-school are mandatory. Fee required.

ADVANCED ORCHESTRA

Course Number: 7411

Credit: 1

Prerequisite: Completion of Intermediate Orchestra or with instructor approval

Grade: 9th - 12th

Advanced Orchestra enables students to acquire more advanced technical and expressive skills and demonstrate a mature level of musicianship. Students demonstrate a variety of articulations, bowings, positions, alternate fingerings, and vibrato while playing the required scales, arpeggios, and rudiments in more complex rhythmic patterns. Through playing, improvising, and writing, students create expressive rhythmic and melodic variations. Students research career options in music. They perform music at Grade Levels 4 and 5 of the Virginia Band and Orchestra Directors Association (VBODA). Students discuss and evaluate characteristics of personal performances and compositions, as well as the works of others. They discuss relationships between musical concepts and the concepts of other disciplines, and they are involved in exploring various cultures, styles, composers, and historical periods. Students are provided with opportunities to participate in local, district, regional, and state events. Attendance at scheduled rehearsals and performances both in and out-of-school are mandatory. Freshmen may audition into this class if they are able to play most 3-octave Major scales. Fee required.

ARTIST ORCHESTRA

Course Number: 7441

Credit: 1

Prerequisites: By audition only. Details and deadlines will be provided by the MLWGS orchestra director.

Grade: 10th - 12th

Artist Orchestra enables students to acquire technical and expressive skills at an artist's level of musicianship. Through playing, improvising, and writing, students create expressive rhythmic and melodic variations. Students research career options in music. They perform music at Grade Levels 5 and 6 of the Virginia Band and Orchestra Directors Association (VBODA). Students discuss and critically evaluate characteristics of personal performances and compositions, as well as those of others. They discuss, analyze, and research relationships between musical concepts and those of other disciplines and are involved in researching various cultures, styles, composers, and historical periods. Students are provided with opportunities to participate in local, district, regional, and state events. Attendance at scheduled rehearsals and performances both in and out-of-school are mandatory. Fee required.

ARTIST ORCHESTRA : INTENSIVE

Course Number: 7445

Credit: 1

Prerequisites: By audition only. Details and deadlines will be provided by the MLWGS orchestra director.

Guidelines: These intensive courses are meant to be a capstone experience. Therefore, this label is intended for only upperclassmen. For repeating courses, like Artist Orchestra, the intensive label can only be applied to the final year of study.

Grade: 12 Intensive Artist Orchestra will meet concurrently with Artist Orchestra

Artist Orchestra enables students to acquire technical and expressive skills at an artist's level of musicianship. Through playing, improvising, and writing, students create expressive rhythmic and melodic variations. Students research career options in music. They perform music at Solo Literature Grade Levels 5 and 6 of the Virginia Band and Orchestra Directors Association (VBODA). Students discuss and critically evaluate characteristics of personal performances and compositions, as well as those of others. They discuss, analyze, and research relationships between musical concepts and those of other

disciplines and are involved in researching various cultures, styles, composers, and historical periods. Students are provided with opportunities to participate in local, district, regional, and state events. Attendance at scheduled rehearsals and performances both in and out-of-school are mandatory. As an intensive level course, it will include a discipline appropriate culminating assessment. Fee required.

Intensive Artist Orchestra requires students to complete all work associated with Artist Orchestra Coursework. In addition to the Artist Orchestra requirements, students in Artist Orchestra: Intensive must complete a capstone project and fulfill at least three of the following requirements:

- Take weekly private lessons
- Tutor a(n) Intermediate Orchestra student(s) OR Music Orchard Student on a weekly basis
- Perform all 3-octave 12 major scales for scale tests
- Audition for and participate in Regionals AND All-Virginia Orchestra (if eligible)
- Perform a grade 5 or 6 solo for a playing quiz
- Participate in a full season with a community ensemble:
 - Richmond Symphony Youth Orchestra
 - Youth Concert Orchestra
 - Camerata Strings

INTERMEDIATE BAND

Course Number: 7421

Credit: 1

Prerequisites: Previous band experience; approval of instructor

Grades: 9-12

Intermediate Band is a performance ensemble that rehearses, performs, and explores the history and cultural relationships found in the concert and jazz traditions, including Classical, Blues, Big Band, Swing, Bebop, Latin, and Contemporary styles. All incoming freshmen begin by taking intermediate band. Emphasis is on ear training, listening, analysis, notation, transposition, technique, improvisation, and musical interpretation. Attendance at scheduled rehearsals and performances both in and out-of-school are mandatory. Fee required.

ADVANCED BAND

Course Number: 7451

Credit: 1

Prerequisites: Intermediate Band in good standing; approval of instructor by audition.

Grade: 10-12

Advanced Band is a performance ensemble that rehearses, performs, and explores the history and cultural relationships found in more elaborate musical literature of the concert and jazz traditions, including Classical, Blues, Big Band, Swing, Bebop, Latin, and Contemporary styles. Emphasis is on ear training, listening, analysis, notation, transposition, technique, improvisation, and musical interpretation. Attendance at scheduled rehearsals and performances both in and out-of-school are mandatory. Fee required.

ADVANCED BAND: INTENSIVE

Course Number: 7453

Credit: 1

Prerequisites: Intermediate Band in good standing; approval of instructor by audition.

Guidelines: These intensive courses are meant to be a capstone experience. Therefore, this label is intended for only upperclassmen. For repeating courses, like Artist Orchestra, the intensive label can only be applied to the final year of study.

Grade: 11-12

This course meets concurrently with Advanced Band. The Advanced Band is a Performance ensemble that rehearses, performs, and explores the history and cultural relationships found in more elaborate musical literature of the concert and jazz traditions, including Classical, Blues, Big Band, Swing, Bebop, Latin, and Contemporary styles. Emphasis is on ear training, listening, analysis, notation, transposition, technique, improvisation, and musical interpretation. Attendance at scheduled rehearsals and performances both in and out-of-school are mandatory. As an intensive level course, it will include a discipline appropriate culminating assessment. Fee required.

Intensive Advanced Band requires students to complete all work associated with Advanced Band Coursework. In addition to the Advanced Band requirements, students in Intensive Advanced Band must complete a capstone project and fulfill at least three of the following requirements:

- Take weekly private lessons
- Tutor a(n) Intermediate Band student(s) OR Music Orchard Student on a weekly basis
- Perform all 12 major scales for scale tests AND full chromatic range at district tempos for playing tests
- Audition for and participate in District Band AND All-Virginia Band (if eligible)
- Perform a grade 6 solo for at least two choice board assignments
- Participate in a full season with a community ensemble:
 - Richmond Youth Symphony Orchestra
 - Greater Richmond Youth Wind Ensemble
 - Greater Richmond High School Jazz Band

PERCUSSION ENSEMBLE

Course Number: 7462

Credit: 1

Grades: 9-12

Prerequisite: NA

Percussion Ensemble is for percussionists who have had previous band experience or students who are interested in learning to play percussion instruments and are interested in further developing their ability in the percussive arts. Emphasis is placed on the fundamentals of comprehensive percussion performance (snare drum, timpani, keyboards, marching percussion, drum set and world percussion), including tonal concepts, technical skills, rehearsal skills, aural skills, and rudimentary music theory. In addition to several formal concerts, members are required to perform for various school/community performances, and sectional rehearsals. Attendance at these functions when scheduled outside of school hours is a course requirement. Members of the Percussion Ensemble combine with musicians of the Bands and Orchestras to perform at quarterly concerts. In addition, members of the Percussion Ensemble have the opportunity to participate in a variety of co-curricular music ensembles and activities. Fee required.

PERCUSSION ENSEMBLE: INTENSIVE

Course Number: 7465

Credit: 1

Prerequisites: At least one year of percussion ensemble in good standing; approval of instructor by audition.

Guidelines: These intensive courses are meant to be a capstone experience. Therefore, this label is intended for only upperclassmen. For repeating courses, like Artist Orchestra, Advanced Band, or Percussion Ensemble, the intensive label can only be applied to the final year of study.

Grade: 12

This course meets concurrently with Percussion Ensemble. Emphasis is placed on the fundamentals of comprehensive percussion performance (snare drum, timpani, keyboards, marching percussion, drum set and world percussion), including tonal concepts, technical skills, rehearsal skills, aural skills, and rudimentary music theory. In addition to several formal concerts, members are required to perform for various school/community performances, and sectional rehearsals. Attendance at these functions when scheduled outside of school hours is a course requirement and will be communicated via the syllabus, Schoology announcements, and parent emails. Members of the Percussion Ensemble combine with musicians of the Bands and Orchestras to perform at quarterly concerts. In addition, members of the Percussion Ensemble have the opportunity to participate in a variety of co-curricular music ensembles and activities. As an intensive level course, it will include a discipline appropriate culminating assessment and additional quarterly requirements. Fee required.

CHORUS

Course Number: 7351

Credit: 1

Guidelines: Music reading skills are encouraged, but not required

Grades: 9-12

This is a choral class and performance organization, which offers students opportunities to develop their musical talents through performing many styles of vocal/choral music, as well as through vocal production, music theory and music appreciation. Music literature is selected from varied Western and non-western cultures, languages, and time periods. Chorus trains students to use these acquired skills through participation in the classroom and performance opportunities both in and

out of school. Although the primary purpose of the organization is choral singing, students who bring prior experience in playing an instrument, especially the piano, will find opportunities to contribute in additional ways. Students are also encouraged to audition for district and state choral events. Fee required towards purchase of sheet music.

CHORUS: INTENSIVE

Course Number: 7353

Credit: 1

Prerequisites: approval of instructor and multiple years of participation in chorus classes.

Guidelines: These intensive courses are meant to be a capstone experience. Therefore, this label is intended for only upperclassmen. For repeating courses, the intensive label can only be applied to the final year of study.

Grades: 12

This course meets concurrently with the Chorus class.

Intensive Chorus class requires students to complete all of the work associated with Chorus class coursework. In addition to the Chorus class requirements, students in the Intensive Chorus class must complete a capstone project and fulfill at least three of the following requirements:

- Take weekly private lessons
- Tutor another Chorus student or middle school student on a weekly basis
- Audition and participate in District Chorus AND All Virginia Chorus (if selected)
- Perform a scale and sightreading test.
- Volunteer in a music classroom at least 25 hours

ADVANCED PLACEMENT MUSIC THEORY

Course Number: 7302

Credit: 1

Guidelines: Good academic standing; teacher recommendation

Grade: 10-12

The goal of the AP Music Theory course is to develop the student's ability to recognize, understand, and describe the basic materials and processes of music that are heard or presented in a score. Emphasis is on melodic and harmonic writing, ear training, and analysis. Students will practice sight-reading, transcription, composition, music analysis, and dictation through aural, performance, written, creative and analytical exercises. This class is designed for students interested in an advanced understanding of music *or* a career in music.

MUSIC APPRECIATION

Course Number: 7311

Credit: 1

Prerequisite: None

This course seeks to expand the understanding of American and world musical culture as a rich and varied tapestry that can be enjoyed by everyone. Diversity and change are two themes that seem to emerge whenever a discussion of our modern culture occurs. The social, political, and economic interactions are not only reflected in the world of business and government, but they are at the very core of the cultural and aesthetic expressions coming from the people. Contributions of major artists and composers and their influence on global music are examined. Following themes of diversity and change, possible topics include comparing ethnic and non-western music to more traditional music of the European experience throughout the Western Hemisphere, and examining music in the United States, the cultural history of the times, and connections between jazz, blues, country, rock, Motown, hip-hop and other styles. Additional discussions also include women composers, American composers, film and Broadway music genres and the future of music in the digital age.

THEATRE COURSES

DRAMA

Course Number: 7601

Credit: 1

Guidelines: Some prior knowledge of theatre arts encouraged, but not required.

Grades: 9-12

Prerequisite: None

This course examines the fundamentals of varied elements within theatre arts including: movement, acting, costuming, make-up, technical production, set design, theater history, playwriting, structure of theater companies, careers in theater, and auditioning. Class projects require collaborative group work, the development of ensemble skills, creative problem solving, presentation of prepared material, exploration of various dramatic elements and styles. Students will learn through practical sessions, alongside reflective tasks that encourage introspection and their development as more aware performers and people.

ADVANCED DRAMA

Course Number: 7651

Credit: 1

Grades: 10-12

Guidelines: An advanced class building directly on Drama 1. Designed to be taken over multiple years. Opportunity will be given to more experienced students to take on more responsibility and leadership.

Prerequisite: Drama

This course advances the exploration of varied elements within theatre arts including movement, acting, costuming, make-up, technical production, set design, theater history and playwriting. In advanced drama, all work is more autonomous, as class projects require extended collaboration, the refining of ensemble skills, creative problem solving, public presentation of prepared material, exploration, and application of various dramatic elements and styles. Students will learn through practical sessions, alongside reflective tasks that encourage introspection and their development as more aware performers and people.