PWCS

PRINCE WILLIAM COUNTY PUBLIC SCHOOLS

LAUNCHING THRIVING FUTURES

# HIGH SCHOOL COURSE CATALOG 2026-27

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# Your Future Starts Here!

Dear High School Student,

We are committed to your thriving future at Prince William County Public Schools (PWCS). This includes choosing a meaningful postsecondary path to pave the way for future study and employment. With a clear focus on your learning, we provide you with rich and engaging experiences to help you to make these decisions. New courses have been developed to provide you with opportunities to explore a variety of career areas. Options are available with the potential to earn college credits through increased Advanced Placement (AP), International Baccalaureate (IB), Cambridge, and dual enrollment (DE) offerings. We have created an environment where you will learn about your strengths, how these personal strengths connect with career opportunities, and what preparation is needed to successfully transition to the world beyond high school and **your vision for a thriving future**.

The 2026-27 High School Course Catalog provides you and your family members with information about available courses, support services, and serves as a resource to you throughout the school year. Use this tool to start meaningful conversations with your parents and guardians, siblings, and other trusted adults who walk alongside you during this journey.

Our PWCS school counselors, college and career counselors, teachers, and administrators will work with you to ensure your continued success in meeting graduation requirements and to be certain that your 2026-27 academic program meets your interests and needs. **Your thriving future starts here.** Embrace every opportunity presented to ensure that you will graduate on time with the knowledge, skills, and habits of mind necessary to create a thriving future for yourself and your community.

# Tools for Your Journey

## Make the Most of Your High School Experience

Making the transition to high school is an exciting and challenging time for students and their families. There are many options to choose from and a number of requirements to meet. In Prince William County Public Schools, we believe that all students should have a rigorous educational experience based on curriculum that builds on what students have

learned at home, in our community, and at school. The high school experience is designed to prepare students for future employment, further study at the college and university level, and to be effective citizens in our local, national, and global community. It consists of high-quality diploma options, a wide choice of specialty programs, core required coursework, an array of elective offerings, and nontraditional options for earning credits. While academic programs form the core of our high school program, it is also important to take advantage of the many opportunities to participate in the rich extracurricular programs at all our high schools.

## Where Do I Start?

Select the **diploma type** you wish to earn. Students entering the 9th grade are strongly encouraged to consider the Advanced Studies Diploma option to maintain the greatest number of options as they progress through their high school career. School counseling services provide regular opportunities for families to evaluate student progress toward diploma requirements and to make adjustments to the type of diploma selected. All PWCS high schools provide diplomas and certificates to meet the needs of students with different interests and needs.

The purpose of this course description catalog is to describe in general terms the courses taught in Prince William County Public Schools high schools, grades 9-12. Students should study this course catalog and consult with their parent/guardian, school counselors, and teachers in planning their individual program of study. It is the responsibility of each student and his/her family to ensure that requirements for an Advanced Studies Diploma or a Standard Diploma are met. Graduation requirements are based on the year a student first enters 9th grade. School counselors can help with planning by reviewing test scores and records of past achievements and by discussing current interests and long-term goals. School counselors also have up-to-date information available about various training programs, schools, colleges, universities, and employment possibilities. School counselors review graduation requirements with students annually, and the school counseling staff at each school is available to assist you. Please work closely with your school counselor in making academic planning decisions.

## Academic Year

The state requires that the regular academic year is at least 180 days, divided into two semesters. Courses are generally one year in length, and students receive a final grade and one standard unit of credit at the end of the school year for each course successfully completed. Some courses; however, are individually designed for one semester only. A one-semester course receives one-half credit, upon successful completion.

## Course Selection

The course selection process in high school is a highly personal task and should be based on the student's aptitude and interests, teacher recommendations, and close collaboration among school, student, and parent/guardian.

Courses listed will be included in the curriculum for the 2025-26 school year if there is sufficient enrollment and available staff. Grade levels listed for courses indicate the grade(s) in which the course is normally taken. All students will be expected to maintain a full-day schedule of classes required to meet the minimum standards necessary for graduation and Virginia Board of Education regulations.

All courses described may not be offered at all schools due to staffing and/or enrollment limitations. School counselors will work very closely with students and parents/guardians to develop academic plans where appropriate substitutions can be made for courses not offered.

When selecting courses for the upcoming school year, students and parents/guardians should choose carefully. The courses selected should be based on the student's ability, past record of academic achievement, interest in the subject, career goal(s), and teacher recommendations. The pursuit of a course of studies leading to entrance into college may include those courses not directly related to college entrance. Visual and Performing Arts (dance, music, theatre, or visual arts) and Career and Technical Education courses offer students the opportunity to explore new areas of study as well as to gain knowledge and skills that may likely prove useful to them in whatever career they choose.

Through careful course selection and close cooperation between the student and the school counselor, a student will be able to pursue their chosen pathway and still have time for other course offerings without excluding any area of study.

This catalog includes a listing of courses taught in Prince William County Public Schools high schools. Not all courses are taught in every high school. Course offerings are contingent on sufficient student interest. This may result in some courses not being available in certain schools even though they are listed for those schools.

A student desiring to take a course offered at a school other than his/her assigned school should contact his/her school counselor for details.

## Driver Education

The classroom driver education course is offered as part of the 10th grade health education curriculum in all high schools. When students successfully complete the classroom phase and have secured a learner's permit, they then may take behind-the-wheel driver instruction. Behind-the-wheel driver instruction in Prince William County Public Schools is offered after school and during the summer. There is a fee for behind-the-wheel driver instruction.

## Placement/Promotion Procedure

Recommendations concerning instructional placement of students are the responsibility of the teacher and other professional staff directly involved with the students. The final decision concerning placement, however, rests with the principal. Promotion at the high school level is based on the following guidelines:

- Students who are promoted from grade 8 will be placed in grade 9.
- Students in high school progress toward graduation on a course-by-course basis. Students take courses based upon academic performance, academic needs, graduation requirements, and previous credits earned.
- Graduation requirements for students shall be those in effect at the time the student entered the 9th grade for the first time.

**Grade Placement**

The requirements for membership in grades 9-12 are as follows:

- **9th Grade**: Successful completion of grade eight.
- **10th Grade**: Five units of credit, three of which must be in required courses.
- **11th Grade**: Eleven units of credit, six of which must be in required courses.
- **12th Grade**: Sixteen units of credit, nine of which must be in required courses.

To be classified as a 12th grader, a student must be in a program of studies which will enable the student to acquire the minimum number of standard units of credit and verified units of credit required for graduation by June of the senior year or by the end of summer school following the senior year. All alternative programs require the approval of the principal of the high school from which the student will graduate.

## Course Requirements

All students, regardless of the diploma type or specialty program selected, will have to complete a set of required classes in English language arts, history and social science, mathematics, physical education, science, and other subjects. The Standard and Advanced Studies Diploma Charts are designed to help students see what required courses must be completed for each diploma type. Some specialty programs offer courses which may be substituted for required classes. Students and their families need to work closely with their school counselor to explore their available course options.

## Specialty Programs

Specialty programs allow for career exploration, subject area concentration, and college/university preparation. Prince William County Public Schools provide excellent opportunities for students to explore a wide variety of special programs. These "specialty" programs give students the chance to investigate careers ranging from the various building trades to advanced computer science. Students participating in these programs can earn certifications, licenses, or other professional credentials in an area of study.

In addition to career exploration and concentrated study in fields of interest, all our high schools provide rigorous college preparation through the College Board's Advanced Placement (AP) courses, IB, Programme, or Cambridge

Programme (AICE). All three of these programs offer students the possibility of earning college credit for courses completed while in high school. There are also dual enrollment and College and Career Ready Virginia (CCRV) courses available to students in PWCS.

Families can explore the wide range of options available in their neighborhood high school program or consider one of the many options presented at our information nights held annually across the county. You can contact the counseling office of any high school for more information about programs of particular interest to you. Learn more about PWCS specialty programs to make the best choice.

### Electives

In addition to the core course requirements and specialty programs, all PWCS high schools offer elective course options which extend and enrich the curriculum, and challenge students. Students may choose these electives to customize their educational experience to meet their interests. Some examples are: advanced physical education, astronomy, fine and performing arts, geography, journalism, international relations, theatre, and many more. Speak with your school counselor to learn about the offerings available at your school.

### Why Should I Take Advanced Courses During High School?

**College Admissions**

- **Schedule Strength Matters**: Colleges want to see students challenge themselves to the best of their ability.
- **Preparation for College**: Many students find their college course work to be easier after taking a challenging high school curriculum.
- **Preparation for College Entrance Exams (i.e., SAT, ACT)**: Challenging coursework prepares you to perform at high levels on these tests.

**Challenge Yourself**

- **Rigor is Best**: Most colleges want to see students take English, history and social science, math, science, and a world language each year of high school.
- **Lifelong Payoff**: Students who take rigorous courses during high school often do better in college and in turn are able to secure more stable employment.

**Start a College Transcript**

- **Dual Enrollment**: Students start a college transcript in high school when they take an approved dual enrollment course.
- **Head Start**: Students who take college courses, at low or no cost during high school, can save money on college tuition and are more likely to graduate college early or on time.

**Balance is Best!**

Students should make sure to leave plenty of time to participate in extracurricular activities both at school and in the community.

# Graduation Requirements and Your Diploma

The Virginia Board of Education sets forth requirements for students associated with the year the student entered 9th grade for the first time. Students will meet with their school counselor each year to update their Academic and Career Plan (ACP) and diploma type. Prince William County Public Schools Regulation 662-1B, "Graduation Requirements," states that a student must complete all requirements for graduation prior to participation in the graduation ceremony to include earning the required number of standard and verified credits based on the diploma type.

### Standard Diploma

**22 Standard Credits, 5** Verified Credits: Students who enter 9th grade in 2018-19 and beyond

| Course | Credits | Verified Credits | Notes |
|---|---|---|---|
| **English** | 4 | 2 | Courses shall include English 9, 10, 11, and 12, or an advanced equivalent. |

| | Course | Credits | Verified Credits | Notes |
|---|---|---|---|---|
| ☐ | **Math** | 3 | 1 | Courses shall include at least two different course selections from among Algebra 1, Geometry, Algebra Functions and Data Analysis, Algebra 2, or other mathematics courses approved by the board to satisfy this requirement. AP Computer Science A or IB Computer Science course credit earned by students may be considered a mathematics course credit. |
| ☐ | **Science** | 3 | 1 | Courses completed to satisfy this requirement shall include course selection from at least two different Science disciplines: Earth Sciences, Biology, Chemistry, or Physics, or completion of the sequence of Science courses required for the International Baccalaureate Diploma and shall include interdisciplinary courses that incorporate Standards of Learning (SOL) content from multiple academic areas. |
| ☐ | **History and Social Science** | 3 | 1 | Courses shall include U.S. and Virginia History, U.S. and Virginia Government, and one of the following: World History to 1500 and World History from 1500. |
| ☐ | **Health and Physical Education** | 2 | | Courses shall include Health and Physical Education 1 and 2.<br><br>Students who participate in the JROTC program have the option of an alternate health and physical education sequence.<br><br>**First Aid, CPR, and AED Training**<br>*Students will meet the First Aid, CPR, and AED Training requirement while enrolled in Health and Physical Education 1 in Prince William County Public Schools. |
| ☐ | **Economics/ Personal Finance** *(Virtual course component included)* | 1 | | Students will meet the virtual course graduation requirement after taking and passing this or an approved equivalent course in Prince William County Public Schools. |
| ☐ | **Electives** | 6 | | Students can satisfy the sequential elective requirement with any two credits that demonstrate a progression in the study of a specific field (not two introductory courses) from any discipline.<br><br>The two sequential electives may be in any discipline as long as the courses are not specifically required for graduation in 8VAC20-131-51 of the standards. Students may take the focused sequence of elective courses in consecutive years or any two years of high school.<br><br>In addition to the two required sequential elective credits, students will need to satisfy the CTE/Visual and Performing Arts/World Language requirement by taking any of the following combinations:<br><br>• One CTE credit and one Visual and Performing Arts credit.<br>• One CTE credit and one World Language credit.<br>• One Visual and Performing Arts credit and one World Language credit.<br>• Two CTE credits.<br>• Two Visual and Performing Arts credits. |
| ☐ | **Other Requirements** | | | **CTE Credentialing Exam**: Students must take and pass a Career and Technical Education credentialing exam that has been approved by the Virginia Board of Education<br><br>**Or**<br><br>**Take one advanced course during their high school career.** An advanced course can be defined as any AP/Advanced, IB/Pre-IB, AICE/IGSCE course, or dual enrollment.<br><br>**Or**<br><br>**Participate in a High-Quality Work-Based Learning experience** as defined by the Virginia Department of Education. |

## Advanced Studies Diploma

**26 Standard Credits, 5 Verified Credits**: Students who enter 9th grade in 2018-19 and beyond

| | Course | Credits | Verified Credits | Notes |
|---|---|---|---|---|
| ☐ | **English** | 4 | 2 | Courses shall include English 9, 10, 11, and 12, or an advanced equivalent. |
| ☐ | **Math** | 4 | 1 | Courses shall include at least three different course selections from among Algebra 1, Geometry, Algebra 2, or other mathematics courses above the level of Algebra 2. AP Computer Science A or IB Computer Science course credit earned by students may be considered a mathematics course credit. |

| | Course | Credits | Verified Credits | Notes |
|---|---|---|---|---|
| ☐ | **Science** | 4 | 1 | Courses completed to satisfy this requirement shall include course selections from at least three different Science disciplines from among: Earth Sciences, Biology, Chemistry, or Physics or completion of the sequence of Science courses required for the International Baccalaureate Diploma and shall include interdisciplinary courses that incorporate Standards of Learning (SOL) content from multiple academic areas. |
| ☐ | **History and Social Science** | 4 | 1 | Courses shall include U.S. and Virginia History, U.S. and Virginia Government, and both World History to 1500 and World History from 1500. World Geography may be accepted as one of the required World History courses for transfer students. |
| ☐ | **World Language** | 3 or 4 | | Students can satisfy the World Language requirement for the Advanced Diploma with either three years of one language or two years each of two languages. |
| ☐ | **Health and Physical Education** | 2 | | Courses shall include Health and Physical Education 1 and 2.<br><br>Students who participate in the JROTC program have the option of an alternate health and physical education sequence.<br><br>**First Aid, CPR, and AED Training**<br>*Students will meet the First Aid, CPR, and AED Training requirement while enrolled in Health and Physical Education 1 in Prince William County Public Schools. |
| ☐ | **Economics/ Personal Finance** *(Virtual course component included)* | 1 | | Students will meet the virtual course graduation requirement after taking and passing this course or an approved equivalent course in Prince William County Public Schools. |
| ☐ | **Electives** | 3 or 4 | | Students can satisfy the sequential elective requirement with any two of the three required elective credits that demonstrate a progression in the study of a specific field (not two introductory courses) from any discipline.<br><br>The two sequential electives may be in any discipline as long as the courses are not specifically required for graduation in 8VAC20-131-51 of the standards. Students may take the focused sequence of elective courses in consecutive years or any two years of high school.<br><br>Students can satisfy the World Language requirement for the Advanced Diploma with either three years of one language or two years each of two languages.<br><br>If using World Language courses to meet both the sequential elective requirement and the World Language graduation requirement for an Advanced Studies diploma, students would need a total of five credits in World Language; either five credits of the same language, or (if taking two different languages) two credits of one language and three credits of another language. |
| ☐ | **Other Requirements** | | | **CTE Credentialing Exam**: Students must take and pass a Career and Technical Education credentialing exam that has been approved by the Virginia Board of Education<br><br>**Or**<br><br>**Take one advanced course during their high school career.** An advanced course can be defined as any **AP**/Advanced, **IB**/Pre-IB, **AICE**/IGSCE course, or **dual enrollment**.<br><br>**Or**<br><br>**Participate in a High-Quality Work-Based Learning experience** as defined by the Virginia Department of Education. |

## Sequential Elective Information

## Graduation Information for Students with an Individualized Education Plan (IEP) or 504 Plan

Students with disabilities who have an IEP or 504 plan are encouraged to pursue the Advanced Studies or Standard Diploma. The IEP or 504 team will work with students and their families to determine the appropriate individual path to graduation for the student.

### Credit Accommodations

Students are eligible to pursue an Advanced Studies Diploma, Standard Diploma, or Applied Studies Diploma. Students may use credit accommodations to earn the Standard Diploma if they meet the following eligibility requirements:

1. The student has a current IEP or 504 plan with standards-based content goals;
2. The student has a disability that precludes him or her from achieving and progressing commensurate with grade level expectation, but is learning grade level content;
3. The student needs significant instructional supports to access grade level Standards of Learning (SOL) content and to show progress; and
4. Based on multiple objective measures of past performance, student might not be expected to achieve the required standard and verified units of credit within the standard time frame.

Credit accommodations shall be determined and documented by the student's IEP team or 504 plan committee, including the student where appropriate, at any point after the student's eighth grade year.

**Applied Studies Diploma (For Students With An IEP)**

Students with disabilities who complete the requirements of their Individualized Education Program (IEP) and do not meet the requirements for other diplomas shall be awarded the Applied Studies Diploma.

**Transition Services (For Students With An IEP)**

Realizing successful postsecondary outcomes is a goal PWCS has for all students. Depending on the severity of disability and the support services required in adult life, successful transition from high school to adult life may require that planning activities begin in elementary school with students exploring their interests in middle school. Starting the process early prepares students with disabilities to think about what they want to be able to do in adult life. High school transition planning includes exploring postsecondary opportunities and employment options and may include connecting with the adult service agencies that may provide the student with services.

Statement Of Needed Transition Services - Beginning No Later Than The First IEP Developed When The Eligible Student Is 14

Recognizing the need for students with disabilities to engage in effective transition planning, the Individuals with Disabilities Education Act (IDEA) requires that transition planning be part of the Individualized Education Program (IEP). Beginning no later than the first IEP developed when the eligible student is 14, the Team considers the student's need for transition services and documents this discussion. If appropriate, the IEP includes a statement of needed transition services. Such documentation must be reviewed and updated annually thereafter. Students must be invited to all meetings and allowed to participate actively when transition planning is discussed and are encouraged to actively participate.

Linkages To Post School Options - Beginning No Later Than The First IEP Developed When The Eligible Student Is 14 And Update Annually

Beginning no later than the first IEP developed when the eligible student is 14, the IEPs of students should include a post school vision statement as well as identify the transition services necessary to support the vision. IDEA defines transition services as a coordinated set of activities for a student with a disability that:

A. Is designed to be within a results-oriented process, that is focused on improving the academic and functional achievement of the student with a disability to facilitate the student's movement from school to post-school activities, including postsecondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation;
B. Is based on individual strengths, preferences and interest; and
C. Includes instruction, related services, community experiences, the development of employment and other post-school adult living objectives, and when appropriate, acquisition of daily living skills and functional vocational evaluation. (P.L. 108-446, Sec 603 (34))

## Transfer Students

Students who transfer to Prince William County Public Schools from a public school system within the state of Virginia must meet all graduation requirements set forth by the Virginia Department of Education. Students who transfer to Prince William County Public Schools from a private or out-of-state school will work with their school counselor to make an individualized graduation plan that allows the student some flexibility in meeting graduation requirements as set forth by the Virginia Department of Education. Students who enroll during the school year after the first 20 hours of instruction will be required to meet the following verified unit of credit requirements for graduation:

Students entering 9th grade for the first time during 2018-19 and beyond, Standard or Advanced Studies Diploma.

| | Year Entering | Verified Credits Required |
|---|---|---|
| ☐ | Beginning of or during 9th grade | Student must obtain all five required verified units of credit |
| ☐ | Beginning of or during 10th grade | Student must obtain all five required verified units of credit |
| ☐ | Beginning of 11th grade | Student must obtain all five required verified units of credit |
| ☐ | During 11th grade | Student must obtain two verified units<br>• One in English<br>• One student selected*<br>*One must be earned in mathematics if participation in mathematics testing is required by federal law. |
| ☐ | Beginning of 12th grade | Student must obtain two verified units<br>• One in English<br>• One student selected*<br>*One must be earned in mathematics if participation in mathematics testing is required by federal law. |
| ☐ | During 12th grade | Student may apply for a waiver of verified units with the Virginia Board of Education. |

Students transferring with weighted credits from other school districts will have those credits assessed and aligned with similar courses in PWCS. Students may also be granted additional flexibility in meeting some of the course requirements for graduation as outlined in the Virginia Standards of Accreditation. Any student or parent with questions about graduation requirements for transfer students should consult with their assigned school counselor. Students whose parents are active duty military may receive additional flexibility as outlined in the Interstate Compact on Educational Opportunity for Military Children. Information for transfer students is available in each school counseling office.

## Diploma Warranty

Prince William County Public Schools provides a two-year warranty for diploma recipients. The diploma warranty guarantees minimum competencies in mathematics, reading, and writing. Students receiving a diploma from Prince William County Public Schools:

- Understand, interpret, and analyze written material;
- Carry out oral and written directions or obtain clarification when necessary;
- Express ideas both orally and in writing, using appropriate vocabulary and proper grammar;
- Locate and obtain needed information from common reference materials, computerized databases, maps and diagrams, and resource people;
- Apply basic computation skills; and
- Use problem-solving strategies in the work environment.

Prince William County Public Schools graduates who are identified by employers as lacking one or more of these minimum competencies may be retrained through Prince William County Public Schools' Evening School program at no expense to the graduate.

## Diploma Seals

Students meeting specific requirements for graduation and demonstrating exemplary performance may receive diploma seals for recognition. Section 8VAC20-131-51 of the Standards of Accreditation establishes the requirements for diploma seals. The Virginia Department of Education provides the following seals to local school divisions.

### Board of Education Seal

The Board of Education Seal is awarded to students who complete the requirements for a Standard Diploma or Advanced Studies Diploma with an average grade of "A".

### Career and Technical Education Seal

The Board of Education's Career & Technical Education Seal is awarded to students who:

- Earn a Standard or Advanced Studies Diploma and complete a prescribed sequence of courses in a career and technical education concentration or specialization that they choose and maintain a "B" or better average in those courses
- Or pass an examination or an occupational competency assessment in a career and technical education concentration or specialization that confers certification or occupational competency credential from a recognized industry, trade or professional association
- Or acquire a professional license in that career and technical education field from the Commonwealth of Virginia.

The Board of Education shall approve all professional licenses and examinations used to satisfy these requirements. Visit The Path to Industry Certification for the current approved licenses and examinations.

**Governor's Seal**

The Governor's Seal is awarded to students who complete the requirements for an Advanced Studies Diploma with an average grade of "B" or better, and successfully complete college-level coursework that will earn the student at least nine transferable college credits in Advanced Placement (AP), International Baccalaureate (IB), Cambridge, or dual enrollment courses.

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

The STEM Seal shall be awarded to students who earn either a Standard Diploma or an Advanced Studies Diploma and satisfy all math and science requirements for the Advanced Studies diploma with a "B" average or better in all course work, and successfully complete a 50 hour or more work-based learning opportunity in a STEM area, and satisfy all requirements for a Career and Technical Education concentration (a concentration is a coherent sequence of two or more state-approved courses as identified in the course listing within the CTE Program Area Guide), and pass one of the following:

- A Board of Education CTE STEM-H credential examination; or
- An examination approved by the Board that confers a college-level credit in a STEM field.

**Seal for Excellence in Civics Education**

The Board of Education's Seal for Excellence in Civics Education is awarded to students who earn either a Standard Diploma or an Advanced Studies Diploma and meet each of the following criteria:

- Complete U.S. and Virginia History and U.S. and Virginia Government with a grade of "B" or higher; Complete Virginia & United States History and Virginia & United States Government courses with a grade of "B" or higher.
- Have good attendance and no disciplinary infractions as determined by local school board policies.
- Complete 50 hours of voluntary participation in community service or extracurricular activities, such as volunteering for a charitable or religious organization that provides services to the poor, sick or less fortunate; participating in Boy Scouts, Girl Scouts or similar youth organizations; participating in Junior Reserve Officers' Training Corps (JROTC); participating in political campaigns, government internships, Boys State, Girls State or Model General Assembly; or participating in school-sponsored extracurricular activities that have a civics focus. Any student who enlists in the United States military prior to graduation will be deemed to have met this community service requirement.

**Seal for Excellence in Science and the Environment**

The Board of Education's Seal for Excellence in Science and the Environment is awarded to students who entered the 9th grade for the first time in the 2018-19 year and thereafter, and meet each of the following criteria:

- Earn either a Standard or Advanced Studies Diploma.
- Complete at least three different first-level board-approved laboratory science courses and at least one rigorous advanced-level or postsecondary-level laboratory science course, each with a grade of "B" or higher.
- Complete laboratory or field-science research and present that research in a formal, juried setting.
- Complete at least 50 hours of voluntary participation in community service or extracurricular activities that involve the application of science such as environmental monitoring, protection, management, or restoration.

**Seal of Biliteracy**

The Board of Education's Seal of Biliteracy is awarded to students who earn a Board of Education-approved diploma and:

- Pass all required End-of-Course Assessments in English reading and writing at the proficient or higher level; and
- Demonstrate 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. American Sign Language qualifies as a language other than English. Please visit the Seal of Biliteracy webpage for more information, including the list of assessment options for meeting the foreign language proficiency requirement.

# Expand Your Academic Vocabulary

## Advanced Placement, Cambridge AICE, IB Diploma, and Courses

Certain courses have been designated as AP, Cambridge (AICE), and IB courses . These courses are externally moderated and exceed the expectations of grade-level objectives for a specific subject. Students taking these courses will have a plus sign (+) beside the course title listed on the student report card and on the student transcript. These courses offer weighted credit.

## Career and Technical Education Industry Credentialing

A Career and Technical Education (CTE) credential is a Virginia Board of Education approved competency assessment or industry certification that validates a student's academic and technical knowledge and skills. CTE industry credentials may include occupational competency assessments, industry certification exams from a recognized industry, trade, or professional organization (e.g., CompTIA, ServSafe), stackable industry certifications and entry-level exams (e.g., Automotive Service Excellence, Microsoft Office Specialist), a State-Issued Professional License required for entry into a specific occupation (Licensed Practical Nurse (LPN), Cosmetology), and/or the Workplace Readiness Skills for the Commonwealth assessment, which is most valuable when given in addition to appropriate course specific credentials that demonstrate mastery of valuable CTE Skills. High school students who are enrolled in a second-, third-, or fourth-year CTE course in a state-approved sequence are eligible for the industry credential aligned with the content of the course. These credentialing opportunities are provided to all students enrolled in the course at no cost to the student or family. Students who earn a credential by passing a certification or licensure examination **may** earn verified credits to meet graduation requirements. Earning one or more CTE industry credentials may be required for graduation if the student has not successfully complete an Advanced Placement (AP), International Baccalaureate (IB), or Dual Enrollment (DE) course, or a High-Quality Work-Based Learning (HQWBL) experience.

## Dual Enrolled

Students taking courses from a community college, trade school program, college, or university for a credit, while simultaneously enrolled in Prince William County Public Schools are said to be dual enrolled. Agreements between the college and PWCS must be in place before courses being approved for dual enrolled credit.

## Elective

Electives are additional courses beyond the required courses that are needed to meet the total minimum standard units of credit for graduation.

## Visual and Performing Arts or Career and Technical Education

- Visual and Performing Arts courses include those courses which lead to student's aesthetic education in the areas of visual arts, theatre arts, music, dance, creative writing, journalistic writing, or speech. The course taken to satisfy the visual and performing arts requirement may also serve as one of the two courses required to satisfy the sequential electives requirement.
- Career and Technical Education courses focus on 21st-century career skills presented in a real-world setting. All courses listed under Career and Technical Education, except Economics and Personal Finance; and Office Specialist 1, 2, and 3; and Employ 1 and 2 courses listed under Special Education meet this graduation requirement. The course taken to satisfy the CTE requirement may also serve as one of the two courses required to satisfy the sequential elective requirement.

## First Aid, CPR, and AED Training

The requirements for the Standard and Advanced Diplomas shall include a requirement to be trained in emergency first aid, cardiopulmonary, resuscitation, and the use of automated external defibrillators, including hands-on practice of the skills necessary to perform cardiopulmonary resuscitation. PWCS students will be trained in these skills while enrolled in Health and Physical Education 1.

## Sequential Electives

According to the Virginia Department of Education's Standards of Quality, students who enter the 9th grade for the first time during the 2018-19 school year and beyond who are pursuing either the Standard or Advanced Studies Diploma must complete at least two sequential electives. Students who successfully complete any career and technical education sequence that consists of at least two 36-week courses or semester equivalents that equal two 36-week courses will fully meet this requirement. For students pursuing the Standard Diploma, Career and Technical Education, Visual and Performing Arts, or the World Language course credit may be used to partially satisfy the sequential elective requirement.

For students pursuing the Advanced Studies Diploma who enter the 9th grade during the 2018-19 school year and beyond, the Visual and Performing Arts or Career and Technical Education course credit may be used to partially satisfy the sequential elective requirement.

## Standards of Learning (SOL)

The Standards of Learning for Virginia Public Schools describe the Commonwealth's expectations for student learning and achievement in English, driver education, health and physical education, history and social science, mathematics, science, technology, visual and performing arts, and world language and for grades K-12.

## Standards of Learning Tests (SOL Tests)

SOL tests are End-of-Course (EOC) tests which are required by the Virginia Department of Education (VDOE) to verify attainment of knowledge and skills in specific English, math, science, and history and social science courses. A standard unit of credit is earned when a student passes the course, he/she is taking. If a student passes the SOL test but fails the course, the student does not retake the SOL test. The student must, however, repeat the course. If they pass the course but fail the SOL test for that course, the student may retake the SOL test until he/she passes it. Students passing a course may proceed to the next level of a course without having passed the SOL test in the previous level. If both the course and the SOL test are failed, both must be repeated.

## Standard Unit of Credit

A standard unit of credit for graduation is based on a minimum of 140 clock hours of instruction and successful completion of the requirements of the course. A semester course receives one-half credit.

## Verified Unit of Credit

A verified unit of credit for graduation is based on a minimum of 140 clock hours of instruction, successful completion of the requirements of the course, and achievement of a passing score on the End-of-Course (EOC) Standards of Learning (SOL) test or additional test for that course as approved by the Board of Education. A verified unit of credit is earned when:

1. The course is passed in which a Standards of Learning (SOL) test is administered; and
2. The end-of-course SOL test is passed.

The VDOE has authorized alternate pathways in history and social science. See the section below titled Locally Awarded Verified Unit of Credit for details.

Students must complete five verified units of credit for the Standard and Advanced Studies Diplomas. Students entering a Virginia public school during the 11th grade or at the beginning of the 12th grade have reduced SOL requirements.

## Locally Awarded Verified Unit of Credit

Students pursuing the Standard or Advanced Studies Diploma may earn one locally awarded verified unit of credit toward the five verified credits required to graduate. Students with an IEP or 504 plan who are eligible for credit accommodations may earn all verified units of credit through the local award process.

To be eligible to earn locally awarded verified credits in English, mathematics, science, or history/social science, a student must:

- Pass the high school course;
- Score within a 375-399 scale score range on any administration of the Standards of Learning test after taking the test at least twice; and
- Demonstrate achievement in the academic content through an appeal process administered at the local level.

For history and social science, the Virginia Department of Education (VDOE) allows the substitution of a portfolio of Inquiry Design Model (IDM) learning experiences for the SOL test. The portfolio of IDMs is reviewed by a committee to determine if requirements of the verified credit were met. If yes, the student earns a Locally Awarded Verified Unit of Credit for history and social science. This alternative option is the primary option for students in World History I, World History II, and VAUS History. VDOE requires that students earn verified credit in one of these courses. If a student does not pass the IDM portfolio by the start of 11th grade, students will work on the IDM and will be offered the SOL test as well. The awarding of this verified credit locally does not count against the limit of one for other courses or reasons.

## Weighted Credit

Weighted credit refers to grade point values assigned to:

- Advanced Placement courses
- Cambridge courses
- Certain career and technical education courses
- Designated prerequisite courses
- Dual enrollment courses
- IB courses
- Qualifying college courses

# Earning High School Credits and Grade Point Average

## Ways to Earn Credit

**Traditional Classroom**

The vast majority of students experience Prince William County Public Schools through the traditional classroom environment, where face-to-face collaboration leads to a deep construction of knowledge with our excellent teaching staff. The classroom environment provides the greatest potential for student interaction. It also creates the opportunity to form lifelong friendships with their classmates over an entire school year.

**Virtual Courses**

Virtual courses provide students with greater flexibility regarding the time, pace, path, and place of their learning. Virtual courses are facilitated by teachers who leverage digital technologies as part of instructional design to help students build understanding and apply their learning in meaningful ways. Virtual courses use a learning management system (LMS) and a variety of digital tools and practices, including instructional content, rich-media, interactions (discussion boards, messaging, video communication, etc.), data and assessment systems, and feedback systems to receive timely and rich data used to guide learning tailored to individual student needs.

Virtual Prince William

Prince William County Public Schools (PWCS) is a pioneer in online learning through our Virtual Prince William (VPW) program. VPW provides an online learning experience, with accelerated (semester-paced) courses taught by highly skilled and certified PWCS teachers. Virtual Prince William offers students the opportunity to take courses online for the completion of graduation requirements, to recover credits, and to balance academic and extracurricular

opportunities. These courses are delivered via Canvas, PWCS' learning management system, and coursework is completed outside school hours. Students and teachers communicate within the learning management system and via PWCS Office 365 email accounts.

VPW courses are both asynchronous and synchronous. Students are expected to be able to work independently and collaborate with their teachers and peers. Asynchronous instruction is designed for students to complete coursework independently at a designated pace. While students have some flexibility to choose when they complete asynchronous tasks, they must adhere to course pacing and due dates.

Courses offered in any given school year are dependent on student enrollment and the availability of qualified and appropriately endorsed instructional staff. Students interested in VPW course options should see their school counselor or contact Virtual Prince William.

For additional information, please visit the Virtual Prince William website.

Virtual Virginia

Virtual Virginia, sponsored by the Virginia Department of Education, provides online courses to students across the commonwealth. Students have the opportunity to enroll in courses outside of their regular school day or take advantage of courses that are not currently available in their school.

Virtual Virginia courses utilize both asynchronous and synchronous approaches to instruction, through which students will work independently and collaborate with their teachers and peers. Asynchronous instruction is designed for students to complete coursework independently at a designated pace. Examples of asynchronous instruction may include reading content, viewing media, completing assignments, taking a quiz/assessment, or working on a project. Students have the flexibility to choose when they complete asynchronous tasks, but they must adhere to the course pacing and due dates.

An essential component of Virtual Virginia instruction is regular interaction between teachers and their students, including email and phone communications and synchronous instructional sessions via video web conferencing. Students can attend daily synchronous instructional sessions led by their teacher. Students will also have the opportunity for daily group and 1-to-1 instruction.

Virtual Virginia courses meet or exceed rigorous curriculum standards, including the Virginia Standards of Learning (SOL) and the College Board Audit Certification for Advanced Placement (AP) courses. All Virtual Virginia courses are staffed by highly qualified Virginia-licensed instructors with virtual office hours posted within the courses. These virtual office hours provide ample opportunities for students to contact their instructor(s) via telephone, using email, or communicating through a live web-based conferencing tool. In addition to the local mentor, students may access the services of the Virtual Virginia Help Desk for technical issues.

While some courses require tuition, students participating in the Early College Scholars program may have their AP course tuition covered by the Virginia Department of Education. Students who plan to take the AP exam are required to pay the AP exam fee.

**To learn more about Virtual Virginia opportunities, please visit your school counselor.**

**Evening School**

A limited number of core and elective courses are available in the evenings during the fall and spring semesters. These are courses required for graduation. Course availability is subject to sufficient course requests. Courses are typically 15 weeks in length and taught by certified content teachers. In-person attendance is mandatory. See your school counselor for a registration form and further information about the Evening School program.

**Summer Programs**

PWCS also offers select courses over the summer. Students may retake coursework if they failed the course in order to receive a passing grade. All students taking a summer school course that requires an end-of-course SOL test, must take the SOL test scheduled during summer school, unless the student has already passed the test.

**Alternative Methods for Granting Standard Units of Credit**

In some instances, currently enrolled students find it necessary to look for other options to earn a standard unit of credit. Students seeking to earn high school credits from educational institutions outside Prince William County Public Schools or the Virtual Virginia program must request permission to take the course. Core, career and technical education or advanced placement courses already approved and offered by one of the Virginia Department of Education Approved Multidivisional Online Providers (MOP) or Virginia Council for Private Education (VCPE) providers need school level approval. Elective courses provided through an approved MOP or VCPE course or courses not available through an approved MOP or VCPE require additional levels of approval. See your school counselor for more information about alternative options for earning standard units of credit.

## Regional Advanced Academic Schools

**The Governor's School @ Innovation Park - Virginia Regional Academic-Year Governor's School**

The Governor's School @ Innovation Park is a science, technology, engineering, and mathematics (STEM) initiative of three school divisions, Prince William County, Manassas City, and Manassas Park, in collaboration with George Mason University. The instructional design of the program integrates strands in biology, chemistry, and physics with mathematics, concepts of engineering and technology, and with laboratory research. Learning experiences focus on real-world research with mentorship opportunities in business, industry, government, and university settings. Rising juniors are eligible to apply for the program. Interested students can access the application online on The Governor's School website. *Students must have completed Algebra 2/Trigonometry and both Biology 1 and Chemistry 1 by the end of the 10th grade to apply and enter the Biology, Chemistry, or Physics threads. Students must have additionally completed Pre-Calculus and Physics in order to be qualified to enter the Engineering thread.*

**Thomas Jefferson High School for Science and Technology - Virginia Regional Academic-Year Governor's School**

The Thomas Jefferson High School for Science and Technology accepts Prince William County Public Schools students into its four-year program through an application and testing process. Interested students should ask a designated middle school counselor for an information packet. *Students must complete Algebra 1 by the end of eighth grade, achieve a 3.5 GPA, be enrolled in extended level math and English classes to apply to Thomas Jefferson.* Additional information is available through the Thomas Jefferson Admissions Office at 571-423-3770 or on the TJHS Admission webpage.

## Nontraditional Education

**Independence Nontraditional School**

Independence Nontraditional School offers students in grades K-12 a comprehensive instructional program that merges leadership, career, and social skills necessary for success in the 21st century with existing Prince William County Public Schools curricula.

Students can expect a rigorous curriculum that promotes the development of academic resilience, social responsibility, and self-respect. The innovative education environment provides flexible learning opportunities to support student success. Day and evening programs are offered. Age-appropriate interventions that address effective and affective development, second language acquisition, and special needs are provided in an inclusive manner.

Students are recommended for placement by school administrators, parents/guardians, or the Student Hearings Department. A nontraditional education plan for each student designed collaboratively by Independence Nontraditional staff, parents/guardians, and the student ensures each student meets his/her educational and graduation goals. Multiple instructional options support seamless student transitions to additional academic, extracurricular, and service-learning opportunities.

**Individual Student Alternative Education Plan**

The Individual Student Alternative Education Plan (ISAEP) is a program offered through the Virginia Department of Education, which provides students between the ages of 16-17 years old who are at risk of dropping out of school, an opportunity to work toward a General Educational Development (GED) certificate while developing a vocational or career skill. Students must be referred to the program by the school counseling office, with the permission of the parents/guardians, and must meet the eligibility criteria to be admitted to the program. The ISAEP will only be considered for students after all measures to maintain students in a traditional diploma program have been exhausted. Contact the school counseling office for more information regarding the program.

**Adult Education**

The adult education program provides educational opportunities for adults, 18 and over, who wish to acquire competencies necessary for further education, employment, or personal enrichment. Classes are provided to residents in Prince William County, Manassas City and Manassas Park. Adult Education offers courses in English language acquisition, high school completion (which includes GED and the National External Diploma Program - NEDP), bridging, Microsoft Office Specialist, Entrepreneurship and Small Business, Guest Service Gold, Community Engagement, Customer Services and Sales, job readiness, and computer workshops. The Adult Learning Center is also a testing center and delivers over 140 tests through Pearson VUE.

## Grade Point Average

**Grade-Point Values**

All courses taught for credit in Prince William County Public Schools are assigned grade-point values as follows:

| Course Percentage | Letter Grade | Quality Points Standard Course | Grading Scale | Quality Points Weighted at .50 | Quality Points Weighted at 1.0 |
|---|---|---|---|---|---|
| 90-100 | A | 4.0 | 3.5 - 4.0 | 4.5 | 5 |
| 87-89 | B+ | 3.4 | 3.3 - 3.49 | 3.9 | 4.4 |
| 80-86 | B | 3.0 | 2.5 - 3.29 | 3.5 | 4.0 |
| 77-79 | C+ | 2.4 | 2.3 - 2.49 | 2.9 | 3.4 |
| 70-76 | C | 2.0 | 1.5 - 2.29 | 2.5 | 3.0 |
| 67-69 | D+ | 1.4 | 1.3 - 1.49 | 1.4 | 1.4 |
| 60-66 | D | 1.0 | .50 - 1.29 | 1.0 | 1.0 |
| 0-59 | F | 0 | 0 -.49 | 0 | 0 |

High school course yearlong grades are calculated based on the Quality Point average for each of the semesters plus the final exam.

- Semester 1 – Quality Point average of 1st and 2nd quarters
- Semester 2 – Quality Point average of 3rd and 4th quarters
- Exam – Quality Point equivalent of exam
  - Yearlong grade - 22.5% for each quarter, 10% exam

Example-Standard Course:

| Term | Course Percentage | Grade | Quality Points | |
|---|---|---|---|---|
| Quarter 1 | 78 | C+ | 2.4 | |
| Quarter 2 | 80 | B | 3.0 | |
| Semester 1 | | | 5.4/2 = 2.7 | Grade: B |
| Quarter 3 | 62 | D | 1.0 | |
| Quarter 4 | 92 | A | 4.0 | |
| Semester 2 | | | 5.0/2 = 2.5 | Grade: B |
| Exam | 67 | D+ | 1.4 | |
| Yearlong | 2.4(.225) + 3.0(.225) + 1.0(.225) + 4.0(.225) + 1.4(.10) = 2.48 | | | Grade: C+ |

Weighted grade points are used to encourage students to take more challenging course work with less risk to their report card grades. Students and their families should note that colleges and universities routinely remove weighted credits to better compare applicants' performance in rigorous courses across school divisions where weighting practices vary.

**Expunging a Grade for a High School Credit Taken in Middle School**

When students successfully complete courses identified as 9th, 10th, 11th, or 12th grade courses prior to entering 9th grade, they will receive standard units of credit toward graduation. Such courses will be used in computing the student's high school GPA.

The Regulations Establishing Standards of Accrediting Public Schools in Virginia provide families with the option of requesting that grades be expunged from a student's transcript for any high school credit-bearing course taken in middle school. Requests to have a high school credit-bearing course grade removed from a student's transcript must be submitted using the form available in the counseling office or on the school division website to the appropriate principal before the deadline established by the school division. Families who elect to have a grade removed from the transcript should be aware that the decision to have the grade removed is binding and that no grade or associated credit will be awarded for the course once the request has been granted.

Learn more on the Request to Expunge High School Courses Taken in Middle School webpage.

## Schedule Changes

Students are encouraged to stretch and reach to take advanced levels of course offerings when possible. Should a student request to drop an advanced course, the following steps will be taken prior to approval:

- The teacher will talk with the student to determine why they wish to drop the course and ways in which a student may improve their performance in the class.
- The teacher will notify the parent(s) of the request to drop the course and discuss ways in which the student may improve their performance.
- The student's counselor will work with the student to identify supports that could be put into place (e.g., tutoring during flex, tutoring before/after school, etc.).
- The principal or designee will approve or deny the request.

Each high school sets their own schoolwide schedule change procedures and guidelines. Students must comply with the schedule change process established at their school. Should a student elect to change a class, the following rules will apply:

- Students who drop a year-long course before the end of the first quarter or before the end of the first four weeks for a semester-based course, shall not have the attempt recorded on their transcript.
- Students who drop a year-long course after the end of the first quarter or after the end of the first four weeks for semester-based course, shall receive no credit and a notation shall be made on the student's transcript indicating withdraw failing or withdraw passing.
- Students who drop a year-long course after the end of the first semester or after the end of the first quarter for semester-based courses, shall receive no credit and a failing grade for the course.
- The principal (or designee) may, in extenuating circumstances relating to a student's health or well-being, make an exception to the regulation governing the procedures for dropping a course.
- If a student moves from one level to another level of the same course, the grades earned in the initial course will transfer to the second course. This rule applies even in those cases where the student is moving from an advanced level course to a lower-level course within the same subject (e.g., Advanced English 9 to English 9).

# Earning College Credit While in High School

## Dual Enrollment Opportunities for Students

**What is Dual Enrollment?**

Dual Enrollment is an enrichment opportunity that allows high school/home instruction students to earn college credits for courses taken through a sponsoring college/university while still being enrolled in high school. As a dual-enrolled student, you are enrolled in both high school (or home instructed) and the sponsoring college/university.

**Who Can Take a Dual Enrollment Course?**

High school juniors and seniors, who meet all eligibility requirements established by the sponsoring college/university, are eligible to participate in the dual enrollment courses. Freshmen and sophomores may be granted exceptions on a case-by-case basis.

**Where Do I Take a Dual Enrollment Course and What is the Cost?**

Dual enrollment courses through Northern Virginia Community College are taken in a PWCS school or virtually through the NOVA CCRV pathway. Eligible students earn college credit at no tuition cost; however, some courses may have fees required for textbooks or course materials. Students should contact their school counselor for more information about courses and fees that may be associated with Dual Enrollment. Each PWCS high school has a specific CCRV program pathway that aligns with its in-person dual enrollment course offerings. Students must take in-person classes at their high school if they are offered.

**I am Ready to Take a Dual Enrollment Course! How Do I Get Started?**

Indicate your interest in dual enrollment when you meet with your school counselor to discuss course selection prior to the start of your junior year. Your school counselor will guide you through the next steps to include completing a PWCS Dual Enrollment application and the application for the sponsoring college/university.

## Methods for Earning College Credit While in High School

As described above, students may take dual enrollment courses as "contract dual enrollment" by attending their community college classes on PWCS high school campuses and receiving instruction from PWCS teachers who are authorized to teach dual enrollment courses by sponsoring college/university.

Students may also take "on campus" courses at a sponsoring college/university for dual enrollment credit for those courses identified in the division's annual list of published dual enrollment offerings.

Students wishing to take courses not included in the division's list of dual enrollment course offerings may take "college credit only" offerings with a sponsoring college/university.

In addition, students can earn college credit through no tuition cost CCRV opportunities available in partnership with NOVA.

In all cases, students must meet all eligibility requirements of the sponsoring college/university.

Students may also earn college credit by taking an Advanced Placement (AP), Cambridge (AICE), or International Baccalaureate (IB) course while in high school. Students receive college credit based on the score they receive on the external exam taken at the conclusion of the course or sequence of courses. Below, a summary of all the ways in which students may earn college credit in a PWCS school is provided.

**How Can My High School Course Work Earn Me College Credit?**

| Type of Course | How Students Earn College Credit |
|---|---|
| **Advanced Placement (AP)** | • Earned exam scores of 3, 4, or 5 may qualify students for 3 or more college credits per AP course.<br>• The awarding of college credit for courses taken in high school varies and students should research the specific school they wish to attend. |
| **Cambridge (AICE)** | • Earned exam grades of E or higher may qualify the student to earn college credit.<br>• Earned exam grades of A or B on A level exams may qualify students for up to 6 college credits per Cambridge course.<br>• The awarding of college credit for courses taken in high school varies and students should research the specific school they wish to attend. |
| **International Baccalaureate (IB)** | • Earned exam score of 4 or higher may qualify the student to earn college credit.<br>• Earned exam scores of 5, 6, or 7 may qualify students for up to 9 college credits per one IB course.<br>• The awarding of college credit for courses taken in high school varies and students should research the specific school they wish to attend. |
| **Dual Enrollment** | • Many earned credits with a "C" or better transfer to most four-year colleges<br>• Courses may fall within a specific subject area or may be considered an elective<br>• The awarding of college credit for courses taken in high school varies and students should research the specific school they wish to attend. |

Learn more about receiving college credit for passing AP, Cambridge, and IB exams at a Virginia four-year college.

## Equal Opportunity Schools

Equal Opportunity Schools (EOS) is a PWCS initiative designed to increase all students' access and opportunity to participate in rigorous academic environments such as Advanced Placement, Cambridge, and International Baccalaureate courses. PWCS utilizes EOS to target students in grades 9-12. Once students are enrolled in these courses, the EOS data analysis, outreach, and academic support models are utilized to ensure students realize success. All students have access to Trusted Adults who are familiar with each student's profile.

## College and Career Ready Virginia Dual Enrollment

College and Career Ready Virginia (CCRV) is an initiative that expands access to dual enrollment courses for high school juniors and seniors. Eligible students earn college credits at no tuition cost* through a partnership between Prince William County Public Schools (PWCS) and Northern Virginia Community College (NOVA).

**Benefits of CCRV**

- **Get a jump-start on college** – 11th and 12th grade students can complete up to 32 college credits before they graduate from high school.
- **Save money** – tuition is no-cost to students and families.*
- **Highly transferable** – NOVA has transfer agreements with all Virginia public colleges and universities.
    - *There is no tuition cost for students and families for CCRV courses; however, some courses may have fees for required textbooks or course materials.

**Uniform Certificate of General Studies (UCGS)**

- Earn 32 transferable college credits.
- Ideal for high school juniors to complete the equivalent of two college semesters of college general education requirements by the time they graduate from high school.
- Learn more about UCGS.

**Passport Program**

- Earn 15 transferable college credits.
- Ideal for high school seniors to get a jump-start on college general education requirements.
- Learn more about the Passport Program.

**CCRV and High School Course Credit Information**

These courses taken through CCRV provide both high school and college credit. Upon successful completion of a NOVA course, students will earn the corresponding high school credit. All dual enrollment courses count as weighted high school credits.

- Each high school has a designated CCRV pathway with specific course offerings. To learn more about your school's pathway, visit the NOVA CCRV pathways.
- Per NOVA policy, if a dual enrollment course is offered in person at a student's high school, the student is not permitted to take the online equivalent.
- There are specific eligibility requirements and enrollment steps for CCRV participation. To learn more, visit the PWCS CCRV website or speak with your school counselor.
- Students may only take up to three courses through NOVA CCRV online per semester.

To learn more about the high school credit that will be earned upon successful completion of a NOVA course, see the chart below.

| NOVA Course | College Credits | High School Course | High School Credits |
|---|---|---|---|
| ENG 111<br>College Composition I | 3 | SOL English College Composition 11 DE<br><br>or<br><br>English College Composition 12 DE | 1 English credit |
| ENG 112<br>College Composition II | 3 | | |
| ENG 255<br>World Literature | 3 | Survey of World Literature 12 DE | 1 English credit |
| ART 100<br>Art Appreciation | 3 | Art Appreciation DE 100 | 1 elective credit |
| PSY 200<br>Principles of Psychology | 3 | Psychology I DE 200 | 1 elective credit |
| ENV 121<br>General Environmental Science I | 4 | General Environmental Science I DE 121 | 1 elective credit |
| MTH 154<br>Quantitative Reasoning | 3 | Quantitative Reasoning DE 154 | 1 elective credit |
| MTH 161<br>Precalculus I | 3 | Precalculus I DE 161 | 1 elective credit |
| HIS 121<br>United States History to 1877 | 3 | US & VA History DE | 1 history and social science credit |
| HIS 122<br>United States History Since 1865 | 3 | | |
| ITE 152<br>Introduction to Digital and Information Literacy and Computer Applications | 3 | Computer Information Systems DE | 1 elective credit |

# English Learners

English Learner (EL) students have the right to participate meaningfully and equally in educational programs Under Title VI of the Civil Rights Act of 1964 (Title VI) and the Equal Educational Opportunities Act of 1974 (EEOA). Student schedules provide equitable participation in advanced or accelerated courses and gifted and talented or special education services. English Language Development (ELD) services in the student's schedule should not inhibit EL participation in programs available to all students.

EL students are provided with English Language Development (ELD) instruction and access to core content classes and grade-level curricula. ELs are scheduled in ELD courses based on their English Language Proficiency (ELP) level and take the same required core courses as their non-EL peers, including electives and physical education.

EL students with identified disabilities require services under the Individuals with Disabilities Education Act (IDEA) or Section 504 of the Rehabilitation Act of 1973. They must be provided both the English Language Development services and disability-related services to which they are entitled under Federal law.

Questions about English Learner courses should be discussed with the student's EL case manager and their IEP case manager, as applicable.

# Set Yourself Up for Success

## PWCS Ready to Launch - Pacing for Success

- Students completing the courses and other graduation requirements outlined below will be "Ready to Launch" their thriving future by pursuing postsecondary education at institutions of their choice to include Northern Virginia Community College and four-year universities.
- Students can opt to take a standard level or advanced level (AP, Cambridge AICE, IB, DE) of any required course depending on the program available at their school.
- Students must complete all requirements for their chosen diploma to include earning verified units of credit for courses which have a Standard of Learning (SOL) test attached.
- Students are encouraged to research admission requirements for highly selective colleges and universities during their 9th grade year.

| Subject | Grade 9 | Grade 10 | Grade 11 | Grade 12 |
|---|---|---|---|---|
| **English** | English 9 | English 10 | English 11 | English 12 |
| **Math** | Algebra 1 or higher | Geometry or higher | Algebra Functions and Data Analysis, Algebra 2, or higher | Algebra 2 or higher<br><br>*Four years of math recommended for college-bound students (Algebra 2 or higher) |
| **Science** | Earth Science 1, Environmental Science, or Biology 1 | Biology 1 or Chemistry 1 | Chemistry 1 or Physics 1 | Higher level science (AP, IB, etc.) |
| **History and Social Science** | World History 1 | World History 2 | U.S. and Virginia History | U.S. and Virginia Government |
| **World Language** | Level 1 or higher | Level 2 or higher | Level 3 or higher<br><br>*Recommended for highly selective colleges | Higher level language (AP, IB etc.)<br><br>*Recommended for highly selective colleges |
| **Health and Physical Education** | Health and Physical Education 1 | Health and Physical Education 2 | | |
| **Electives** | Visual and Performing Arts or Career and Technical Education (1 credit)<br><br>Sequential Elective (2 credits - Standard Diploma Only) for students who enter 9th grade prior to 2018-19. Required for all students who enter the 9th grade in 2018-19 and beyond.<br><br>Other Electives (2 or more credits depending on diploma type) | | | |
| **Additional Graduation Requirements** | • CTE Credentialing Exam **or** one Advanced Course **or** High-Quality Work-Based Learning experience, as established by VDOE Board guidance on work-based learning<br>• Economics and Personal Finance<br>• First Aid, CPR, and AED Training<br>• Virtual Course | | | |

See your school counselor for more information about your high school course plan and your postsecondary education plans!

## Academic and Career Planning Tools

Academic and career planning is a process for all students to reflect on their interests, values, and future goals to formulate an evolving plan in support of their future goals and success as contributing citizens. This plan is revisited with each student every year. Additional information and resources are available on the College and Career Readiness website.

**Academic Career Plan Portfolio** - ACPP (kindergarten through 5th grade)

The Academic and Career Plan Portfolio (ACPP) begins in the elementary school years. Students explore different occupations associated with career clusters based on selected areas aligning with personal interests, values such as

dependability & respect, and skills supporting decision making about future goals and interest. Learn more about Virginia Education Wizard. Elementary students learn how to set goals and better understand their own interests and values. They complete career artifacts each year while exploring future career opportunities.

**Academic and Career Plan** - ACP (6th through 12th grade)

Middle and high school students each have a personal learning plan and course of study that aligns with the student's academic and career goals. Students utilize Naviance, a personalized platform that includes individual self-discovery assessments, goal setting, career and college planning, financial literacy, and academic course planning. Students access Naviance through the single sign-on, Clever, and their Office 365 credentials. Learn more at PWCS Naviance.

**Student Vision Profile** - (6th through 12th grade)

The Student Vision Profile is a document that contains valuable information about planning for life after high school and making the most of their PWCS experience. The Student Vision Profile is designed to help both students and families engage in the postsecondary planning process. It is a useful guide to support student college and career readiness by including self-discovery, career exploration, and post-high school planning. Each year, your parent/guardian will receive a student vision profile that is customized with information about you and your interests. This document is an excellent tool for you to use to reflect on your after high school plan and to discuss your life choices with members of your family. Learn more at Student Vision Profile.

# Career and Technical Education Industry-Recognized Credentials

## Career and Technical Education (CTE) Industry-Recognized Credentials

Industry-recognized credentials (IRCs) are valuable for high school students because they validate a students' knowledge and skills, making graduates more employable and competitive in the job market. They can also provide a head start on college, offer a clear path to specific careers, and increase earning potential.

**PWCS offers IRCs at no cost to the student or family**.

The chart below represents the IRCs currently aligned with CTE coursework. Credentials are subject to change based on the Virginia Department of Education approved credential list.

| Course Name | PWCS Course Code | Industry Credentials |
|---|---|---|
| Accounting | 632020 | Workplace Readiness Skills for the Commonwealth Examination |
| Advanced Design, Multimedia, and Web Technology | 663120 | Adobe Certified Professional Examinations |
| Advanced Accounting | 632166 | Intuit Quickbooks Certified User (QBCU) Certification Test/ Intuit Bookkeeping Professional (TBD) |
| Advanced Computer Information Systems | 661366 | Microsoft Office Specialist (MOS) Examinations: Expert Level; Microsoft Office Specialist (MOS) Examinations: Associate Level |
| Advanced Cybersecurity Systems Technology | 862930 | A+ Certification Examination |
| Advanced Fashion Marketing | 814566 | Customer Service and Sales Certification Assessment (NRF) |
| Advanced Game Design and Development | 840166 | Unity Certified User Examinations |
| Advanced Programming | 664166 | IT Specialist Certifications |
| Air Force JROTC 2 | 791630 | Workplace Readiness Skills for the Commonwealth Examination |
| Air Force JROTC 3 | 791830 | JROTC Leadership and Employability Skills |
| Air Force JROTC 4 | 791930 | Armed Services Vocational Aptitude Battery Examination |
| Architectural Drawing/Design/CAD | 843720 | Autodesk Certified User Examinations |
| Army JROTC 2 | 791632 | Workplace Readiness Skills for the Commonwealth Examination |
| Army JROTC 3 | 791832 | JROTC Leadership and Employability Skills |
| Army JROTC 4 | 791932 | Armed Services Vocational Aptitude Battery Examination |
| Automotive Technology 2 | 850720 | ASE Entry-Level Certification Tests |
| Automotive Technology 3 | 850820 | ASE Entry-Level Certification Tests |
| Aviation Maintenance Technology 2 | 872930 | Workplace Readiness Skills for the Commonwealth Examination |
| Building Trades 2 | 851620 | Building Construction Occupations Assessment (NOCTI) |
| Business Law | 613120 | Workplace Readiness Skills for the Commonwealth Examination |
| Business Management | 613520 | Workplace Readiness Skills for the Commonwealth Examination |
| Cabinetmaking 2 | 860530 | Workplace Readiness Skills for the Commonwealth Examination |
| Civil Engineering & Architecture (PLTW) | 843066 | PLTW End of Course (EOC) Assessment and Autodesk Certified User: Revit Architecture |
| Computer Information Systems | 661220 | Microsoft Office Specialist (MOS) Examinations: Associate Level |
| Computer Integrated Manufacturing (PLTW) | 844220 | PLTW End of Course (EOC) Assessment and Autodesk Certified User: Inventor |
| Computer Networking Hardware Operations 4 | 854520 | Cisco Certified Networking Associate (CCNA) Examination |
| Cosmetology 2 | 874620 | Virginia Cosmetology Examination |
| Criminal Justice 2 | 870330 | Criminal Justice Assessment (NOCTI) |
| Culinary Arts 1 | 827520 | ServSafe Food Protection Manager Certification |

| Course Name | PWCS Course Code | Industry Credentials |
|---|---|---|
| Culinary Arts 2 | 827620 | ServSafe Food Protection Manager Certification |
| Cybersecurity Network Systems DE | 863087 | Security+ Certification Examination |
| Cybersecurity Operations | 630420 | Tech+ Certification Examination |
| Cybersecurity Systems Technology | 862820 | Tech+ Certification Examination |
| Design, Multimedia & Web Technology | 663020 | Adobe Certified Professional Examinations |
| Digital Electronics (PLTW) | 844020 | PLTW End of Course (EOC) Assessment |
| Early Childhood, Education, and Services 1 | 828520 | ParaPro Assessment |
| Early Childhood, Education, and Services 2 | 828620 | ***TBD*** |
| Economics and Personal Finance | 612020 | W!SE Financial Literacy Certification Test |
| Electricity 2 | 853420 | Workplace Readiness Skills for the Commonwealth Examination |
| Emergency Medical Technician 2 | 833420 | Emergency Medical Technician Examination |
| Engineering Analysis and Applications 2 | 845120 | Pre-Engineering/Engineering Technology Assessment (NOCTI) |
| Engineering Drawing/Design/CAD | 843620 | Autodesk Certified User Examinations |
| Entrepreneurship | 909320 | Intuit Entrepreneurship and Small Business (ESB) Examination |
| Environmental Sustainability (PLTW) | 891166 | PLTW End of Course (EOC) Assessment |
| Fashion Marketing | 814020 | Workplace Readiness Skills for the Commonwealth Examination |
| Firefighting | 870530 | Firefighter I Certification Exam |
| Firefighting 2 | 870630 | Firefighter II Certification Exam |
| Human Body Systems (PLTW) | 838020 | PLTW End of Course (EOC) Assessment |
| IB Business Management (SL) | 613550 | Workplace Readiness Skills for the Commonwealth Examination |
| IB Personal & Professional Skills (SL) | 909852 | Workplace Readiness Skills for the Commonwealth Examination |
| Intro to Engineering Design (PLTW) | 843920 | PLTW End of Course (EOC) Assessment |
| Introduction to Culinary Arts | 825020 | Workplace Readiness Skills for the Commonwealth Examination |
| Introduction to Early Childhood Education | 823430 | Workplace Readiness Skills for the Commonwealth Examination |
| IT Adv Database Design and Mgt PL/SQL DE | 666285 | Oracle Certified Foundations Associate Examinations |
| IT Web Technologies | 663030 | Adobe Certified Professional Examinations |
| IT Web Technologies DE | 663088 | Adobe Certified Professional Examinations |
| Landscaping 1 | 803620 | Workplace Readiness Skills for the Commonwealth Examination |
| Landscaping 2 | 803920 | Certified Turfgrass Professional |
| Marine Corps JROTC 2 | 791631 | Workplace Readiness Skills for the Commonwealth Examination |
| Marine Corps JROTC 3 | 791831 | JROTC Leadership and Employability Skills |
| Marine Corps JROTC 4 | 791931 | Armed Services Vocational Aptitude Battery Examination |
| Marketing | 812020 | Workplace Readiness Skills for the Commonwealth Examination |
| Mechatronics 1 DE | 855482 | ***TBD*** |
| Mechatronics 2 DE | 855582 | ***TBD*** |
| Medical Coding and Billing 2 | 838920 | Certified Billing and Coding Specialist (CBCS) |
| Medical Interventions (PLTW) | 838120 | PLTW End of Course (EOC) Assessment |
| Medical Terminology | 838320 | ***TBD*** |
| Navy JROTC 2 | 791633 | Workplace Readiness Skills for the Commonwealth Examination |
| Navy JROTC 3 | 791833 | JROTC Leadership and Employability Skills |
| Navy JROTC 4 | 791933 | Armed Services Vocational Aptitude Battery Examination |
| Opportunities in Global Trade | 813520 | Workplace Readiness Skills for the Commonwealth Examination |
| Pharmacy Technician 2 | 830620 | Examination for Certification of Pharmacy Technicians (ExCPT) |

| Course Name | PWCS Course Code | Industry Credentials |
|---|---|---|
| PLTW Capstone | 844320 | Workplace Readiness Skills for the Commonwealth Examination |
| Plumbing 2 | 855220 | Workplace Readiness Skills for the Commonwealth Examination |
| Practical Nursing 2 | 835830 | EKG Technician Certification (ETC) Examination |
| Principles of Biomedical Sciences (PLTW) | 837920 | PLTW End of Course (EOC) Assessment |
| Principles of Engineering (PLTW) | 844166 | PLTW End of Course (EOC) Assessment |
| Programming 1 | 664020 | IC3 Digital Literacy Certification Examinations |
| Software Engineering Essentials (PLTW) | 847320 | PLTW End of Course (EOC) Assessment |
| Software Engineering (PLTW) | 847066 | PLTW End of Course (EOC) Assessment |
| Sports, Entertainment, and Event Management | 817766 | ***TBD*** |
| Sports, Entertainment, and Event Marketing | 817520 | Workplace Readiness Skills for the Commonwealth Examination |
| Sports Medicine 2 | 831720 | ***TBD*** |
| Strategic Marketing | 813066 | Workplace Readiness Skills for the Commonwealth Examination |
| Television & Media Production 2 | 868920 | Adobe Certified Professional Examinations |
| Travel and Tourism Marketing | 813920 | Workplace Readiness Skills for the Commonwealth Examination |
| Turfgrass Management | 805120 | Workplace Readiness Skills for the Commonwealth Examination |
| Video and Media Technology | 849720 | Workplace Readiness Skills for the Commonwealth Examination |
| Virginia Teachers for Tomorrow 1 | 906220 | ParaPro Assessment |
| Virginia Teachers for Tomorrow 2 | 907220 | Praxis Core Academic Skills for Educators Tests |
| Welding 1 | 867230 | SENSE Training Program Certification Examination (Level 1, Entry-Level Welder) |
| Welding 2 | 867320 | Flux Core Arc Welding (FCAW) Examination |
| Welding 3 | 867420 | Gas Tungsten Arc Welding (GTAW) Examination |

# Participating in Extracurricular Activities

## Eligibility to Participate

The following applies to interscholastic athletics, marching band, and drill team.

- A student must pass five subjects for new credit and earn a "C" or better in two subjects at the end of the first semester, and at the end of the school year to remain eligible for participation.
- The initial determination of eligibility at the beginning of a new semester is made on the first instructional day of the semester.
- Student assistant electives (e.g., lab assistants and office assistants) shall not be counted toward meeting the standards of eligibility.

## Eligibility for Students who Transfer to Another School for a Specialty Program

Students who are granted approval to transfer to a school outside their established attendance area for a Specialty Program shall be eligible to participate in Virginia High School League activities when entering the school as a first-time 9th-grade student, or as a 10th-grade student entering a specialty program for the first time. Any further transferring without a corresponding change of residence will result in a 365-day period of ineligibility.

Only the Superintendent of Schools (or designee) may grant a waiver to the VHSL transfer rule based on a decision made by the school division that requires the transfer of the student, but not for athletic and/or activity purposes. (VHSL Handbook.)

### Virginia High School League Participation

The Virginia High School League rules specify that in order to participate in high school athletics, drama, forensics, debate, scholastic bowl, and any academic or athletic activities involved in the competition between/among schools, a student must have passed five subjects for new credit during the preceding semester and must be enrolled in a minimum of five subjects for new credit during the current semester. In addition to meeting Virginia High School League regulations, students will be required to meet PWCS eligibility standards (requirement) each semester. End of the year grades from the previous school year will determine eligibility for the first semester of the next year.

### NCAA Eligibility

Students planning to participate in intercollegiate athletics at an NCAA Division I or Division II institution must have their academic and amateurism status certified by the NCAA Eligibility Center. The NCAA rules are complex, students and caregivers should ask school counselors for assistance. It is important to let the counselor know if a student plans to seek an athletic scholarship to ensure the course selection process matches NCAA requirements. It is also important to track grade point average as it impacts NCAA athletic scholarship opportunities. More detailed information is available on the NCAA website.

# Realize Your Vision with The Student Vision Profile

### Student Vision Profile - High School

The Student Vision Profile is a document that contains valuable information about planning for life after high school and making the most of their PWCS experience. The Student Vision Profile is designed to help both students and families engage in the postsecondary planning process. It is a useful guide to support student college and career readiness by including self-discovery, career exploration, and post-high school planning. Each year, you and your parent/guardian will receive a student vision profile that is customized with information about you and your interests. This document is an excellent tool for you to use to reflect on your after high school plan and to discuss your life choices with members of your family. Learn more on the PWCS Student Vision profile information page and in this course catalog.

# Specialty Programs

## Specialty Programs

Prince William County Public Schools (PWCS) is pleased to provide students a wide range of high school program opportunities that focus on career exploration, subject area concentration, and college/university preparation.

Specialty and Career and Technical Education (CTE) Programs provide students with opportunities to earn certifications, licenses, or other professional credentials in an area of study. Students can choose from programs tailored to their strengths and interests as they prepare for postsecondary experiences, whether they plan to enter the workforce directly, seek additional training, or enroll in a postsecondary institution.

Students may apply for the specialty program at their base high school, apply to transfer to another high school for a specialty program, or apply to participate in a transport program while remaining at their base school for their academic coursework.

**Learn about specialty program transportation.**

### Transfer Programs

Students living within the boundaries of the specialty program school may ride their regular bus to school. Students who reside outside the program school boundaries may utilize the network of express bus stops.

Students participating in Specialty Programs outside of their zoned school receive express bus stops. Out-of-boundary Specialty Program students are students who live outside the host school's boundaries but within the specialty school's boundaries.

Express bus stops will be established at express bus stops where six or more students have selected the stop. If your Specialty Program Coordinator has not contacted you by June regarding the express bus stops established for the following school year, you should contact the Specialty Program Coordinator.

Transportation requests, including the selection of a specific express stop, must be returned to the school with the specialty program application and again for every year the student is enrolled in the program.

Parents have the responsibility to provide transportation to and from express bus stops.

### Transport Programs

Students attend all core and non-program classes and activities at their base school. A PWCS bus transports students between their base school and their program school for all CTE program classes daily, returning in time to ride their regular bus home.

## Advanced Placement Scholars Program

**Degree Type**
Specialty Programs

**Advanced Placement Scholars Program**

The Advanced Placement (AP) Scholars Program is a four-year college preparatory program providing students with an educational foundation of critical thinking and analytical skills as well as the improvement of written, oral, and presentation skills. By participating in Advanced Placement courses based on AP curricula outlined by the College Board, students in the AP Scholars Program are given unique opportunities to analyze data, synthesize information from multiple sources and points of view, problem solve for real-life situations, work both independently and collaboratively, and communicate effectively in multiple formats. Students may also earn college credit for qualifying scores on AP exams (college credit for AP scores varies by college/university and by subject).

**Program Requirements**

Students must meet the minimum participation criteria as follows:

- **9th grade** - Enroll in two or more advanced courses and complete the year with a 'C' or better in all courses.
- **10th grade** - Enroll in any combination of two or more advanced or AP courses and complete the year with a 'C' or better in all courses.
- **11th grade** - Enroll in two or more AP courses and complete the year with a 'C' or better in all courses.
- **12th grade** - Enroll in two or more AP courses and complete the year with a 'C' or better in all courses.
- Participants must complete at least two advanced courses each year and five AP courses **OR** four AP courses and one Dual Enrollment course prior to graduation.
- Participants must maintain a 70% (C) average in all coursework to remain eligible to stay in the program.
- Participants must complete 60 community service hours prior to graduation; 15 hours per year is recommended.
- Participants must complete a final portfolio (Note the final projects in Project Lead the Way (PLTW) Engineering Design and Development and AP Capstone (Seminar and Research) fulfill a component of the final portfolio).
- Participants must abide by the rules and guidelines of appropriate behavior as outlined in the Prince William County "Code of Behavior" and the school's student handbook. Failure to abide by these guidelines could result in removal from the program.

Any student who has below 70% (C) in any class at the end of the first semester will be placed on probationary status. If the grade does not increase to 70% or higher by year-end, the student may be dismissed from the program. If a student is attending Patriot HS or Woodbridge HS as a transfer student, their transfer status will be rescinded and the student will enroll at their base school the following school year.

***All AP courses require students to sit for external examinations administered by the College Board.***

**Program Type**
Transfer
**Schools**
Patriot High School,
Woodbridge High School

# Agriculture, Food and Natural Resources

**Degree Type**
Specialty Programs

**Agriculture, Food, and Natural Resources Career Cluster**

These courses prepare students for postsecondary educational career programs and entry-level positions in the Horticulture, Landscaping and Turfgrass industries. Instruction includes safety in the industry, the science of nursery plant production, greenhouse operation and management, landscape design, and turf management. High-quality work-based learning (HQWBL) will provide experiential learning opportunities related to students' career goals and/or interests, integrated with instruction, and performed in partnership with local businesses and organizations.

**Agribusiness Systems Pathway**

The Agriculture/Horticulture program employs a hands-on curriculum encouraging student development in the knowledge, skills, habits, and attitudes necessary for entry-level employment and advancement in areas such as greenhouse and nursery production, landscape design, and turf management. Students receive instruction in leadership development and are provided many leadership opportunities through Future Farmers of America (FFA), the associated Career and Technical Education student organization.

**Program Type**
Transfer
**Schools**
Brentsville District High School

## Agribusiness Sequencing

### Grade 9

| Title | Credits |
|---|---|
| Horticulture Sciences | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Landscaping 1 | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Landscaping 2 | 1 |

### Grade 12

| Title | Credits |
|---|---|
| Turfgrass Management | 1 |
| Total Credits | 4 |

# Architecture & Construction - Building Trades

**Degree Type**
Specialty Programs

**Building Trades Pathway**

Building Trades introduces students to skills in the four core areas of residential construction: masonry, carpentry, electricity, and plumbing. Students emphasize safety by earning the Occupational Safety and Health Administration (OSHA) 10 card as they build or repair residential structures, using a variety of materials and tools. Students will also learn current residential building codes associated with building trades. Students design and build scale or full-size structures and work with projects that help them understand the jobs of architects, carpenters, electricians, plumbers, surveyors, contractors, masons, design engineers, and a variety of other construction careers. They also explore aspects of the construction industry.

**Program Type**
Transfer
**Schools**
Patriot High School

## Building Trades Program Sequencing

### Grade 9:

| Title | Credits |
|---|---|
| Production Systems | 1 |

### Grade 10:

| Title | Credits |
|---|---|
| Construction Technology | 1 |

### Grade 11:

| Title | Credits |
|---|---|
| Building Trades 1 | 1 |

### Grade 12:

| Title | Credits |
|---|---|
| Building Trades 2 | 2 |

| | |
|---|---|
| Total Credits | 5 |

# Architecture & Construction - Cabinetmaking

**Degree Type**
Specialty Programs

**Cabinetmaking Pathway**

Students learn employability skills alongside workshop and tool safety as they practice reading blueprints; estimating and selecting materials; cutting and shaping stock; assembling, fastening, and installing components; and finishing surfaces. The technical, problem-solving, leadership, and creative skills learned in Cabinetmaking are relevant in industries beyond the construction trades and professions, and help prepare the student for lifelong learning and success.

**Program Type**
Transfer
**Schools**
Hylton High School

## Cabinetmaking Program Sequencing

### Grade 9:

| Title | Credits |
|---|---|
| Production Systems | 1 |

### Grade 10:

| Title | Credits |
|---|---|
| Construction Technology | 1 |

### Grade 11:

| Title | Credits |
|---|---|
| Cabinetmaking 1 | 1 |

### Grade 12:

| Title | Credits |
|---|---|
| Cabinetmaking 2 | 2 |
| Total Credits | 5 |

# Architecture & Construction - Electricity

**Degree Type**
Specialty Programs

**Electricity Pathway**

Students develop skills in the installation, operation, maintenance, and repair of residential, commercial, and industrial electrical systems. They also study electrical theory, navigate the National Electrical Code Book, select and install conductors, and work with panelboards, switchboards, and generators.

**Program Type**
Transfer
**Schools**
Unity Reed High School

## Electricity Program Sequencing

### Grade 9

| Title | Credits |
|---|---|
| Introduction to Engineering Design (PLTW) | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Digital Electronics (PLTW) | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Electricity 1 | 1 |

### Grade 12

| Title | Credits |
|---|---|
| Electricity 2 | 2 |
| Total Credits | 5 |

# Architecture & Construction - Plumbing

**Degree Type**
Specialty Programs

**Plumbing Pathway**

Students learn to safely assemble, install, and repair pipes, fittings, and fixtures of heating, water, and drainage systems, according to specifications and plumbing codes. Students learn marketable, job-specific skills and workplace readiness skills. They have the opportunity to earn an industry certification upon graduation. Students have the option to enter the job market directly or continue their studies via a college program, technical school, or apprenticeship program.

**Program Type**
Transfer
**Schools**
Gar-Field High School

## Plumbing Program Sequencing

### Grade 9

| Title | Credits |
|---|---|
| Production Systems | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Construction Technology | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Plumbing 1 | 1 |

### Grade 12

| Title | Credits |
|---|---|
| Plumbing 2 | 2 |
| Total Credits | 5 |

# Arts, A/V Technology & Communications - Television Production

**Degree Type**
Specialty Programs

**Television Production Pathway**

Television production prepares students to operate TV cameras, recorders, and editors as well as the associated audio, video, switching, and processing equipment. Many students go on to complete their studies at a university or specialized technical school following high school graduation. Student leadership and independence are stressed as students employ program proposals, scripts, and storyboards to produce and refine professional productions.

**Program Type**
Transfer
**Schools**
Hylton High School,
Patriot High School

## Television Production Program Sequencing

### Grade 9

| Title | Credits |
|---|---|
| Animation and Digital Content Technology | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Video and Media Technology | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Television and Media Production 1 | 1 |

### Grade 12

| Title | Credits |
|---|---|
| Television and Media Production 2 | 2 |
| Total Credits | 5 |

# Cambridge

**Degree Type**
Specialty Programs

**Cambridge Specialty Program**

The Cambridge Programme offers an international, pre-university curriculum and examination system that emphasizes the value of a broad and balanced education for academically able students. The Cambridge curriculum encourages the development of oral and practical skills, an investigative approach, the use of initiative to solve problems, the application of skills, knowledge, and understanding, and the ability to undertake individual projects and work as part of a team. A range of assessment tools are used. Emphasis is placed on the use of externally marked examination papers by the University of Cambridge International Examinations and on compulsory practical work where appropriate. An important principle of this examination system is that students are rewarded for positive achievement – what they know, understand, and can do – rather than being penalized for an accumulation of errors.

**Cambridge Program Requirements**

The **International General Certificate of Secondary (IGCSE)** is a two-year curriculum that provides strong preparation for higher-level courses. These courses are generally appropriate for grade 9 and 10 students. For most IGCSE courses, students must sit for external examinations administered by the University of Cambridge International Examinations. Upon successful completion, students will receive individual subject certificates.

The **Advanced International Certificate of Education (AICE)** Diploma is a two-year curriculum designed to build on IGCSE qualifications that may lead to college credit(s). These courses are appropriate for grade 11 and 12 students. The AICE course of study aims to provide a broad and international pre-university curriculum, equip students to cope successfully with the demands of higher education, provide a professional assessment of student performance on internationally recognized standards of achievement, increase appreciation of world cultures, and create positive learning experiences for students. AICE subjects can be taken in two ways: as individual subject examinations or as qualifications towards the AICE Diploma.

The AICE Diploma requires a minimum of seven AICE courses to include AS Level Global Perspectives and Research. Learners may select courses from subject Groups 1, 2, 3, and 4 to be awarded the AICE Diploma. Learners must achieve at least one credit from each of Groups 1, 2, and 3. A maximum of two credits may be gained from Group 4. Students who meet the requirements of this group award will receive an AICE Diploma at one of three levels: *Pass*, *Merit or Distinction*.

**All AICE courses require students to sit for external examinations administered by the University of Cambridge International Examinations.**

**Program Type**
Transfer
**Schools**
Brentsville District High School,
Potomac High School

## Cambridge Program Sequencing for Cambridge Certificate

Students who participate in the Cambridge program must take at least one Cambridge course each year. Students may choose from any available Cambridge course and should work with their counselor to select courses.

### Grades 9 - 12

Cambridge Programme English
Cambridge Programme Math
Cambridge Programme Music
Cambridge Programme Science
Cambridge Programme History and Social Science
Cambridge Programme Visual Arts
Cambridge Programme World Language

## Cambridge Program Sequencing for AICE Diploma

To earn the AICE Diploma, students must have a qualifying score from Global Perspectives along with six additional tests. At least one credit must come from each of the groups below. A maximum of two credits can count from Group 4. Students must also take AICE World History and AICE Global Perspectives.

### Course Groups

#### Group 1: Math & Science

AICE Biology (AS Level)
AICE Biology (A Level)
AICE Mathematics 1 (AS Level)
AICE Mathematics 2 (A Level)
AICE Physics (AS Level)
AICE Physics (A Level)
AICE Environmental Management (AS Level)
AICE Psychology

#### Group 2: Languages

AICE English Language and Composition (AS)
AICE French 4 (AS)
AICE Spanish 4 (AS)

#### Group 3: Arts & Humanities

AICE English Literature (AS)
AICE U.S. History (AS)
AICE Economics (AS - A Level)
AICE Psychology
AICE Art and Design
AICE Sociology
AICE Classical Studies

#### Group 4: Interdisciplinary Subjects

AICE English General Paper (AS Level)
AICE Thinking Skills (AS Level)
AICE Thinking Skills (A Level)

# Center for Biotechnology and Engineering

**Degree Type**
Specialty Programs

**Biotechnology & Engineering Pathways**

The Center for Biotechnology and Engineering is a four-year program of study for students interested in health sciences, engineering, and related fields. This program emphasizes the broad understanding of theory and the application of science, math, and engineering to real-world issues. It provides students with opportunities to pursue authentic and meaningful, hands-on research projects. The Center for Biotechnology and Engineering provides students with a rich environment of integrated humanities and the opportunity to enroll in a variety of Advanced Placement (AP) science courses.

Students pursuing this program are required to complete an Advanced Studies Diploma.

**Key elements of the Center for Biotechnology and Engineering include:**

- Specialized science courses in Biology, Chemistry, Earth Science, and Physics
- Integrated history and social science and language arts classes in grades 9 and 10, designed to help students examine how history, literature, art, architecture, music, and philosophy are influenced by science
- Biotechnology or Engineering strands in grades 11 and 12 to complete the program
- Variety of science, math, and engineering choices that include high-interest classes
- Advanced Placement (AP) courses in Biology, Calculus (AB and BC), Capstone (Seminar and Research) Chemistry, Computer Science, Environmental Science, Physics, and Statistics
- Science and engineering-related extracurricular and co-curricular community activities and partnerships

**Program Requirements**

To remain in good standing and earn a certificate for the Center for Biotechnology and Engineering Program, students must meet the following requirements:

- Enroll in at least one Center for Biotechnology and Engineering class each year.
- Earn year-end grades of 'C' or better in their core subject areas (language arts, history and social science, math, and science)
- Complete at least seven year-long science, math, and engineering classes with a grade of 'C' or better in each. Courses should include:
    - **Biotechnology Pathway**
        - Advanced Biology;
        - Advanced Chemistry;
        - Physics; and
        - At least two Advanced Placement (AP) science classes.
    - **Engineering Pathway**
        - Advanced Biology;
        - Advanced Chemistry;
        - Two Engineering courses; and
        - Four AP science and math courses.
- Complete and document 100 hours that represent an array of extra and co-curricular efforts that support the program goals and relate to their sub-discipline areas of interest.

*The Virginia Board of Education provides the list of courses approved to satisfy graduation requirements for the standard and advanced studies diplomas in science. All other PWCS science courses are local electives. Refer to course-specific catalog descriptions for additional information.*

The following schematic reflects sample frameworks for a Center for Biotechnology and Engineering four-year course of study. Students may also earn college credit for qualifying scores on AP exams (college credit for AP scores varies by college/university and by subject).

**Program Type**
Transfer
**Schools**
Osbourn Park High School

# Biotechnology And Engineering Pathway Sequencing

## Required for both pathways

| Title | Credits |
|---|---|
| Advanced English 9 | 1 |
| Advanced Biology 1 | 1 |
| Advanced World History and Geography to 1500 | 1 |
| Advanced English 10 | 1 |
| Advanced Chemistry 1 | 1 |
| Algebra 2 | 1 |

## Suggested for both pathways

| Title | Credits |
|---|---|
| Grade 9 Math | 1 |
| Grade 9 World Language | 1 |
| Health and Physical Education 1 | 1 |
| Grade 10 Math | 1 |
| Grade 10 World Language | 1 |
| AP World History | 1 |
| Health and Physical Education 1 | 1 |

# Biotechnology Pathway

Students must complete a total of seven courses from the following list, with two of those courses being at the AP level.

**The following courses have a prerequisite**:

- Human Body Systems (PLTW) has a prerequisite of Principles of Biomedical Science (PLTW)
- Principles of Engineering (PLTW) has a prerequisite of Introduction to Engineering Design (PLTW)

## Courses

| Title | Credits |
|---|---|
| Biology 2: Genetics | 1 |
| Biology 2: Introduction to DNA Science and Biotechnology | 1 |
| Biology 2: Survey of Microbiology and Forensics | 1 |
| Chemistry 2: Organic Chemistry | 1 |
| Earth Science 1 | 1 |
| Earth Science 2: Oceanography | 1 |
| Earth Science 2: Physical Geology | 1 |
| Scientific Illustration | 1 |
| AP Science Elective | 1 |
| Principles of Biomedical Science (PLTW) | 1 |
| Human Body Systems (PLTW) | 1 |
| Introduction to Engineering Design (PLTW) | 1 |
| Principles of Engineering (PLTW) | 1 |

## Engineering Pathway

Students must be in good standing in the Biotechnology or Pre-Governor's School program, be enrolled in Algebra II or higher math class, and have completed their first 50 Biotechnology service hours. Students will study six courses that support the accelerated study of math and science while introducing principles of engineering.

### Required Courses

| Title | Credits |
|---|---|
| AP Calculus AB | 1 |
| AP Calculus BC | 1 |
| AP Physics 1 | 1 |
| AP Physics 2 | 1 |
| AP Physics C: Mechanics | 1 |
| AP Science Elective | 1 |

### One AP Elective

| Title | Credits |
|---|---|
| AP Seminar | 1 |
| AP Computer Science Principles | 1 |
| AP Statistics | 1 |

### Two Engineering Electives

**The following courses have a prerequisite:**

- Architectural Drawing and Design has a prerequisite of Technical Drawing and Design
- Engineering Drawing and Design has a prerequisite of either Technical Drawing and Design ***or*** Introduction to Engineering Design (PLTW).
- Principles of Engineering (PLTW), Digital Electronics (PLTW), Civil Engineering and Architecture (PLTW), and PLTW Capstone have a prerequisite of Introduction to Engineering Design (PLTW)

| Title | Credits |
|---|---|
| Technical Drawing and Design | 1 |
| Architectural Drawing and Design | 1 |
| Engineering Drawing and Design | 1 |
| Introduction to Engineering Design (PLTW) | 1 |
| Principles of Engineering (PLTW) | 1 |
| Digital Electronics (PLTW) | 1 |
| Civil Engineering and Architecture (PLTW) | 1 |
| PLTW Capstone | 1 |
| Total Credits | 13-15 |

# Center for Environmental and Natural Sciences

**Degree Type**
Specialty Programs

**Environmental and Natural Sciences Pathways**

The Center for Environmental and Natural Sciences (CENS) specialty at Freedom High School offers a rigorous four-year program of studies designed to include strong laboratory and field investigation components. The mission of CENS is to promote environmental citizenship and a sustainable community through challenging, hands-on collaborative

learning experiences that promote innovative thinking, problem-solving, and leadership within our school and community. Freedom High School aims to create a sustainable society of students that embodies respect and care for the community of life and ecological integrity.

The program emphasizes interactive science research and projects that make use of the on-site CENS lab, greenhouse, aquarium, diverse habitats, and wet pond. Students participate in co-curricular and extracurricular activities, including community service, and become involved with business and community partnerships that enhance their understanding of environmental and natural sciences.

Students in the CENS program may choose one of the following pathways: Environmental Engineering, Environmental Science, or Law and Public Safety.

Specialized components of the Center for Environmental and Natural Sciences program include:

- Advanced science courses in Earth science, biology, chemistry, physics, ecology, and environmental science;
- Integrated advanced/AP history and social science and language arts classes during grades 9 and 10 which provide interdisciplinary lessons and projects that examine history, literature, art, architecture, music, and philosophy and the influences of science and technology on each;
- Advanced Placement (AP) courses in biology, chemistry, environmental science, physics, English, history and social science, and world languages that provide the opportunity to earn college credits while still in high school;
- On-site greenhouse, aquarium, wet pond, native habitat trail, mobile computer lab, and environmental and natural sciences lab; and
- Science-related extracurricular and co-curricular community activities, as well as partnerships with businesses and academia.

**Program Requirements**

**CENS MEDAL: Environmental Science Program of Study**

- Six CENS Classes: Advanced Biology, Advanced Chemistry, AP Biology (or DE Biology I), AP Environmental Science, and two CENS electives.
- CENS students must complete a research project that will be presented as a seminar requirement in grades 11 or 12.
- 80 hours of community service.

**CENS MERIT: Environmental Science Program of Study**

- Five CENS classes: Advanced Biology, Advanced Chemistry, AP Biology (or DE Biology I), AP Environmental Science, and one CENS elective.
- 60 hours of community service.

**CENS CERTIFICATE**: **Environmental Engineering Program of Study**

- Four CENS Classes: Advanced Biology, Advanced Chemistry, and two CENS electives.
- 40 hours of community service.

**CENS PATHWAY**: **Environmental Engineering Program of Study**

- Three science courses and one CENS elective.

*All CENS students must maintain a 'C' average in their core subject areas (language arts, history and social science, math, and science) and be enrolled in at least one CENS class each year. The CENS core classes include Advanced Biology, Advanced Chemistry, AP Environmental Science, AP Biology, and DE Biology. CENS electives include all AP science classes, all DE science classes, Ecology, Advanced Earth Science, Forensics, Astronomy, Oceanography, and Physics.

**Environmental Science**

| Grade | CENS Merit | CENS Medal |
|---|---|---|
| 9 | Advanced Biology 1 | Advanced Biology 1 |
| 10 | Advanced Chemistry 1 | Advanced Chemistry 1 |
| 11 | AP Biology ***or*** Biology 1 (DE) | AP Biology ***or*** Biology 1 (DE)<br>***and*** one CENS Elective |
| 12 | AP Environmental Science<br>***and*** one CENS Elective<br>***and*** 80 hours of community service | AP Environmental Science<br>***and*** one CENS Elective<br>***and*** 80 hours of community service |

**CENS Electives for CENS Merit and Medal Candidates:**

- AP Biology
- AP Chemistry
- Biology 1 (DE)
- Biology 2 (DE)
- Biology 2: Ecology
- Chemistry 2: Forensic Sciences and Chemical Analysis
- Earth Science 2: Oceanography

**Environmental Engineering**

| Grade | CENS Pathway | CENS Certificate |
|---|---|---|
| 9 | Biology 1 ***and*** Introduction to Engineering Design (PLTW) | Advanced Biology 1 ***and*** Introduction to Engineering Design (PLTW) |
| 10 | Advanced Earth Science 1 ***and*** Civil Engineering and Architecture (PLTW) | Advanced Chemistry 1 ***and*** Civil Engineering and Architecture (PLTW) |
| 11 | Chemistry 1 ***and*** Principles of Engineering (PLTW) | Principles of Engineering (PLTW) |
| 12 | PLTW Capstone<br>***and*** two CENS Electives<br>***and*** 40 hours of community service | PLTW Capstone<br>***and*** two CENS Electives<br>***and*** 40 hours of community service |

**CENS Electives for CENS Pathway and Certificate Candidates:**

- AP Environmental Science
- AP Biology
- AP Chemistry
- Biology 1 (DE)
- Biology 2 (DE)
- Biology 2: Ecology
- Biology 2: Survey of Advanced Topics in Biology
- Chemistry 2: Forensic Sciences and Chemical Analysis
- Earth Science 2: Oceanography

**Additional Electives:**

- Statistics
- AP Statistics

**Program Type**
Transfer
**Schools**
Freedom High School

# Center for Fine and Performing Arts

**Degree Type**
Specialty Programs

**Fine and Performing Arts Program**

The Center for the Fine and Performing Arts (CFPA) program encourages and develops creativity, self-expression, academic achievement, and critical thinking in young artists. Upon graduation, students will master learning that broadens the artist and promote respect for cultural diversity. As a result of the training received in the CFPA program, students will have the skills necessary to be successful in a college/university arts program and to become active consumers, strong advocates, and valued participants in the larger arts community.

Students may audition to participate in one of nine concentrations: Band, Creative Writing, Dance, Music Technology, Orchestra, Piano, Theatre, Visual Arts, and Vocal Studies. Visiting artists, professional master classes, and concert and gallery visits enhance the Arts curriculum. In grades 9 and 10, CFPA students will be grouped together in English class to support an interdisciplinary approach. The Colgan High School faculty seeks to maintain a nurturing environment that supports experimentation and self-assessment. To this end, we encourage both individual and group activities that sustain the contribution of the arts to the human spirit.

The goals of the CFPA Program are to:

- Provide opportunities for arts-integrated learning.
- Encourage critical thinking through complex problem-solving.
- Promote a supportive atmosphere conducive to artistic expression.
- Provide cultural enrichment activities.
- Prepare students for entry into college or university arts programs and careers.
- Offer quality curriculum and instruction which promotes the development of the complete student.
- Encourage partnerships with local artists and arts organizations.

**Program Requirements**

Students enrolled in the CFPA program must:

- Completion of five credits (six credits for band students) in the chosen arts concentration (four credits for those entering as a sophomore)
- Participation in four Master Classes each year (two must be in their concentration area, and two can be in another concentration of interest)
- Attendance at Colgan High School performances and other CFPA events (requirements vary in each concentration)
- Completion of all portfolios and/or performance requirements
- Earn a 2.0 (C) or better in each academic class each year
- Earn a 3.0 (B) or better in each concentration class each year
- Complete participation activities (in addition to master classes).

**Program Type**
Transfer
**Schools**
Colgan High School

# Band Program Sequencing

| Grade | Courses / Notes |
|---|---|
| 9 | Band (1357) and Marching Band |
| 10 | Band (1357) and Marching Band |
| 11 | Band (1357) and Marching Band and Music Elective |
| 12 | Band (1357) and Marching Band and Music Elective |
| **Notes** | Marching Band takes place during summer and after school.<br><br>Music electives include AP Music Theory, Band, Choir, Music Tech, and Orchestra |

## Creative Writing Program Sequencing

| Grade | Courses / Notes |
|---|---|
| 9 | Creative Writing Exploration |
| 10 | Advanced Genre Focus - Poetry and Fiction |
| 11 | Advanced Genre Focus - Script Writing and Creative Nonfiction and Creative Writing for Publications |
| 12 | Advanced Creative Writing Workshop and Seminar |
| **Notes** | Three genre-specific courses in grades 10 and 11 may be taken in any order |

## Dance Program Sequencing

| Grade | Courses / Notes |
|---|---|
| 9 | CFPA Dance 1 Company |
| 10 | CFPA Dance 2 Corps |
| 11 | CFPA Dance 3 Ensemble |
| 12 | CFPA Dance 4 Artist |
| **Notes** | Dance level to be determined after adjudication/ assessment |

## Music Technology Program Sequencing

| Grade | Courses / Notes |
|---|---|
| 9 | CFPA Symphonic Band, CFPA Concert band, CFPA Percussion Ensemble, CFPA Wind Symphony **OR**<br>CFPA Bass Varsity Choir, CFPA Concert Choir, CFPA Treble Camerata, CFPA Colgan Chamber Ensemble **OR**<br>CFPA Concert Orchestra, CFPA Chamber Strings, CFPA Orchestra Ensemble, CFPA Philharmonic Orchestra |
| 10 | Music Technology |
| 11 | CFPA Advanced Music Technology |
| 12 | Two Music Electives |
| **Notes** | Music electives include AP Music Theory, Band, Choir, Music Tech, and Orchestra |

## Orchestra Program Sequencing

| Grade | Courses / Notes |
|---|---|
| 9 | CFPA Concert Orchestra, CFPA Chamber Strings, CFPA Orchestra Ensemble, CFPA Philharmonic Orchestra |
| 10 | CFPA Concert Orchestra, CFPA Chamber Strings, CFPA Orchestra Ensemble, CFPA Philharmonic Orchestra<br>Optional: CFPA Piano |
| 11 | CFPA Concert Orchestra, CFPA Chamber Strings, CFPA Orchestra Ensemble, CFPA Philharmonic Orchestra<br>Optional: CFPA Piano and AP Music Theory |
| 12 | CFPA Concert Orchestra, CFPA Chamber Strings, CFPA Orchestra Ensemble, CFPA Philharmonic Orchestra<br>Optional: CFPA Piano and AP Music Theory |
| **Notes** | AP Music Theory or Piano must be complete during the program |

## Piano Program Sequencing

| Grade | Courses / Notes |
|---|---|
| 9 | CFPA Piano |
| 10 | CFPA Piano |
| 11 | AP Music Theory |
| 12 | Two Music Electives |
| **Notes** | Music electives include AP Music Theory, Band, Choir, Music Tech, and Orchestra |

## Theatre Program Sequencing

| Grade | Courses / Notes |
|---|---|
| 9 | Theatre Arts 1: Introduction to Theatre |
| 10 | Theatre Arts 2: An Exploration of Performance in Theatre |
| 11 | Theatre Arts 3: Dramatic Literature and Theatrical Design |
| 12 | Directing for the Stage and Screen |
| **Notes** | Theatre electives include Theatre Production, Musical Theatre, and Film Studies |

## Visual Arts Program Sequencing

| Grade | Courses / Notes |
|---|---|
| 9 | CFPA Studio Art 1 |
| 10 | CFPA Studio Art 2<br>Optional: Photography 1 **OR** Digital Art 1 |
| 11 | Art Portfolio Preparation<br>Optional: Photography 1 or Photography 2 ; Digital Art 1, AP Studio Art 2D Design, AP Studio Art 3D Design |
| 12 | Two Focus Studies: Options Include<br>AP Studio Art Drawing, AP Studio Art 2D Design, AP Studio Art 3D Design, and any of the optional courses listed above. |
| **Notes** | Students must have a minimum of five Visual Arts credits |

## Vocal Program Sequencing

| Grade | Courses / Notes |
|---|---|
| 9 | CFPA Bass Varsity Choir, CFPA Concert Choir, CFPA Treble Camerata, CFPA Colgan Chamber Ensemble |
| 10 | CFPA Bass Varsity Choir, CFPA Concert Choir, CFPA Treble Camerata, CFPA Colgan Chamber Ensemble<br>Optional: CFPA Piano |
| 11 | CFPA Bass Varsity Choir, CFPA Concert Choir, CFPA Treble Camerata, CFPA Colgan Chamber Ensemble<br>Optional: CFPA Piano and AP Music Theory |
| 12 | CFPA Bass Varsity Choir, CFPA Concert Choir, CFPA Treble Camerata, CFPA Colgan Chamber Ensemble<br>Optional: CFPA Piano and AP Music Theory |
| **Notes** | Piano or AP Music Theory must be complete during the program |

Total Credits 0

# Center for International Studies and Languages

**Degree Type**
Specialty Programs

**International Studies And Languages Pathway**

CISL (pronounced "sizzle") is the Center for International Studies and Languages at C.D. Hylton High School. The CISL specialty program allows students to follow a comprehensive and rigorous program of study in pursuit of global awareness. The program advances understanding of global issues respective to cultures and languages, information and communication, and political, economic, and environmental systems.

CISL prepares students for success in today's global marketplace, for university study, and a future international career. Hylton offers numerous world languages, active foreign exchange programs (including opportunities for overseas travel), and various other globally focused extracurricular and hands-on field experiences. Students who successfully complete this intensive program will receive a CISL certificate to accompany the advanced studies diploma, and wear the CISL Honor Stole at graduation.

**The CISL program components are:**

- Course sequence options emphasizing an appreciation and understanding of world languages, culture, and current global issues.
- Extracurricular programs and community service activities promoting international awareness and global communication.
- Exit interview demonstrating a working knowledge of a world language.
- Interdisciplinary research project (independent project completed senior year).

**Program Requirements**

**CISL Graduate with Honors**

- Advanced English 9 & 10
- Advanced World History 1
- AP Human Geography
- AP Comparative Government & Politics
- 4+ years of the same world language or a combination of 4+ years of Arabic, Korean or Russian
- Additional AP or DE courses in either World Language, Language Arts, or History and Social Science
- Exit Interview in a World Language
- Complete an International Research Project
- Earn at least 25 CISL points per year

**CISL Graduate with a World Language Concentration:**

- 4+ years of the same World Language or a combination of 4+ years of Arabic, Korean or Russian
- Must take a World Language course each year of high school
- Complete the World Language Exit Interview
- Earn at least 15 CISL points per year

**CISL Graduate with a Social & Political Sciences Concentration:**

- Advanced World History 1
- AP Human Geography
- AP Comparative Government & Politics
- An additional AP or DE course in Language Arts, History and Social Science, or World Language
- Complete an International Research Project
- Earn at least 15 CISL points per year

**Co-Curricular & Extracurricular Activities**

The CISL Program has developed a unique relationship between the academic program and its supporting co-curricular and extracurricular activities. Students are required to complete between 15-25 points of co-curricular and extracurricular activities that increase their global awareness and promote global understanding. Though not required, international travel and participation in exchange programs are strongly encouraged.

**Program Type**
Transfer
**Schools**
Hylton High School

## Program Sequence

| Grade | CISL Graduate with Honors | CISL Graduate: World Language Concentration | CISL Graduate: Social & Political Sciences Concentration |
|---|---|---|---|
| 9 | Advanced English 9 ***and*** Advanced World History and Geography to 1500 ***and*** World Language Sequence | World Language Sequence | Advanced World History and Geography to 1500 |
| 10 | Advanced English 10 ***and*** AP Human Geography ***and*** World Language Sequence | World Language Sequence | AP Human Geography |
| 11 | World Language Sequence ***and*** AP course in English ***or*** History and Social Science ***and*** Additional World Language course | World Language Sequence | An AP ***or*** DE course in English, History and Social Science, ***or*** a World Language |
| 12 | AP Government and Politics: Comparative ***and*** World Language Sequence | World Language Sequence | AP Government and Politics: Comparative |
| Notes | Must complete the World Languages Exit Interview, complete an International Research Project, & earn at least 25+ CISL points each year | Must complete the World Language Exit Interview & earn at least 15+ CISL points each year | Must complete an International Research Project & earn at least 15+ CISL points each year |

# Governor's School @ Innovation Park

**Degree Type**
Specialty Programs

**Governor's School @ Innovation Park Pathway**

The Governor's School @ Innovation Park (GS@IP) provides an alternative learning environment in a university setting designed to meet the needs of academically talented and highly motivated learners. The STEM program provides a uniquely designed integrated science, math, engineering, and technology curriculum with real-world research and application opportunities. Students attending GS@IP will be engaged in multiple opportunities to develop their leadership skills and potential by applying their intellectual design based on research into action proposals. Students attending the partial-day program at The Governor's School will have the opportunity to continue being involved in the social and extracurricular activities offered by their base schools. By providing a dual enrollment program, The Governor's School @ Innovation Park enables college-bound students to be challenged with college-level content while earning both high school and college credits in science and math. Students will also be awarded opportunities to interact with science researchers and learn about possible career opportunities.

**Interdisciplinary Connectivity and Technology Integration**

GS@IP faculty collaborates to integrate content knowledge and skills across disciplines. Students are challenged to understand and engage in the process of scientific investigation using state-of-the-art technology and to utilize their technical writing skills to present their findings.

**Program Sequencing**

Governor's School @ Innovation Park elective courses may be used to satisfy Virginia's sequential elective requirement.

Additionally, elective courses offered through the Governor's School @ Innovation Park may be applied as the third laboratory science credit for students in the Biology and Chemistry strands, provided the student successfully completes the course in accordance with the Standards of Accreditation.

*The sequence of Principles of Technology 1 (03153-I) and Principles of Technology 2 (03153-II) will satisfy one (1) standard unit of credit in laboratory science for physics and one (1) elective credit. Students who enroll in the Principles of Technology 1 and 2 sequence for a physics credit must have completed Algebra 1 and two (2) other laboratory science courses as specified by the Standards of Accreditation prior to enrolling in Principles of Technology 1. There are

no SOL assessments associated with the Principles of Technology 1 and 2 sequence. School divisions will administer the End-of-Course Biology 1 SOL test when the student has completed the associated SOL content. The Earth Science 1 and Chemistry 1 SOL assessments will be administered when needed to meet verified credit diploma requirements.

*BOARD OF EDUCATION APPROVED COURSES TO SATISFY GRADUATION REQUIREMENTS FOR THE STANDARD AND ADVANCED STUDIES DIPLOMAS IN VIRGINIA PUBLIC SCHOOLS

| Subject | 11th Grade | 12th Grade |
|---|---|---|
| **Math** | GS Pre-Calculus<br>GS Calculus 1<br>**OR**<br>GS Calculus 1<br>GS Calculus 2 | GS Calculus 1<br>GS Calculus 2<br>**OR**<br>GS Multivariable Calculus<br>GS Linear Algebra |
| **Science** | GS Biology 1<br>GS Biology 1 Lab<br>GS Chemistry 1<br>GS Chemistry 1 Lab<br>GS Physics 1<br>GS Physics 1 Lab | GS Biology 2<br>GS Biology 2 Lab<br>GS Chemistry 2<br>GS Chemistry 2 Lab<br>GS Physics 2<br>GS Physics 2 Lab |
| **Technology/Engineering** | GS Practicum in Engineering | GS Statics<br>GS Thermodynamics |
| **Research** | Hands-on research in science area of interest | Hands-on research in science area of interest |

**Program Type**
Transport
**Schools**
Governor's School @ Innovation Park

## Schedule For Students Enrolling in Pre-Calculus Junior Year

| Semester | Strand | 11th | 12th |
|---|---|---|---|
| **Fall** | **Math** | MATH 105 (4 credits) | MATH 116 (3 credits) |
| | **Science** | CHEM 211 (4 credits)<br>BIOL 103 (4 credits)<br>PHYS 243 (4 credits)<br>ENGR 107 (2 credits) | CHEM 104 (4 credits)<br>BIOL 124 (4 credits)<br>PHYS 160/161 (4 credits)<br>ME 211 (3 credits) |
| **Spring** | **Math** | MATH 115 (3 credits) | MATH 215 (4 credits) |
| | **Science** | CHEM 212 (4 credits)<br>BIOL 104 (4 credits)<br>PHYS 245 (4 credits)<br>ME 151 (2 credits) | CHEM 155 (4 credits)<br>BIOL 246 (3 credits)<br>PHYS 260/261 (4 credits)<br>ME 212 or 221 or 231 (3 credits) |

## Schedule For Students Enrolling In GS Calculus Fall/Spring Junior Year

| Semester | Strand | 11th | 12th |
|---|---|---|---|
| **Fall** | **Math** | MATH 115 (4 credits) | MATH 215 (3 credits) |
| | **Science** | CHEM 211 (4 credits)<br>BIOL 103 (4 credits)<br>PHYS 243 (4 credits)<br><br>ENGR 107 (2 credits) | CHEM 104 (4 credits)<br>BIOL 124 (4 credits)<br>PHYS 160 (4 credits)<br>ME 211 (3 credits) |
| **Spring** | **Math** | MATH 116 (4 credits) | MATH 203 (3 credits) |
| | **Science** | CHEM 212 (4 credits)<br>BIOL 104 (4 credits)<br>PHYS 245 (4 credits)<br>ME 151 (2 credits) | CHEM 155 (4 credits)<br>BIOL 246 (4 credits)<br>PHYS 260 (4 credits)<br>ME 212/221/or 231 (3 credits) |

## Governor's School and George Mason University Course Crosswalk

| GS Course Names | George Mason University Dual Enrollment Option(s) | AP Exam Option | University Credit Transferability |
|---|---|---|---|
| GS Pre-Calculus | MATH 105 | No | No |
| GS Calculus Fall and Spring | MATH 115 and MATH 116 | Yes - Calculus BC | Likely - AP waiver equivalent course |
| GS Multivariable Calculus and Linear Algebra | MATH 215 and MATH 203 | No | Likely - comparable course |
| GS General Biology 1/Lab | BIOL 103/ BIOL 105 | Yes | Possible science elective |
| GS General Biology 2/Lab | BIOL 104/ BIOL 106 | No | Possible science electives |
| GS Human Anatomy & Physiology | BIOL 124 | Yes | Likely - AP waiver equivalent course |
| GS Microbiology/Lab | BIOL 245 | No | Possible science electives |
| GS General Chemistry 1/Lab<br>and<br>GS General Chemistry 2/Lab | CHEM 211/ CHEM 212 | Yes | Likely - AP waiver equivalent course |
| GS Introduction to Organic Chemistry/Lab | CHEM 104 | No | Possible science electives |
| GS Environmental Chemistry/Lab | CHEM 155 | No | Possible science electives |
| GS College Physics 1/Lab<br>and<br>GS College Physics 2/Lab | PHYS 243/ PHYS 244<br>and<br>PHYS 245/ PHYS 246 | Appropriate AP Physics Exam | Likely - AP waiver equivalent course, possible science elective for non-physics majors |
| GS University Physics 1/Lab<br>and<br>GS University Physics 2/Lab | PHYS 160/ PHYS 161<br>and<br>PHYS 260/ PHYS 261 | Physics C | Likely – University Physics |
| Engineering 1 | ENGR 107 and ME 151 | No | Likely - comparable course |
| Engineering 2 | ME 211<br>and<br>ME 212 or 221 or 231 | No | Likely - comparable course |
| Junior Year Research | COS 120 | No | Possible science elective |
| Senior Year Research | COS 120 | No | Possible science elective |

# Health Science - Biomedical Science

**Degree Type**
Specialty Programs

### Biomedical Sciences Pathway

The rigorous and relevant four-course Project Lead the Way (PLTW) Biomedical Science sequence allows students to investigate the roles of biomedical professionals as they study the concepts of human medicine, physiology, genetics, microbiology, and public health. Students experience engaging activities such as a fictional death investigation to learn content in the context of real-world cases. They examine the structures and interactions of human body systems and explore the prevention, diagnosis, and treatment of disease, all while working collaboratively to understand and design solutions to the most pressing health challenges of today and the future.

**Biotechnology Research & Development**

Biotechnology Research & Development Pathway: Careers in the Biotechnology Research & Development pathway involve bioscience research and development as it applies to human health. These scientists may study diseases to discover new treatments or invent medical devices used to directly assist patients or to improve the accuracy of diagnostic tests.

**Program Type**
Transfer
**Schools**
Gainesville High School,
Osbourn Park High School

## Biomedical Science Program Sequencing

### Grade 9:

| Title | Credits |
|---|---|
| Principles of Biomedical Science (PLTW) | 1 |

### Grade 10:

| Title | Credits |
|---|---|
| Human Body Systems (PLTW) | 1 |

### Grade 11:

| Title | Credits |
|---|---|
| Medical Interventions (PLTW) | 1 |

### Grade 12:

| Title | Credits |
|---|---|
| Biomedical Innovation (PLTW) | 1 |
| Total Credits | 4 |

# Health Science - Emergency and Sports Medical Training

**Degree Type**
Specialty Programs

**Emergency and Sports Medical Training**

The Emergency and Sports Medical Training Program is a four-year program designed for students interested in pursuing a career in medicine with a specific focus on athletic training and emergency medical training. The program introduces students to foundational and advanced concepts in health, emergency, and sports medical sciences.

**Program Type**
Transfer
**Schools**
Brentsville District High School

## Emergency and Sports Medical Training Sequencing

### Grade 9

| Title | Credits |
|---|---|
| Introduction to Health and Medical Science | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Sports Medicine 1 | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Sports Medicine 2 | 1 |

### Grade 12

| Title | Credits |
|---|---|
| Emergency Medical Technician (EMT) 1 | 1 |
| Emergency Medical Technician (EMT) 2 | 1 |
| Total Credits | 5 |

# Health Science - Medical Coding And Billing

**Degree Type**
Specialty Programs

**Medical Coding and Billing Pathway**

Students will be introduced to healthcare systems, how to manage an office, and the electronic medical record as it pertains to the field of medical coding and billing. Students will be exposed to the medical terminology used to describe human anatomy and physiology. Students will also be introduced to the field of health informatics.

**Program Type**
Transfer
**Schools**
Freedom High School

## Medical Coding and Billing Program Sequencing

### Grade 9

| Title | Credits |
|---|---|
| Introduction to Health and Medical Science | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Medical Terminology | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Medical Coding and Billing 1 | 1 |

### Grade 12

| Title | Credits |
|---|---|
| Medical Coding and Billing 2 | 1 |
| Total Credits | 4 |

# Health Science - Pharmacy Technician

**Degree Type**
Specialty Programs

**Pharmacy Technician Pathway**

This certificate program is designed for students to explore and apply the fundamentals of pharmacy practice, pharmacy law, regulations and ethics, prescription interpretation and pharmacy calculations. Additionally, students will apply advanced pharmacy practice, sterile compounding, non-sterile compounding, and inventory management skills during clinical experiences in various pharmaceutical settings (e.g., hospital and retail) within the local community. The coursework will fulfill the requirements of the Virginia Board of Pharmacy and prepare students for industry credentials and certification examinations.

Satisfactory completion of standards involving compounding by persons who are under 18 years of age and registered with the Virginia Board of Pharmacy as a pharmacy technician trainee shall be met through manipulation of placebos (inert products) in a simulation environment and shall not involve physically mixing drugs together to produce a compounded drug product.

Pharmacy technician programs must maintain regulatory compliance for all enrolled students. For students to receive credit for completion of an accredited pharmacy technician training program, the program requirements must be met, to include both classroom and clinical portions of the program. Furthermore, clinical experiences must include a **minimum of 130 hours** in a dispensing pharmacy setting where the students will utilize skills learned during the course.

**Program Type**
Transfer
**Schools**
Freedom High School

## Pharmacy Technician Program Sequencing

### Grade 9

| Title | Credits |
|---|---|
| Introduction to Health and Medical Science | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Medical Terminology | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Pharmacy Technician 1 | 1 |

### Grade 12

| Title | Credits |
|---|---|
| Pharmacy Technician 2 | 2 |
| Total Credits | 5 |

# Health Science - Practical Nursing

**Degree Type**
Specialty Programs

**Practical Nursing Pathway**

Practical Nursing prepares students at the pre-professional level for service disciplines related to medicine, nursing, and allied health careers. Course competencies are based on industry qualifications, certifications, and licensure requirements.

Students in grades 9 through 11 who are interested in the Practical Nursing Program are encouraged to take the Introduction to Health and Medical Science and Medical Terminology courses at their base school, where available.

Practical Nursing 1 and 2 are senior level courses taught at Osbourn Park High School, with clinical experiences at local hospitals, assisted living facilities, and nursing homes. The 18-month program begins in the senior year of high school. Tuition is charged for the second year of the program.

Students are admitted to the program by application which may include an interview and testing. Applications must be completed during course registration the year prior to program entry.

**Program Type**
Transport
**Schools**
Osbourn Park High School

## Nursing Program Sequencing

### Grades 9-10

| Title | Credits |
|---|---|
| Introduction to Health and Medical Science | 1 |

### Grades 10-11

| Title | Credits |
|---|---|
| Medical Terminology | 1 |

### Grade 12

These courses are taken concurrently during your senior year.

| Title | Credits |
|---|---|
| Practical Nursing 1 (Semester) | 2 |
| Practical Nursing 2 (Semester) | 2 |
| Total Credits | 6 |

# Hospitality & Tourism - Culinary Arts

**Degree Type**
Specialty Programs

**Culinary Arts Pathway**

Culinary Arts prepares students to practice the managerial, production, and service skills used in food establishments and related food industry occupations such as chef/cook, baker/pastry chef, and hospitality worker. Students plan, select, store, purchase, prepare and serve food and food products; study basic nutrition, sanitation, and food safety; learn the use and care of commercial equipment; and practice the operation of institutional food establishments. In addition to refining these skills, students will practice serving and dining room management throughout the two-year program. Students engage in real-world experiences by working cooperatively with local business owners and various food establishments in the community. Courses are scheduled in a two-period/double block each year beginning in the 11th grade.

Students in grades 9 through 11 who are interested in the Culinary Arts Program are encouraged to take the Nutrition and Wellness and Introduction to Culinary Arts courses at their base school.

**Program Type**
Transport
**Schools**
Gar-Field High School,
Patriot High School,
Potomac High School

## Culinary Arts Program Sequencing

### Grade 11

| Title | Credits |
|---|---|
| Culinary Arts 1 | 2 |

### Grade 12

| Title | Credits |
|---|---|
| Culinary Arts 2 | 2 |
| Total Credits | 4 |

# Human Services - Cosmetology

**Degree Type**
Specialty Programs

**Cosmetology Pathway**

Cosmetology students develop the skills and knowledge necessary to pass the Virginia Board of Registered Professional Hairdressers licensing examination for entry-level jobs such as a manicurist, salon receptionist, shampoo technician, and licensed cosmetologist. Cosmetology is a two-year program of study that begins in the 11th grade. Courses are scheduled in a three-period/triple block each year.

**Program Type**
Transport
**Schools**
Unity Reed High School,
Woodbridge High School

## Cosmetology Program Sequencing

### Grade 11

| Title | Credits |
|---|---|
| Cosmetology 1 | 3 |

### Grade 12

| Title | Credits |
|---|---|
| Cosmetology 2 | 3 |
| Total Credits | 6 |

# Information Technology - CASIIT, Cybersecurity (Dual Enrollment)

**Degree Type**
Specialty Programs

**Information Technology Career Cluster**

The Information Technology Career Cluster is focused on building linkages in information technology occupations for entry level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

**Center for Applied Sciences, Interactive, and Information Technology (CASIIT) Program**

With the speed and breadth of innovative change, students entering the next-generation technological workplace will need to be able to adapt to rapid change while thinking critically and creatively. The ever-changing and interactive nature of the technology workplace will also require students to demonstrate highly developed social and technical intelligence. The Information Technology Programs will provide interested students the opportunity to become engaged in an intensive technological program of studies developed through a collaborative relationship with the business and academic community.

Some courses in these programs are offered for dual enrollment through a partnership with Northern Virginia Community College.

A series of professional certificate programs are designed for the Standard or Advanced Diploma student. These areas of study will immerse the student in a one- or two-year program of study, which after successful completion of the exam, could lead to professional industry certification.

**Program Type**
Transfer
**Schools**
Battlefield High School

## Cybersecurity

This program is designed for individuals seeking employment in a technical support center and for those persons employed who wish to update their skills in the help desk field. This curriculum will prepare students for employment as help desk specialists/technicians, desktop support specialists, and technical support specialists. Upon completion, graduates are prepared to study for the A+ Software, A+ Hardware, Network+, Security+ and AWS Certified Cloud Practitioner exams.

PWCS students will graduate with 15 of 19 college credits in the Information Systems Technology: IT Technical Support Career Studies Certificate (C.S.C.), which builds into the A.S. Information Technology – approximately 2 semesters and 3 credentials free.

| Grade | PWCS Courses | PWCS Credits | Northern Virginia Community College (NVCC) Courses | NVCC Credits |
|---|---|---|---|---|
| 9 | Cybersecurity Fundamentals | 1 | | |
| 10 | Cybersecurity Operations | 1 | ITE 152, Introduction to Digital and Information Literacy and Computer Applications (credit for prior learning ITF+ credential) | 3 |
| 11 | Cybersecurity Systems Technology DE | 1 | ITN 101, Introduction to Network Concepts, *and*<br>ITN 260, Network Security Basics | 3<br>3 |
| 12 | Advanced Cybersecurity Systems Technology DE | 2 | ITN 106, Microcomputer Operating Systems, *and*<br>ITN 107, Personal Computer Hardware and Troubleshooting | 3<br>3 |
| | **Total Credits** | **5** | | **15** |

# Information Technology - Center for Applied Sciences, Interactive, and Information Technology Program (CASIIT)

**Degree Type**
Specialty Programs

**Information Technology Career Cluster**

The Information Technology Career Cluster is focused on building linkages in information technology occupations for entry level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

**Center for Applied Sciences, Interactive, and Information Technology (CASIIT) Program**

With the speed and breadth of innovative change, students entering the next-generation technological workplace will need to be able to adapt to rapid change while thinking critically and creatively. The ever-changing and interactive nature of the technology workplace will also require students to demonstrate highly developed social and technical intelligence. The Information Technology Programs will provide interested students the opportunity to become engaged in an intensive technological program of studies developed through a collaborative relationship with the business and academic community.

Some courses in these programs are offered for dual enrollment through a partnership with Northern Virginia Community College.

A series of professional certificate programs are designed for the Standard or Advanced Diploma student. These areas of study will immerse the student in a one- or two-year program of study, which after successful completion of the exam, could lead to professional industry certification.

**Program Type**
Transfer
**Schools**
Battlefield High School

# Battlefield CASIIT Program

Students who complete four of the classes below, with an overall and CASIIT GPA* of 2.5, will receive a silver CASIIT medal

Students who complete six of the classes below, with an overall and CASIIT GPA* of 3.0, will receive a gold CASIIT medal

Students will take at least one of the following courses in each grade level:

## Grade 9

| Course Options | Prerequisite |
|---|---|
| Advanced Computer Mathematics | Algebra 1 |
| Game Design and Development | None |
| Engineering Explorations 1 | None |
| IT Graphic Design | None |
| Information Technology (IT) Fundamentals or Information Technology (IT) Fundamentals DE | None |
| Technology Foundations | None |
| Cybersecurity Fundamentals | None |

## Grade 10

| Course Options | Prerequisite |
|---|---|
| AP Computer Science A | Geometry |
| Advanced Game Design and Development | Game Design and Development |
| IT Computer Graphics 1 | IT Graphic Design |
| IT Programming or IT Programming DE | Information Technology (IT) Fundamentals or Information Technology (IT) Fundamentals DE, Recommended |
| IT Web Technologies or IT Web Technologies DE | Information Technology (IT) Fundamentals or Information Technology (IT) Fundamentals DE, Recommended |
| Engineering Analysis and Applications 2 | Engineering Explorations 1 |
| Cybersecurity Operations | Cybersecurity Fundamentals, Recommended |

# Interactive Technology Concentration

### Grades 11 and 12

Students will take at least two of the following courses:

| Title | Credits |
|---|---|
| IT Computer Graphics 2 | 1 |
| IT Multimedia Software Design and Development 1 | 1 |
| AP Studio Art Drawing | 1 |
| Art Portfolio Preparation | 1 |
| Photography 2 | 1 |
| IT Photography | 1 |
| IT Advanced Web Technologies | 1 |

# Applied Sciences Concentration

### Grades 11 and 12

Students will take at least two of the following courses:

| Title | Credits |
|---|---|
| Data Structures and Algorithms | 1 |
| Advanced Computer Studies | 1 |
| IT Advanced Programming DE | 1 |

# Computer Networking (Cisco) Concentration

### Grades 11 and 12

Careers in Network Systems involve network analysis, planning and implementation, including design, installation, maintenance and management of network systems. Successful establishment and maintenance of information technology infrastructure is critical to the success of almost every 21st century organization. People with expertise in Network Systems are in high demand for a variety of positions in organizations of all sizes and types, doing work such as creating and maintaining the infrastructure in medical facilities that enables multiple doctors to view the same patient's X-rays in real-time to determine the diagnosis and the best treatment.

| Title | Credits |
|---|---|
| Computer Networking Hardware Operations 1 DE (Semester) | 0.5 |
| Computer Networking Hardware Operations 2 DE (Semester) | 0.5 |
| Computer Networking Hardware Operations 3 DE (Semester) | 0.5 |
| Computer Networking Hardware Operations 4 DE (Semester) | 0.5 |

## Cybersecurity Concentration

### Grades 9 through 12

Careers in Cybersecurity involve network analysis, planning and implementation, including design, installation, maintenance and management of network systems. Successful establishment and maintenance of information technology infrastructure is critical to the success of almost every 21st century organization. People with expertise in Network Systems are in high demand for a variety of positions in organizations of all sizes and types, doing work such as creating and maintaining the infrastructure in medical facilities that enables multiple doctors to view the same patient's X-rays in real-time to determine the diagnosis and the best treatment.

| Title | Credits |
|---|---|
| Cybersecurity Fundamentals | 1 |
| Cybersecurity Operations | 1 |
| Cybersecurity Systems Technology DE | 1 |
| Advanced Cybersecurity Systems Technology DE | 2 |

## Programming and Software Development Concentration

### Grades 9 through 12

Careers in Programming and Software Development involve the design development implementation and maintenance of computer systems and software, requiring knowledge of computer operating systems, programming languages and software development. People with expertise in programming and software development work with cutting-edge technologies to develop tomorrow's products for use by businesses and consumers. While many of the career opportunities in this area are in software companies, large organizations of other types, such as Financial Services and Business, also offer many opportunities. People with expertise in programming and software development are in high demand, doing work such as creating the software that launches and runs NASA space shuttles.

| Title | Credits |
|---|---|
| Game Design and Development | 1 |
| Advanced Game Design and Development | 1 |
| IT Programming DE or Programming I | 1 |
| Advanced Programming or IT Advanced Programming DE | 1 |

# Information Technology - Cybersecurity

**Degree Type**
Specialty Programs

**Cybersecurity Pathway**

Students explore both theory and hands-on practice in the following areas: critical infrastructure security systems and devices; intelligent computing and controlling devices and systems security; business information technology network security systems and techniques; industrial/utility industrial control systems networks and devices security; medical network and data system security; and ethical hacking roles and tools.

**Program Type**
Transfer
**Schools**
Potomac High School

## Cybersecurity Program Sequencing

### Grade 9

Students may take Information Technology (IT) Fundamentals **OR** Cybersecurity Fundamentals (not both).

| Title | Credits |
|---|---|
| Information Technology (IT) Fundamentals | 1 |
| Cybersecurity Fundamentals | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Cybersecurity Operations | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Cybersecurity Systems Technology | 1 |

### Grade 12

| Title | Credits |
|---|---|
| Advanced Cybersecurity Systems Technology | 2 |
| Total Credits | 5 |

# Information Technology Program

**Degree Type**
Specialty Programs

**Information Technology Career Cluster**

The Information Technology Career Cluster is focused on building linkages in information technology occupations for entry level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

**Information Technology Program**

With the speed and breadth of innovative change, students entering the next-generation technological workplace will need to be able to adapt to rapid change while thinking critically and creatively. The ever-changing and interactive nature of the technology workplace will also require students to demonstrate highly developed social and technical intelligence. The Information Technology Programs will provide interested students the opportunity to become engaged in an intensive technological program of studies developed through a collaborative relationship with the business and academic community.

Some courses in these programs are offered for dual enrollment through a partnership with Northern Virginia Community College.

A series of professional certificate programs are designed for the Standard or Advanced Diploma student. These areas of study will immerse the student in a one- or two-year program of study, which after successful completion of the exam, could lead to professional industry certification.

**Program Type**
Transfer
**Schools**
Forest Park High School

## Information Technology Program Sequencing

### Grades 9 and 10

Choose at least one course each year in grades 9 and 10.

| Title | Credits |
|---|---|
| Advanced Computer Mathematics | 1 |
| Information Technology (IT) Fundamentals | 1 |
| IT Programming DE or Programming I | 1 |
| IT Graphic Design | 1 |
| AP Computer Science A | 1 |
| Cybersecurity Systems Technology | 1 |
| Game Design and Development | 1 |
| IT Computer Graphics 1 | 1 |
| IT Multimedia Software Design and Development 1 | 1 |
| Design, Multimedia, and Web Technologies | 1 |
| Photography 1 | 1 |

## Programming Concentration

### Grades 11 and 12

| Title | Credits |
|---|---|
| Data Structures and Algorithms | 1 |
| Advanced Computer Studies | 1 |
| Advanced Programming or IT Advanced Programming DE | 1 |

## Gaming Concentration

### Grades 11 and 12

| Title | Credits |
|---|---|
| Game Design and Development | 1 |
| Advanced Game Design and Development | 1 |

## Media Concentration

### Grades 11 and 12

| Title | Credits |
|---|---|
| Advanced Design, Multimedia, and Web Technologies | 1 |
| Photography 2 | 1 |
| IT Computer Graphics 2 | 1 |
| AP Studio Art Drawing | 1 |
| Total Credits | 4 |

# International Baccalaureate

**Degree Type**
Specialty Programs

**International Baccalaureate (IB) Specialty Program**

The IB continuum of international education is unique because of its academically challenging and balanced approaches to teaching and learning. We challenge students to excel in their studies and in their personal growth. We aim to inspire a quest for learning throughout life that is marked by enthusiasm and empathy.

The IB aspires to help schools develop well-rounded students with character: students who respond to challenges with optimism and an open mind; students who are confident in their own identities; students who make ethical decisions; students who join with others in celebrating our common humanity; students who are prepared to apply what they learn in the real world, complex and unpredictable situations.

The IB Diploma is internationally recognized as representing one of the highest standards in university preparation. IB Diploma recipients report that their involvement with the IB has given them the tools needed to succeed at college. Students comment on their sense of preparedness, self-confidence, research skills, and ability to manage their time. Even more important, they have developed a sense of the world around them and their responsibility to it.

The IB offers high-quality programs of international education that share a powerful vision. Informed by the values described in the learner profile for an IB education:

- **Centers on learners** - The IB's student-centered programs promote healthy relationships, ethical responsibility, and personal challenges.
- **Develops effective approaches to teaching and learning** - IB programs help students develop the attitudes and skills they need for academic and personal success.
- **Works within global contexts** - IB programs increase understanding of languages and cultures and explore globally significant ideas and issues.
- **Explores significant content** - IB programs offer a curriculum that is broad and balanced, conceptual and connected.

IB learners strive to become inquirers, knowledgeable, thinkers, communicators, principled, open-minded, caring, risk-takers, balanced, and reflective. These attributes of internationally-minded people represent a broad range of human capacities and responsibilities that go beyond intellectual development and academic success.

**The IB Middle Years Programme (MYP) (9th and 10th grade)**

The IB MYP provides a framework of academic challenge, in which 9th and 10th grade students embrace and understand the connections between traditional subjects and the real world and become critical thinkers. The IB high schools offer students a five-year IB MYP that began in middle school or a two-year program in grades 9 and 10. Both of these options require service learning and successful completion of a personal project, which is a long-range project focused on a topic chosen by the student.

Advanced Middle Years Programme (Adv MYP) courses are offered within the MYP as part of the advanced course sequence to prepare students with a strong foundation of knowledge and skills to complete the academic requirements of the IB Diploma Programme or IB Career-related Programme. Similar to the IB Diploma Programme, students can elect to take selected Adv MYP classes in their areas and strength and interest to prepare them for specific IB DP courses in grades 11 and 12.

**The IB Diploma Programme (DP) (11th and 12th grade)**

The IB DP is a rigorous pre-university course of studies which leads to examinations, that meets the needs of highly motivated high school students. While the strength of the programme is in the pursuit of the full IB Diploma, students may take IB DP courses in their areas of strength and interest.

The IB DP prepares students for effective participation in a rapidly evolving and increasingly global society. Students develop physically, intellectually, emotionally and ethically; acquire breadth and depth of knowledge and understanding, studying courses from six subject groups that help develop the skills and a positive attitude toward learning that will prepare them for higher study. This study includes at least two languages and increases understanding of cultures, including their own. The subjects make connections across traditional academic disciplines and explore the

nature of knowledge through the program's unique Theory of Knowledge course. Diploma candidates undertake in-depth research into an area of interest through the lens of one or more academic disciplines in the extended essay and enhance their personal and interpersonal development through creativity, activity and service (CAS).

The IB assesses student work as direct evidence of achievement against the stated goals of the course.

The IB DP provides students with:

- A broad and balanced, yet academically demanding, program of study;
- The development of critical thinking and reflective skills;
- The development of research skills;
- The development of independent learning skills;
- The development of intercultural understanding; and
- A globally recognized university entrance qualification.

**The IB Career-Related Certificate (CP) (11th and 12th grade)**

The IB CP is an innovative framework for students in grade 11 and 12 incorporating the vision and educational principles of the IB into a unique program specifically tailored for students who wish to engage in career-related learning. The aim of the IB CP is to provide students with both an academic and practical foundation to support both their further studies and specialized training, thereby ensuring their success in the workforce.

It combines highly regarded and internationally recognized IB DP courses with an approved career-related study and a unique IB CP core. The IB CP provides a comprehensive link between the academic challenge of the Diploma Programme and the international-mindedness of the IB classroom into a tailored, career-focused pathway.

The IB CP framework is built around three interconnected elements:

- At least two IB DP courses;
- An IB CP core that includes personal and professional skills, service learning, language development and a reflective project; and
- An approved career-related study.

Students and parents who desire more information about the IB Programmes are encouraged to address questions to the IB Coordinators at either school.

**Program Type**
Transfer
**Schools**
Gar-Field High School,
Unity Reed High School

# IB Program Sequencing

| Grade | IB Student | IB Scholar |
|---|---|---|
| **Overview** | Examination in at least one IB DP course over the two years | *The IB Scholar is a local PWCS distinction; colleges and universities will see these students as "IB Course" students.*<br><br>Examination in at least four IB DP courses during grades 11 and 12, including IB Theory of Knowledge<br><br>Creativity, Activity, Service (CAS) requirements |
| **9** | MYP course(s) of your choosing | MYP course(s) of your choosing |
| **10** | MYP course(s) of your choosing | MYP course(s) of your choosing |
| **11 and 12** | IB DP course(s) of your choosing | At least 4 IB DP course(s) of your choosing<br>**and**<br>IB Theory of Knowledge |

| Grade | IB Career-Related Program Pathway | IB Diploma Pathway |
|---|---|---|
| **Overview** | Approved Career Pathway (two related CTE courses) during grades 11 and 12<br><br>Examination in at least two IB DP courses; one course must span two years (grades 11-12)<br><br>Completion of the IB CP Core:<br>• Language development portfolio<br>• Service learning portfolio<br>• IB Personal and Professional Skills<br>• Reflective Project | Examination in at least one course from each of the six groups (three must be HL courses and three must be SL courses)<br><br>Completion of the IB DP Core:<br>• IB Theory of Knowledge<br>• Extended Essay<br>• Creativity, Activity, Service (CAS) requirements |
| **9** | MYP course(s) of your choosing | MYP course(s) of your choosing |
| **10** | MYP course(s) of your choosing | MYP course(s) of your choosing |
| **11 and 12** | At least 2 IB DP course(s) of your choosing<br>**and**<br>2 related CTE courses<br>**and**<br>IB Personal and Professional Skills | 6 IB DP course(s) of your choosing (one from each group)<br>**and**<br>IB Theory of Knowledge |

## Available Courses

(* = 2 year courses, + = 1 year courses)

### Group 1

- IB English (SL/HL)*
- IB Theory of Knowledge
- IB Personal and Professional Skills

### Group 2

- IB French (SL)+
- IB French (HL)*
- IB Spanish (SL)+
- IB Spanish (HL)*

### Group 3

- IB Social and Cultural Anthropology (SL)+
- IB Economics (SL)+
- IB Geography (SL)+
- IB History (HL)*
- IB Psychology (SL)*

### Group 4

- IB Biology (HL)*
- IB Chemistry (SL)*
- IB Environmental Systems and Societies (SL)+
- IB Physics (SL)*

### Group 5

- IB Math: Analysis and Approaches (SL/HL)*
- IB Math: Applications and Interpretations (SL)+

### Group 6

- IB Visual Arts (HL)*
- IB Visual Arts (SL)+
- *Or a second course from Group 2, 3, or 4*

## IB Environmental Engineering Program Sequencing

### Certificate Pathway

#### Grade 9

| Title | Credits |
|---|---|
| Biology 1 | 1 |
| Introduction to Engineering Design (PLTW) | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Chemistry 1 | 1 |
| Civil Engineering and Architecture (PLTW) | 1 |

### Grade 11

| Title | Credits |
|---|---|
| IB Chemistry 2 (SL) | 1 |
| IB Biology 1 (HL) | 1 |
| Environmental Sustainability (PLTW) | 1 |

### Grade 12

| Title | Credits |
|---|---|
| IB Environmental Systems and Societies (SL) | 1 |
| PLTW Capstone or Principles of Engineering (PLTW) | 1 |
| IB Personal and Professional Skills (SL) | 1 |

## IB CP Pathway

### Grade 9

| Title | Credits |
|---|---|
| Advanced Middle Years Programme Biology 1 | 1 |
| Introduction to Engineering Design (PLTW) | 1 |

### Grade 10

| Title | Credits |
|---|---|
| IB Chemistry 1 (SL) | 1 |
| Civil Engineering and Architecture (PLTW) | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Sustainability and Renewable Technologies | 1 |
| Environmental Sustainability (PLTW) | 1 |

### Grade 12

| Title | Credits |
|---|---|
| IB Environmental Systems and Societies (SL) | 1 |
| PLTW Capstone or Principles of Engineering (PLTW) | 1 |
| IB Personal and Professional Skills (SL) | 1 |

### Related IB Courses

IB CP Candidates must take at least one during 11th and 12th grade

- IB Biology (HL)
- IB Chemistry (SL)
- IB Economics (SL)
- IB English (SL/HL)
- IB Environmental Systems and Societies (SL)
- IB French (SL/HL)
- IB Geography (SL)
- IB Global Politics (SL)
- IB History (HL)
- IB Math: Analysis and Approaches (SL/HL)
- IB Math: Applications and Interpretations (SL)
- IB Physics (SL)
- IB Psychology (SL)
- IB Social and Cultural Anthropology (SL)
- IB Spanish (SL/HL)
- IB Visual Arts (HL)
- IB Visual Arts (SL)

*Note: Course availability and requirements may differ slightly between schools. Students should talk to their school counselor or Specialty Program Coordinator with questions.*

Total Credits 9

# Law, Public Safety, Corrections and Security - Firefighting

**Degree Type**
Specialty Programs

**Emergency and Fire Management Services Pathway**

Emergency and Fire Management Services Pathway: Every year, fires and other emergencies take thousands of lives and destroy property worth billions of dollars. Firefighters and emergency services workers help protect the public against these dangers by rapidly responding to a variety of emergencies. They are frequently the first emergency personnel at the scene of a traffic accident or medical emergency and may be called upon to put out a fire, treat injuries or perform other vital functions.

Firefighting requires discipline and attention to academic and professional standards to successfully fight live fires, address hazardous-materials (HAZMAT) incidents, and conduct search-and-rescue operations. Students will become familiar with the procedures, equipment, and technologies used by fire departments. This course challenges students academically, mentally, and physically and meets the standards of National Fire Protection Association (NFPA) 1001-2013 leading to the opportunity to obtain a Firefighter I certification. This program is a one-year transport program for grade 11 **or** grade 12 students and is a total of three credits.

*2026-27 will be the last school year for which this program is available. The program will be transitioning to the 2-year Public Safety Program.

**Program Type**
Transport
**Schools**
Unity Reed High School

## Program Sequencing

### Grade 11-12

| Title | Credits |
|---|---|
| Firefighting | 2 |
| Total Credits | 2 |

# Law, Public Safety, Corrections and Security - Public Safety (EMT and Firefighting)

**Degree Type**
Specialty Programs

**Public Safety Program**

The Public Safety Program is a comprehensive two-year curriculum that encompasses both Firefighting and Emergency Medical Technician (EMT) instruction. Throughout the duration of this program, participating students, known as cadets, engage in rigorous training designed to prepare them for successful careers in public safety. Upon completion, graduates attain a two-year National Registry EMT certification, a four-year Virginia EMT certification, Firefighter I and II certifications, a two-year American Red Cross Healthcare Provider CPR certification, FEMA Incident Command System certifications (ICS100, ICS200, ICS700, ICS800), and HAZMAT Awareness level training. Cadets who earn these credentials qualify for employment opportunities within Fire and Rescue Departments throughout the Commonwealth of Virginia.

**Program Type**
Transport
**Schools**
Unity Reed High School

## Program Sequencing

### Grade 11

| Title | Credits |
|---|---|
| Emergency Medical Technician (EMT) 1 | 1 |

### Grade 12

| Title | Credits |
|---|---|
| Firefighting | 2 |
| Total Credits | 3 |

# Manufacturing - Welding

**Degree Type**
Specialty Programs

**Welding Pathway**

Welding students learn welding processes to braze, solder, and fuse metal parts according to diagrams, blueprints, or written specifications. Students learn the industry's emerging technologies, along with shielded metal arc welding (SMAW), flux-cored arc welding (FACW), and operating a computer numerical control (CNC) cutting table. Select courses require double-block scheduling. Some courses may be available for dual enrollment credit through Northern Virginia Community College.

**Program Type**
Transfer

**Schools**
Potomac High School

## Welding Program Sequencing

### Grade 9

| Title | Credits |
|---|---|
| Production Systems | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Welding 1 | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Welding 2 | 2 |

### Grade 12

| Title | Credits |
|---|---|
| Welding 3 | 2 |
| Total Credits | 6 |

# Manufacturing - Welding (Dual Enrollment)

**Degree Type**
Specialty Programs

**Manufacturing Career Cluster**

The Manufacturing Career Cluster is focused on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing, and process engineering.

**Program Type**
Transfer
**Schools**
Potomac High School

## Welding Dual Enrollment

This curriculum is designed for individuals wishing to obtain fundamental skills for immediate entry-level positions in the welding trade as welding apprentices or welding laboratory assistants.

PWCS students will graduate with 15 of 18 college credits in the Welding: Basic Techniques Career Studies Certificate (C.S.C.).

| Grade | PWCS Courses | PWCS Credits | Northern Virginia Community College (NVCC) Courses | NVCC Credits |
|---|---|---|---|---|
| 9 | Production Systems | 1 | | |
| 10 | Welding 1 DE | 1 | WEL120, Introduction to Welding, *and*<br>WEL 121, Arc Welding | 2<br>2 |
| 11 | Welding 2 DE | 2 | WEL 122, Welding II (Electric Arc), *and*<br>WEL 150, Welding Drawing and Interpretation | 3<br>2 |
| 12 | Welding 3 DE | 2 | WEL 130, Inert Gas Welding, *and*<br>WEL 160, Semi-automatic Welding Processes | 3<br>3 |
| | **Total Credits** | **6** | | **15** |

# Pathways to Global Citizenship

**Degree Type**
Specialty Programs

**Pathways to Global Citizenship Program**

The Pathways to Global Citizenship Program includes five academic pathways and 11 thematically grouped sequences. Academic pathways are intended to ensure that all students have a rigorous academic experience commensurate with their interests and academic goals. Each pathway encourages students to identify and engage with topics of global significance while developing and refining skills in performance, research, critical thinking, evaluation, and synthesis of ideas.

The goals of Pathways To Global Citizenship are to support students in:

- Identifying and engaging with topics of global significance;
- Developing skills in research, critical thinking, evaluation, or synthesis of ideas;
- Exploring academic interests; and
- Encouraging leadership and community involvement.

*The Virginia Board of Education provides the list of courses approved to satisfy graduation requirements for the standard and advanced studies diplomas in science. All other PWCS science courses are local electives. Refer to course-specific catalog descriptions for additional information.*

**The pathways/sequences below are open to all Gainesville High School students. Those denoted as transfer are the only ones available to students not zoned for Gainesville High school. Students interested in participating in a transfer program must follow the Specialty Program application process.**

**1. Language & Culture Pathway**

- Writing and Communication
- Fine and Performing Arts
- World Language and Culture

**2. Engineering, Math, & Automation Pathway**

- *Engineering, Design, and Construction (Transfer Program)*
- Coding, Gaming, and Robotics
- *Mathematics (Transfer Program)*

**3. Science, Health, & Medicine Pathway**

- *Biomedical Sciences (Transfer Program)*
- Global Ecology
- Science

**4. Social Science & Criminology Pathway**

- History and Political Science
- Criminal Justice

**5. Independent Studies & Scholarship Pathway**

- Business and Marketing
- Health and Wellness
- Interdisciplinary (student proposed)

**Program Type**
Transfer

**Schools**
Gainesville High School

# Gainesville High School Pathways To Global Citizenship Program Sequencing

Sample course selections are listed below. Each student will draft a plan with their counselor.

## 1. Language & Culture Pathway

### Writing and Communication

Students studying in the Writing and Communication pathway will earn **six** credits including at least two at the AP level.

- AP Research
- AP Seminar
- Creative Writing 1
- Creative Writing 2
- Gifted Seminar: Philosophy
- Gifted Seminar: Power and Progress
- An Introduction to Speech Communication
- Journalism 1
- Journalism 2
- Journalism 3
- Journalism 4
- Photo Journalism - Yearbook

### Fine and Performing Arts

Students studying in the Fine and Performing Arts pathway will earn **four** credits within their concentration.

- 3D Sculpture
- AP Studio Art 2D
- AP Studio Art 3D Design
- AP Studio Art Drawing
- Studio Art 1
- Studio Art 2
- Studio Art 3
- Art Portfolio
- Art Portfolio Preparation
- Band (any)
- Choir (any)
- Orchestra (any)
- Technical Theatre - Production
- Theatre 1: Introduction to Theatre
- Theatre 3
- Theatre 4: Advanced Theatre

### World Language and Culture

Students studying in the World Languages and Culture pathway will earn **six** credits within their concentration, including at least two at the Advanced Placement level.

- AP African American Studies
- AP Human Geography
- AP Research
- AP Seminar
- AP World History
- All levels of American Sign Language, French, and Spanish

## 2. Engineering, Math & Automation Pathway

### Engineering, Design, and Construction Transfer Program

Students studying in the Engineering, Design, and Construction pathway will earn **four** credits within their concentration.

- Civil Engineering and Architecture (PLTW)
- Construction Technology
- Digital Electronics (PLTW)
- PLTW Capstone
- Introduction to Engineering Design (PLTW)
- Principles of Engineering (PLTW)
- Production Systems
- Technical Drawing and Design
- Engineering Drawing and Design

### Coding, Gaming, and Robotics

Students studying in the Coding, Gaming, and Robotics pathway will earn **four** credits within their concentration.

- Advanced Computer Information Systems
- Advanced Design, Multimedia, and Web Technologies
- Advanced Game Design and Development
- AP Computer Science A
- AP Computer Science Principles
- Computer Information Systems
- Design, Multimedia and Web Technologies
- Game Design and Development
- Introduction to Engineering Design (PLTW)
- Principles of Engineering (PLTW)

### Mathematics Transfer Program

Students studying in the Mathematics pathway will earn **six** credits within their concentration, including at least two at the Advanced Placement level. Students who apply to the Mathematics Pathway should have completed Geometry or Advanced Algebra 1 in middle school.

- AP Calculus AB
- AP Calculus BC
- AP Computer Science A
- AP Computer Science Principles
- AP Precalculus for AB
- AP Precalculus for BC
- AP Statistics
- Data Science
- GS Linear Algebra
- Multivariable Calculus (DE)
- Precalculus with Trigonometry for AB

## 3. Science, Health, & Medicine Pathway

### Biomedical Sciences Transfer Program

Students studying in the Biomedical Sciences pathway will earn **four** credits within their concentration. Students will be required to study PLTW Biomedical Science coursework in grades 9 and 10.

- AP Biology
- AP Chemistry
- AP Research
- AP Seminar
- Biology 2: Genetics
- Biomedical Innovation (PLTW)
- Human Body Systems (PLTW)
- Medical Interventions (PLTW)
- Principles of Biomedical Science (PLTW)

### Global Ecology

Students studying in the Global Ecology pathway will earn **four** credits within their concentration.

- AP Biology
- AP Chemistry
- AP Environmental Science
- AP Human Geography
- AP Physics 1
- AP Physics C: Mechanics
- AP Research
- AP Seminar
- Earth Science 2: Oceanography
- Environmental Science

### Science

Students studying in the Science pathway will earn **six** credits within their concentration, including at least two at the Advanced Placement level.

- AP Biology
- AP Chemistry
- AP Environmental Science
- AP Physics 1
- AP Physics C: Mechanics
- AP Research
- AP Seminar
- Biology 2: Genetics
- Biology 2: Survey of Advanced Topics
- Earth Science 2: Astronomy
- Earth Science 2: Oceanography

## 4. Social Science & Criminology Pathway

### Criminal Justice

Students studying in the Criminal Justice pathway will earn **four** credits within their concentration.

- AP Psychology
- AP Research
- AP Seminar
- Criminal Justice 1
- Criminal Justice 2
- Human Body Systems (PLTW)
- Leadership Development 1, 2, & 3
- Principles of Biomedical Science (PLTW)
- Sociology

### History and Political Science

Students studying in the History and Political Science pathway will earn **six** credits within their concentration, including at least two at the Advanced Placement level.

- AP Economics
- AP Government and Politics: U.S.
- AP Human Geography
- AP Psychology
- AP Research
- AP Seminar
- AP U.S. History
- AP World History
- Psychology 1
- U.S. and Virginia History

## 5. Independent Studies & Scholarship Pathway

### Business and Marketing

Students studying in the Business and Marketing pathway will earn **four** credits within their concentration.

- Accounting
- Advanced Accounting
- AP Economics
- AP Research
- AP Seminar
- Business Management
- Business Law
- Principles of Business and Marketing
- Sports, Entertainment, and Event Management
- Sports, Entertainment, and Event Marketing

### Health and Wellness Sequence

Students studying in the Health and Wellness pathway will earn **four** credits within their concentration.

- AP Research
- AP Seminar
- Introduction to Culinary Arts
- Nutrition and Wellness
- Personal Fitness
- Personal Fitness 1 (Principles of Weight Training)
- Unified Physical Education and Recreational Activities
- Personal Fitness 2 (Conditioning Program and Performance)

# Pre-Governor's School

**Degree Type**
Specialty Programs

**Pre-Governor's School Program**

The Pre-Governor's School is a preparatory program for students to experience an accelerated mathematics and science course sequence. Students will be able to develop technical writing capacity and meet several graduation requirements to prepare them for success should they attend The Governor's School @ Innovation Park (GS@IP) in grades 11 and 12.

**Key elements of the Pre-Governor's School Program include:**

- Students will be supported by simultaneously studying two mathematics courses in 9th grade, and AP Pre-Calculus (or a higher mathematics course) by the end of 10th grade.
- Students will study two science courses in 10th grade to allow for the completion of Physics 1 before 11th grade.
- A dedicated school counselor will support Pre-Governor's School students to ensure appropriate course selection in preparation for the various academic pathways available at GS@IP, and work with students during their four years of study.
- Students will study Health and Physical Education 1 and Health and Physical Education 2 virtually as an 8th class. Health and Physical Education teachers will teach this course and will meet virtually after school hours. This allows students to meet an additional graduation requirement before joining GS@IP.
- Pre-Governor's School students will be strategically grouped to support the accelerated study of mathematics and science in 9th and 10th grade.

Students interested in attending the GS@IP do not have to be enrolled in the Pre-Governor's School to gain admission. Students may take many of the same course sequences at their base school, under the supervision of their school counselor.

**Program Requirements**

Students participating in the Pre-Governor's School will maintain year-end grades of "B" or better in their core subject areas. Students study eight classes during grades 9 and 10. Students are encouraged to fulfill the Economics and Personal Finance (or AP Economics) graduation requirement in 10th grade. Students conduct authentic research in support of the GS@IP application process.

**Program Type**
Transfer
**Schools**
Freedom High School,
Osbourn Park High School

## Pre-Governor's School Program Sequencing Required Coursework

### Grade 9

| Grade 9 Courses | Grade 10 Courses |
|---|---|
| Advanced English 9** | English 10: AP Seminar |
| Advanced World History and Geography to 1500 | AP World History, AP European History, ***or*** World History and Geography from 1500 |
| Advanced Biology 1** | AP Precalculus for BC |
| Advanced Geometry | Advanced Chemistry 1 |
| Algebra 2** | Physics 1 |
| Foreign Language* | Foreign Language* |
| Elective/Fine Art | Economics and Personal Finance |
| Health and Physical Education 1 | Health, Physical Education, and Classroom Driver Education 2 |

**Denotes a Pre-Governor's School course
*Three years of a single foreign language or two years of two separate languages is required for an advanced studies diploma.

# Transportation, Distribution and Logistics - Automotive Technology

**Degree Type**
Specialty Programs

**Automotive Technology Program Pathway**

The Automotive program of study teaches CTE learners how to repair and refinish automobiles and service various types of vehicles. CTE learners may learn to collect payment for services or supplies and perform typical vehicle maintenance procedures such as lubrication, oil changes, installation of antifreeze, or replacement of accessories like wiper blades or tires.

Automotive Technology is a National Automotive Technicians Foundation (NATEF) accredited program of study taught by an Automotive Service Excellence (ASE) certified auto technician that prepares graduates for ASE exams. The Automotive Technology program's mission is to assist the student in acquiring the knowledge, skills, and attributes that enable success as an entry-level worker in the field of automotive technology as well as pursuing a career in a related occupational field.

**Program Type**
Transfer

**Schools**
Hylton High School,
Osbourn Park High School

## Automotive Technology Program Sequencing

### Grade 9

| Title | Credits |
|---|---|
| CTE Elective | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Automotive Technology 1 | 1 |

### Grade 11

| Title | Credits |
|---|---|
| Automotive Technology 2 | 2 |

### Grade 12

| Title | Credits |
|---|---|
| Automotive Technology 3 | 2 |
| Total Credits | 6 |

# Transportation, Distribution and Logistics - Aviation Maintenance

**Degree Type**
Specialty Programs

**Aviation Maintenance Pathway**

The Aviation Maintenance program of study introduces students to the occupations and education opportunities related to inspecting aircraft, maintenance procedures, air navigational aids, air traffic controls, and communications equipment to ensure conformance with federal safety regulations.

Students will work with airframe and control surfaces, power plants, and basic aviation electricity, and perform ground operations and servicing procedures, as specified by Federal Aviation Administration (FAA) requirements. Students will also practice lab and tool safety, apply science and mathematics principles to aviation maintenance tasks, and research and use maintenance publications, forms, and records.

**Program Type**
Transfer
**Schools**
Unity Reed High School,
Woodbridge High School

## Aviation Maintenance Program Sequencing

### Grade 9

| Title | Credits |
|---|---|
| Introduction to Engineering Design (PLTW) | 1 |

### Grade 10

| Title | Credits |
|---|---|
| Digital Electronics (PLTW) | 1 |

## Grade 11

| Title | Credits |
|---|---|
| Aviation Maintenance Technology 1 | 2 |

## Grade 12

| Title | Credits |
|---|---|
| Aviation Maintenance Technology 2 | 2 |
| Total Credits | 6 |

# Career Pathways

## Career Pathways

Prince William County Public Schools (PWCS) offers a wide variety of rigorous and engaging Career and Technical Education (CTE) courses and programs designed to provide students with authentic, career-focused academic and technical instruction, leadership and networking opportunities, validate knowledge and skills with industry credentials recognized by postsecondary institutions and business/industry, and opportunities to engage in work-based learning (WBL) experiences.

CTE programs prepare students for a variety of high-wage, high-skill and high-demand careers with equitable access to multiple post-secondary options, including postsecondary education enrollment in a two- or four-year college or university, enlisting in military service, and / or gainful employment.

CTE courses and programs are organized by **career clusters** and **career pathways** to align with student interests and regional business and industry. High school students in PWCS can access CTE courses and programs in two ways:

1. **Career Pathways**: Career Pathways are suggested course sequences **available at base schools**. Students express interest during the course selection process and work with school counselors to enroll in elective courses.
2. **Specialty Programs**: Some CTE courses and programs are only available at select locations. All CTE programs are interest-based programs, but a Specialty Program **requires an application**. Students will either transfer to another school or will be transported to another school for one or more courses. Visit the Specialty Programs website to learn more about the application and timeline.

### Career Clusters

A career cluster is a **group of careers** that share similar features or common themes. CTE courses in PWCS offer students access to 16 career clusters.

### Career Pathways

A career pathway is a **coordinated sequence of high school courses** that leads to a postsecondary career pathway. Students select a program of study, or career pathway, based on academic and career interests. PWCS CTE career pathways also include opportunities to earn relevant industry credentials, which may provide students with increased employment opportunities and/or college credit.

**Note:** Career Pathways are designed to allow students to meet the sequential elective requirement for graduation as the first 2 courses in each career pathway are sequential. To find out which courses are available at your high school, click on the course name within the Career Pathway.

The courses listed in each career cluster and pathway may be available to multiple grade levels.

## Architecture & Construction

**Degree Type**
Career Pathways

**Architecture & Construction Career Cluster**

The Architecture & Construction Career Cluster is focused on careers in designing, planning, managing, building and maintaining the built environment.

**Schools**
Brentsville District High School,
Colgan High School,
Freedom High School,

Gainesville High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Construction Pathway

Construction Pathway: Employees in construction literally build our future! These are the people who build and remodel houses, apartments, industrial buildings, warehouses, office buildings, churches, schools and recreational facilities. This pathway also includes the builders of highways, streets, bridges, tunnels and airports as well as power plants, chemical plants, refineries and mills.

| Title | Credits |
|---|---|
| Production Systems | 1 |
| Construction Technology | 1 |

## Design / Pre-Construction Pathway

Design/Pre-Construction Pathway: People with careers in design/pre-construction create our future! They turn a concept into a set of plans. Their plans guide other construction professionals as they continue the building process.

| Title | Credits |
|---|---|
| Technical Drawing and Design | 1 |
| Architectural Drawing and Design | 1 |

# Arts, A/V Technology & Communications

**Degree Type**
Career Pathways

**Arts, A/V Technology & Communications Career Cluster**

The Arts, A/V Technology and Communications Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in this career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

**Check with your counselor to see which pathways are offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Journalism & Broadcasting Pathway

Journalism and Broadcasting Pathway: News analysts, reporters and correspondents gather information, prepare stories and make broadcasts that inform us about local, state, national and international events; present points of view on current issues; and report on the actions of public officials, corporate executives, special interest groups and others who exercise power. Broadcast and sound technicians install, test, repair, set up and operate the electronic equipment used to record and transmit radio and television programs, cable programs and motion pictures. Chief engineers, broadcast field supervisors and trans

| Title | Credits |
|---|---|
| Communication Systems | 1 |
| Video and Media Technology | 1 |
| Graphic Communications Systems | 1 |
| Career Strategies | 1 |

## Visual Arts Pathway

Visual Arts Pathway: Visual artists create art to communicate ideas, thoughts or feelings. They use a variety of methods—painting, sculpting or illustrating—and an assortment of materials, including oils, watercolors, acrylics, pastels, pencils, pen and ink, photography, plaster, clay and computers. Their works may be realistic, stylized or abstract and may depict objects, people, nature or events. Visual artists are generally categorized in two groups. Fine artists create art to satisfy their own need for self-expression. Illustrators and graphic designers, on the other hand, put their artistic skills at the service of commercial clients, such as major corporations; retail stores; and advertising, design and publishing firms.

| Title | Credits |
|---|---|
| Information Technology (IT) Fundamentals | 1 |
| Design, Multimedia, and Web Technologies | 1 |
| Advanced Design, Multimedia, and Web Technologies | 1 |
| Career Strategies | 1 |
| Total Credits | 4 |

# Business Management & Administration

**Degree Type**
Career Pathways

**Business Management & Administration Career Cluster**

The Business Management and Administration Career Cluster is focused on careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations.

**Check with your counselor to see which pathways are offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,

## Administrative Support Pathway

Administrative Support: Administrative Support facilitate business operations through a variety of administrative and clerical duties including information and communication management, data processing and collection, and project tracking.

| Title | Credits |
|---|---|
| Office Specialist 1 - Preparation | 1 |
| Office Specialist 2 - Preparation | 1 |

## General Management Pathway

General Management: General Management focuses on careers that plan, organize, direct, and evaluate all or part of a business organization through the allocation and use of financial, human, and material resources.

| Title | Credits |
|---|---|
| Principles of Business and Marketing | 1 |
| Business Law | 1 |
| Business Management | 1 |
| Total Credits | 3 |

# Education & Training, Early Childhood Education

**Degree Type**
Career Pathways

**Education & Training Career Cluster**

The Education & Training Career Cluster is focused on planning, managing and providing education and training services, and related learning support services.

**Check with your counselor to see which sequences are offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Teaching & Training Pathway

Teaching & Training Pathway: In addition to being knowledgeable in their subject, teachers and trainers must have the ability to communicate, inspire trust and confidence, motivate learners, as well as understand their education and emotional needs. Teachers must be able to recognize and respond to individual differences in diverse learners and employ different teaching/training methods that will result in higher learner achievement.

### Early Childhood Education Sequence

| Title | Credits |
|---|---|
| Child Development and Parenting | 1 |
| Introduction to Early Childhood Education | 1 |
| Early Childhood, Education, and Services 1 | 2 |
| Early Childhood, Education, and Services 2 | 2 |
| Total Credits | 6 |

# Education & Training, Virginia Teachers for Tomorrow

**Degree Type**
Career Pathways

**Education & Training Career Cluster**

The Education & Training Career Cluster is focused on planning, managing and providing education and training services, and related learning support services.

**Check with your counselor to see which pathways are offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Virginia Teachers for Tomorrow (VTfT)

Virginia Teachers for Tomorrow program is dual enrolled with Northern Virginia Community College (NVCC). Students successfully completing the 2-year high school program will receive 14 of the 20 college credits in the Education: Teaching Professional Career Studies Certificate with an option to finish the final 3 – 6 credits in the summer/fall after graduation to become immediately employable.

The Teaching Professional Career Studies Certificate represents the first 20 credits of the 60-credit Associate's Degree in Education. Students with the Career Studies Certificate may continue to finish the Associate Degree in Education within approximately 3 semesters of course work at NVCC.

The Education, A.S. program is aligned with the Transfer Virginia common curriculum. Students may choose to transfer to a four-year university program to finish a full teacher licensure program.

| Grade | PWCS Courses | PWCS Credits | Northern Virginia Community College (NVCC) Courses | NVCC Credits |
|---|---|---|---|---|
| 9 | Child Development and Parenting | 1 | | |
| 10 | Introduction to Early Childhood Education | 1 | | |
| 11 | Virginia Teachers for Tomorrow 1 DE | 1 | EDU 200, Foundations of Education,<br>EDU 207, Human Growth and Development, *and*<br>SDV 101, Orientation to Teaching | 3<br>3<br>1 |
| 12 | Virginia Teachers for Tomorrow 2 DE | 1 | EDU 204, Teaching in a Diverse Society,<br>EDU 206, Classroom and Behavioral Management, *and*<br>EDU 290, Coordinated Internship | 3<br>3<br>1 |
| | **Total Credits** | **4** | | **14** |

# Finance - Accounting

**Degree Type**
Career Pathways

**Finance Career Cluster**

The Finance Career Cluster is focused on planning, services for financial and investment planning, banking, insurance, and business financial management.

**Check with your counselor to see if the pathway is offered at your school.**

**Schools**
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Accounting Pathway

Accounting Pathway: Accounting encompasses careers that record, classify, summarize, analyze, and communicate a business's financial information/business transactions for use in management decision-making. Accounting includes such activities as bookkeeping, systems design, analysis, and interpretation of accounting information.

| Title | Credits |
|---|---|
| Principles of Business and Marketing | 1 |
| Accounting | 1 |
| Advanced Accounting | 1 |
| Career Strategies | 1 |
| Entrepreneurship | 1 |
| Entrepreneurship DE | 1 |

# Government & Public Administration - Military Science

**Degree Type**
Career Pathways

**Government & Public Administration Career Cluster**

The Government & Public Administration Career Cluster is focused on planning and performing government functions at the local, state, and federal levels, including governance, national security, foreign service, planning, revenue and taxation, and regulations.

**Military Science - JROTC**

The Junior Reserve Officers' Training Corps (JROTC) program prepares high school students for leadership roles while making them aware of their rights, responsibilities, and privileges as American citizens. JROTC programs provide instruction and rewarding opportunities that will benefit the student, community, and nation by teaching young adults self-discipline, self-confidence, and leadership skills. JROTC programs are conducted at accredited secondary schools by instructors who are retired Air Force, Army, Marine Corps, and Navy officers and enlisted personnel.

**Check with your counselor to see which JROTC branch is offered at your school.**

**Schools**
Battlefield High School,
Forest Park High School,
Freedom High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## National Security Pathway

National Security Pathway: Maintaining a strong national security encompasses such diverse activities as running a hospital, commanding a tank, programming computers, operating a nuclear reactor, or repairing and maintaining a helicopter. The military provides training and work experience in these fields and many others for more than 2.5 million people who serve in the active Army, Navy, Marine Corps, Air Force, and Coast Guard, their Reserve components, and the Air and Army National Guard.

### Air Force JROTC

| Title | Credits |
|---|---|
| Air Force JROTC 1 | 1 |
| Air Force JROTC 2 | 1 |
| Air Force JROTC 3 | 1 |
| Air Force JROTC 4 | 1 |

### Army JROTC

| Title | Credits |
|---|---|
| Army JROTC 1 | 1 |
| Army JROTC 2 | 1 |
| Army JROTC 3 | 1 |
| Army JROTC 4 | 1 |

### Marine Corps JROTC

| Title | Credits |
|---|---|
| Marine Corps JROTC 1 | 1 |
| Marine Corps JROTC 2 | 1 |
| Marine Corps JROTC 3 | 1 |
| Marine Corps JROTC 4 | 1 |

### Navy JROTC

| Title | Credits |
|---|---|
| Navy JROTC 1 | 1 |
| Navy JROTC 2 | 1 |
| Navy JROTC 3 | 1 |
| Navy JROTC 4 | 1 |
| Total Credits | 4 |

# Health Science - Therapeutic Services Pathway (Sports Medicine)

**Degree Type**
Career Pathways

**Health Sciences Career Cluster**

The Health Sciences Career Cluster is focused on planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

**Schools**
Brentsville District High School,
Patriot High School,
Woodbridge High School

## Therapeutic Services Pathway

Therapeutic Services Pathway: Careers in the Therapeutic Services pathway are focused primarily on changing the health status of the patient over time. Health professionals in this pathway work on changing the health status of the patient over time. Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information

| Title | Credits |
|---|---|
| Introduction to Health and Medical Science | 1 |
| Medical Terminology | 1 |
| Sports Medicine 1 | 1 |
| Sports Medicine 2 | 1 |
| Total Credits | 4 |

# Hospitality & Tourism

**Degree Type**
Career Pathways

**Hospitality & Tourism Career Cluster**

The Hospitality & Tourism Career Cluster is focused on management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events and travel related services.

**Check with your counselor to see which pathways are offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Recreation, Amusements & Attractions Pathway

Recreation, Amusements & Attractions Pathway: Employees looking for exciting and diverse work situations are best suited for the Recreation, Amusements and Attractions pathway. The work is often demanding but never boring. Good customer service skills are essential for success. Employees must also understand what makes each operation unique. Technical skills are location-specific, and training is handled on the job.

| Title | Credits |
|---|---|
| Principles of Business and Marketing | 1 |
| Sports, Entertainment, and Event Marketing | 1 |
| Sports, Entertainment, and Event Management | 1 |
| Strategic Marketing | 1 |

## Restaurants & Food / Beverage Services Pathway

Employees working in the Restaurant and Food/Beverage Services pathway perform a variety of tasks to maintain operations and promote guest services in eating and drinking establishments.

| Title | Credits |
|---|---|
| Nutrition and Wellness | 1 |
| Introduction to Culinary Arts | 1 |

## Travel & Tourism Pathway

| Title | Credits |
|---|---|
| Principles of Business and Marketing | 1 |
| Travel and Tourism Marketing | 1 |
| Marketing | 1 |
| Strategic Marketing | 1 |
| Total Credits | 2-4 |

# Human Services

**Degree Type**
Career Pathways

**Human Services Career Cluster**

The Human Services Career Cluster is focused on preparing individuals for employment in careers that relate to families and human needs such as counseling and mental health services, family and community services, personal care and consumer services.

**Check with your counselor to see which pathways are offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Independence Nontraditional High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Family & Community Services Pathway

Employees with careers in family and community services help the homeless, housebound, and infirm cope with circumstances of daily living; counsel troubled and emotionally disturbed individuals; train or retrain the unemployed or underemployed; care for the elderly and the physically and mentally disabled; help the needy obtain financial assistance; and solicit contributions for various social services organizations.

| Title | Credits |
|---|---|
| Nutrition and Wellness | 1 |
| Life Planning | 1 |
| Individual Development | 1 |
| Family Relations | 1 |

## Consumer Services Pathway

People with careers in consumer sciences assist individuals with decisions and problems relating to finance, real estate, insurance and consumer goods.

| Title | Credits |
|---|---|
| Independent Living | 1 |
| Life Planning | 1 |
| Career Strategies | 1 |

## Counseling & Mental Health Services Pathway

People working in counseling and mental health services assist people with personal, family, educational, mental health, and career decisions and problems.

| Title | Credits |
|---|---|
| Independent Living | 1 |
| Life Planning | 1 |
| Individual Development | 1 |
| Family Relations | 1 |

## Early Childhood Development & Services Pathway

People with careers in early childhood development and services nurture and teach children. They provide services in childcare centers, nursery schools, preschools, public schools, private households, family childcare homes, and before- and after-school programs.

If you are looking for a more focused Early Childhood Education program, please see the Education & Training Career Cluster - Early Childhood Education.

| Title | Credits |
|---|---|
| Child Development and Parenting | 1 |
| Life Planning | 1 |
| Individual Development | 1 |
| Family Relations | 1 |
| Total Credits | 3-4 |

# Information Technology

**Degree Type**
Career Pathways

**Information Technology Career Cluster**

The Information Technology Career Cluster is focused on building linkages in information technology occupations for entry level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

**Check with your counselor to see which pathways are offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Independence Nontraditional High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Information Support & Services Pathway

Careers in Information Support and Services involve IT deployment, including implementing computer systems and software, providing technical assistance and managing information systems. Successful IT deployment implementation of computer systems and software, provision of technical assistance, creation of technical documentation and management of information systems is critical to the success of most 21st century organizations. People with expertise in Information Support and Services are in high demand for a variety of positions in organizations of all sizes and types, doing work such as integrating multiple databases at a global investment company, enabling employees to share information between the New York, Paris and Hong Kong offices and improving service to customers.

| Title | Credits |
|---|---|
| Digital Applications | 1 |
| Computer Information Systems | 1 |
| Advanced Computer Information Systems | 1 |

## Programming and Software Development Pathway

Careers in Programming and Software Development involve the design development implementation and maintenance of computer systems and software, requiring knowledge of computer operating systems, programming languages and software development. People with expertise in programming and software development work with cutting-edge technologies to develop tomorrow's products for use by businesses and consumers. While many of the career opportunities in this area are in software companies, large organizations of other types such as Financial Services and Business also offer many opportunities. People with expertise in programming and software development are in high demand, doing work such as creating the software that launches and runs NASA space shuttles.

| Title | Credits |
|---|---|
| Programming | 1 |
| Advanced Programming | 1 |
| Game Design and Development | 1 |
| Advanced Game Design and Development | 1 |

## Web & Digital Communications Pathway

Careers in Web and Digital Communications involve creating, designing and producing interactive multimedia products and services, including development of digitally-generated or computer-enhanced media used in business, training, entertainment, communications and marketing. Organizations of all types and sizes use digital media to communicate with existing and potential customers, to track transactions, and to collaborate with colleagues. Web and digital communications experts can find employment opportunities in organizations of all sizes and types, doing work such as creating business auction websites that allow people around the world to buy and sell items in real-time.

| Title | Credits |
|---|---|
| Information Technology (IT) Fundamentals | 1 |
| Design, Multimedia, and Web Technologies | 1 |
| Advanced Design, Multimedia, and Web Technologies | 1 |
| Career Strategies | 1 |
| Total Credits | 11 |

# Law, Public Safety, Corrections & Security - Criminal Justice

**Degree Type**
Career Pathways

**Law, Public Safety, Corrections & Security Career Cluster**

The Law, Public Safety, corrections & Security Career Cluster is focused on planning, managing, and providing legal, public safety and protective services and homeland security, including professional and technical support services.

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Potomac High School

## Law Enforcement Services Pathway - Criminal Justice

Law Enforcement Services Pathway: People depend on police officers and detectives to protect their lives and property. Law enforcement officers have duties that range from controlling traffic to preventing and investigating crimes. They maintain order; enforce laws and ordinances; issue traffic summonses; investigate accidents; present evidence in court; serve legal documents for the court system; and apprehend, arrest and process prisoners

| Title | Credits |
|---|---|
| Principles of Business and Marketing | 1 |
| Business Law | 1 |
| Criminal Justice 1 | 1 |
| Criminal Justice 2 | 2 |
| Total Credits | 5 |

# Manufacturing, Manufacturing Production Process Development

**Degree Type**
Career Pathways

**Manufacturing Career Cluster**

The Manufacturing Career Cluster is focused on planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing, and process engineering.

**Check with your counselor to see if this pathway is offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Manufacturing Production Process Development

Employees in manufacturing production process development are responsible for product design and design of the manufacturing process. They work with customers to ensure the manufacturing process produces a product that meets or exceeds customer expectations, and monitor the materials used to manufacture the product.

| Title | Credits |
|---|---|
| Introduction to Engineering Design (PLTW) | 1 |
| Computer Integrated Manufacturing (PLTW) | 1 |
| Principles of Engineering (PLTW) | 1 |
| PLTW Capstone | 1 |
| Total Credits | 4 |

# Manufacturing, Mechatronics

**Degree Type**
Career Pathways

**Manufacturing Career Cluster**

The Manufacturing Career Cluster is focused on planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing, and process engineering.

**Schools**
Freedom High School

## Mechatronics

The rapidly evolving area of mechatronics offers a variety of career options across many technological fields. This program is designed to prepare students for entry-level employment in technology companies and related industries that require technicians/technologists trained in engineering technology, mechatronics, automation, electronics and robotics. Coursework will prepare students to earn the BICSI Installer 2 (Fiber Optic) and OSHA 10 industry credentials.

PWCS students will graduate with 17 of 27 college credits in the Engineering Technology: Engineering Technology Technician Career Studies Certificate (C.S.C.) to become immediately employable.

Students who continue one additional semester at NVCC will earn the certificate with opportunities for paid internships.

Students may continue another semester to earn the Data Center Operations (DCO) C.S.C.

| Grade | PWCS Courses | PWCS Credits | Northern Virginia Community College (NVCC) Courses | NVCC Credits |
|---|---|---|---|---|
| 9 | Production Systems | 1 | | |
| 10 | Construction Technology | 1 | | |
| 11 | Mechatronics 1 DE | 1 | CAD 175, Schematics and Mechanical Diagrams,<br>ITE 152, Introduction to Digital and Informational Literacy and Computer Applications,<br>ELE 150, A.C. and D.C. Circuit Fundamentals, *and*<br>SAF 130, Industrial Safety - OSHA 10 | 2<br>3<br><br>3<br>1 |
| 12 | Mechatronics 2 DE | 1 | ELE 146, Electric Motor Control,<br>SDV 101, Orientation, *and*<br>ELE 250, Fiber Optic Technology | 4<br>1<br>3 |
| | **Total Credits** | **4** | | **17** |

# Marketing

**Degree Type**
Career Pathways

**Marketing Career Cluster**

The Marketing Career Cluster is focused on planning, managing and performing marketing activities to reach organizational objectives.

**Check with your counselor to see which pathways are offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,
Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Marketing Management Pathway

People with careers in marketing management formulate policies and direct the operations of businesses and corporations, nonprofit institutions and other organizations. In small firms, the owner or chief executive officer may assume all advertising, promotions, marketing, sales and public relations responsibilities. In large firms, which may offer numerous products and services nationally or even worldwide, an executive vice president directs overall advertising, promotions, marketing, sales and public relations policies.

| Title | Credits |
|---|---|
| Principles of Business and Marketing | 1 |
| Fashion Marketing or Sports and Entertainment Marketing | 1 |
| Marketing | 1 |
| Strategic Marketing | 1 |

## Merchandising Pathway

Employees in buying and merchandising positions get the product into the hands of the customer. This process includes forecasting, planning, buying, displaying, selling and providing customer service.

| Title | Credits |
|---|---|
| Principles of Business and Marketing | 1 |
| Fashion Marketing | 1 |
| Advanced Fashion Marketing | 1 |
| Strategic Marketing | 1 |

## Marketing Communications

Marketing communications employees plan, coordinate and implement marketing strategies advertising promotion and public relations activities Because of the importance and high visibility of their jobs, these individuals often are prime candidates for advancement.

| Title | Credits |
|---|---|
| Principles of Business and Marketing | 1 |
| Fashion Marketing or Sports and Entertainment Marketing | 1 |
| Strategic Marketing | 1 |
| Total Credits | 4 |

# Science, Technology, Engineering & Mathematics

**Degree Type**
Career Pathways

**Science, Technology, Engineering & Mathematics Career Cluster**

The Science, Technology, Engineering & Mathematics (STEM) Career Cluster is focused on planning, managing and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

**Please check with your counselor to see which pathways and course sequences are offered at your school.**

**Schools**
Battlefield High School,
Brentsville District High School,
Colgan High School,
Forest Park High School,
Freedom High School,
Gainesville High School,

Gar-Field High School,
Hylton High School,
Osbourn Park High School,
Patriot High School,
Potomac High School,
Unity Reed High School,
Woodbridge High School

## Engineering and Technology Pathway

Engineering and Technology Pathway: For a future in the Engineering and Technology pathway, students should study and apply principles from advanced mathematics, life sciences, physical science, earth and space science, and technology. In addition, future engineers and technologists should learn certain processes in mathematics, science and technology. In Grades 9-12, all future engineers and technologists should study mathematics each year, learning important mathematical concepts and processes defined by the National Council of Teachers of Mathematics in Principles and Standards for School Mathematics. With such knowledge and skills, students will be able to demonstrate the following competencies: 1.) Apply mathematics, science and technology concepts to solve problems quantitatively in engineering projects involving design, development or production in various technologies; and 2.) Recognize the core concepts of technology and their relationships with engineering, science and math, and other subjects. All future engineers and technologists should learn important science concepts and processes with an understanding of physics, chemistry and biology as a minimal set. These concepts and processes are defined by the National Research Council in the National Science Education Standards and by the American Association for the Advancement of Science in Benchmarks for Science Literacy. Additionally, learners should become proficient in the areas of technology defined by the Standards for Technological Literacy.

### Drawing and Design Sequence

| Title | Credits |
|---|---|
| Technical Drawing and Design | 1 |
| Engineering Drawing and Design | 1 |
| Engineering Explorations 1 | 1 |
| Engineering Analysis and Applications 2 | 1 |

### Engineering PLTW Sequence

| Title | Credits |
|---|---|
| Introduction to Engineering Design (PLTW) | 1 |
| Principles of Engineering (PLTW) | 1 |
| Digital Electronics or Civil Engineering and Architecture | |
| PLTW Capstone | 1 |

### Software Engineering PLTW Sequence

| Title | Credits |
|---|---|
| Software Engineering Essentials (PLTW) | 1 |
| Software Engineering (PLTW) | 1 |

## Science & Mathematics Pathway

| Title | Credits |
|---|---|
| Technology Foundations | 1 |
| Sustainability and Renewable Technologies | 1 |
| Total Credits | 2-4 |

# Courses

## Advanced Placement

### AP Computer Science A

The focus of this course is to provide students with a conceptual background in computer science. The major emphasis is on programming methodology, algorithms, and non-dynamic data structure in the JAVA language. This course prepares a student for advanced placement in computer science by means of the Advanced Placement Examination Level A in Computer Science of the College Entrance Board. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School

**Prerequisites**

Geometry

**Notes**

AP Computer Science A may be used for a math, science, or CTE standard credit to satisfy graduation. For a CTE standard credit, a student must (i) successfully complete a CTE program sequence in programming or related programming sequence and earn a score of three or higher on the AP Computer Science A examination.

### AP Computer Science Principles

The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and world. This course may not be used for a math credit. This course is equivalent to the Software Engineering (PLTW) course. Therefore, students who have taken the Software Engineering (PLTW) course should not enroll in this AP Computer Science course as additional credit will not be granted. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School

**Prerequisites**

Algebra 1

# Career and Technical Education (CTE)

## Air Force JROTC 1

Students are introduced to the Air Force JROTC program with instruction focusing on aerospace science, including aviation history, principles of aircraft flight and navigation, development of aerospace power, aerospace vehicles, rocketry, space and technology programs, and the aerospace industry. Students explore Air Force traditions, customs and courtesies, character, and the foundations of U.S citizenship. Leadership education develops leadership skills, acquaints students with the practical applications of life skills, and includes a drill and ceremonies component. Instruction in personal wellness and health and fitness encourages cadets to lead healthy, active lifestyles into adulthood.

Students electing to use JROTC 1 in 9th grade as a substitution for their physical education graduation requirement must enroll in the full-year health course in tenth grade. The health course will include ninth and tenth grade health, CPR, and Family Life Education. In-person courses will include Driver Education; however, if a school does not have the minimum enrollment to support an in-person health course, students will be enrolled in a virtual course.

**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Freedom High School
Hylton High School
Unity Reed High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform, and meet and maintain the personal grooming standards.

## Air Force JROTC 2

Students explore the Air Force JROTC program with instruction focusing on aerospace science including flight conditions affecting flight, flight's effects on the human body, analyses of flight navigation, and purposes of aerial navigation aids. The course focuses on Air Force traditions, customs and courtesies, effective communication skills, and the influences of varying global cultures, religions, and ethnicities in the development of nations. Leadership education develops leadership skills, acquaints students with the practical applications of life skills, and includes a drill and ceremonies component. Personal wellness studies encourage cadets to lead healthy, active lifestyles into adulthood.

**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Freedom High School
Hylton High School
Unity Reed High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform, and meet and maintain the personal grooming standards.
**Prerequisites**
Air Force JROTC 1

## Air Force JROTC 3

Students explore the Air Force JROTC program, with instruction focusing on aerospace science, including astronomy, space exploration, the history and development of aerospace vehicles and rocketry. Aerospace science acquaints students with the elements of aerospace and the aerospace environment and introduces them to the history and development of air power. Leadership education develops leadership skills, acquaints students with the practical applications of life skills, and includes a drill and ceremonies component. Instruction on effective communication and management techniques, human relations skills, and postsecondary education and career opportunities is also included. Personal wellness studies encourage cadets to lead healthy, active lifestyles into adulthood.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Freedom High School
Hylton High School
Unity Reed High School

**Requirements**

Student must be able to participate in physical education program, dress in regulation uniform, and meet and maintain the personal grooming standards.

**Prerequisites**

Air Force JROTC 2

## Air Force JROTC 4

Students explore the Air Force JROTC program, focusing on aerospace science, the fundamentals of management, and personal wellness. Aerospace science acquaints students with the elements of aerospace, the aerospace environment, and introduces them to the history and development of air power. Leadership education develops leadership skills, acquaints students with the practical applications of life skills, and includes a drill and ceremonies component. Personal wellness studies encourage cadets to lead healthy, active lifestyles into adulthood.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Freedom High School
Hylton High School
Unity Reed High School

**Requirements**

Student must be able to participate in physical education program, dress in regulation uniform, and meet and maintain the personal grooming standards.

**Prerequisites**

Air Force JROTC 3

## Army JROTC 1

This course introduces students to the foundations of the Army JROTC program, the rights and responsibilities of U.S. citizenship, the principle components of leadership, and the foundational elements needed for academic and career success. Additionally, students receive instruction in U.S. and military history, discipline, personal wellness, physical fitness, career education, and workplace readiness skills. Military customs and courtesies, proper uniform wear and personal appearance guidelines are established and reinforced in the classroom, drill, and military ceremonies.

Students electing to use JROTC 1 in 9th grade as a substitution for their physical education graduation requirement must enroll in the full-year health course in tenth grade. The health course will include ninth and tenth grade health, CPR, and Family Life Education. In-person courses will include Driver Education; however, if a school does not have the minimum enrollment to support an in-person health course, students will be enrolled in a virtual course.

**Credits** 1
**Grades**
9, 10, 11
**Schools**
Forest Park High School
Woodbridge High School
**Requirements**
Students planning to enroll in JRTOC programs must meet program entry requirements. Student must be able to participate in the JROTC physical fitness program, dress in regulation uniform and meet and maintain the personal grooming standards as outlined in the USA Cadet Command Regulation.

## Army JROTC 2

This course continues to provide students instruction in the Army JROTC program and the rights and responsibilities of U.S. citizenship. Students continue to learn leadership skills, U.S. and military history, the origins and development of the U.S. Government, discipline, personal wellness, physical fitness, first aid, map skills, career education, and workplace readiness skills. Military customs and courtesies, proper uniform wear, and personal appearance guidelines are required in the leadership lab, drill, and military ceremonies.

**Credits** 1
**Grades**
10, 11, 12
**Schools**
Forest Park High School
Woodbridge High School
**Requirements**
Students planning to enroll in JRTOC programs must meet program entry requirements. Student must be able to participate in the JROTC physical fitness program, dress in regulation uniform and meet and maintain the personal grooming standards as outlined in the USA Cadet Command Regulation, and must have successfully completed Army JROTC 1 or equal level in another JROTC program.
**Prerequisites**
Army JROTC 1

## Army JROTC 3

This course continues to provide students instruction in the Army JROTC program, reinforcing U.S. citizenship rights and responsibilities, leadership, military history, discipline, physical fitness, career education, financial planning, personal development, and workplace readiness skills. Military customs and courtesies, proper uniform wear, and personal appearance guidelines are required in the leadership lab, drill, and military ceremonies.

**Credits** 1
**Grades**
11, 12
**Schools**
Forest Park High School
Woodbridge High School
**Requirements**
Students planning to enroll in JRTOC programs must meet program entry requirements. Student must be able to participate in the JROTC physical fitness program, dress in regulation uniform and meet and maintain the personal grooming standards as outlined in the USA Cadet Command Regulation and must have successfully completed Army JROTC 1 and 2.
**Prerequisites**
Army JROTC 2

## Army JROTC 4

Students continue instruction in the Army JROTC program, consisting of U.S. citizenship rights and responsibilities, leadership, military history, discipline, citizenship, physical fitness, career education, and workplace readiness skills. Students receive additional instruction in military customs and courtesies, proper uniform wear, and personal appearance guidelines. Adherence to the guidelines is required in leadership lab, drill, and military ceremonies.
**Credits** 1
**Grades**
12
**Schools**
Forest Park High School
Woodbridge High School
**Requirements**
Students planning to enroll in JRTOC programs must meet program entry requirements. Student must be able to participate in the JROTC physical fitness program, dress in regulation uniform and meet and maintain the personal grooming standards as outlined in the USA Cadet Command Regulation and must have successfully completed Army JROTC 1, 2, and 3.
**Prerequisites**
Army JROTC 3

## Emergency Medical Technician (EMT) 1

Emergency Medical Technician (EMT) is a one-credit course designed for students, referred to as cadets, interested in becoming an EMT. Cadets explore and apply the fundamentals of emergency medical services (EMS), anatomy, physiology, and medical terminology while demonstrating skills in assessing and managing patient care, including the understanding of medical emergencies, trauma, shock, and resuscitation. Cadets must complete a minimum of 85 percent of the didactic and lab aspects of the course. Successful completion of all course requirements may lead to eligibility to take the National Registry of Emergency Medical Technicians (NREMT) cognitive exam. Cadets must meet the requirements of the Functional Position Description for the Basic Life Support Provider.

Cadets receive instruction in treating and managing patients with a range of traumatic injuries and medical conditions. They participate in rotations with paramedics outside of school hours to apply their knowledge and skills. Completion of these rotations is required for eligibility to take the certification examination after the course ends.

It is important to note that final eligibility for national registry certification testing is determined by the education coordinator and the EMS physician.

This course connects to the following career pathways: Health Science – Emergency and Sports Medical Training Law, Public Safety, Corrections and Security - Public Safety (EMT and Firefighting)
**Credits** 1
**Length**
Semester
**Grades**
11, 12
**Schools**
Brentsville District High School
Unity Reed High School
**Prerequisites**
Introduction to Health and Medical Science
Recommended Medical Terminology
**Notes**
EMT 1 and 2 are taken concurrently. EMT 1 is offered in the Fall Semester, EMT 2 is offered in the Spring Semester.

**Eligibility**:

1. Students must be at least 16 years old prior to the first day of EMT instruction.
2. Students must pass the National Fire Protection Association 1582 physical assessment. The

assessment is funded for students accepted into the Emergency and Sports Medical Training Program and includes:
    a. Medical history and physical examination
    b. Stress test (cardiorespiratory fitness, muscular endurance, flexibility)
    c. Medical and health screenings (blood and urinalysis samples, cardio evaluation, vision and hearing tests)
    d. Chest x-ray
3. Students are required to complete all mandatory clinical hours to gain live patient contacts. The students cannot be considered "complete" until they have a minimum of 5 live patient contacts.
4. Students must earn a minimum of 70% on all assessments to be granted the ability to sit for the National Registry of Emergency Medical Technicians (NREMT) cognitive exam.
5. Students are required to successfully complete an end of course Terminal Competency Psychomotor Exam.
6. CPR is a required prerequisite.
7. Fingerprints and background checks prior to the course are REQUIRED by the state for every student.

# Emergency Medical Technician (EMT) 2

Emergency Medical Technician (EMT) 2 is a one-credit course designed for students, referred to as cadets, interested in becoming an EMT. Cadets explore and apply the fundamentals of emergency medical services (EMS), anatomy, physiology, and medical terminology while demonstrating skills in assessing and managing patient care, including the understanding of medical emergencies, trauma, shock, and resuscitation. Cadets must complete a minimum of 85 percent of the didactic and lab aspects of the course. Successful completion of all course requirements may lead to eligibility to take the National Registry of Emergency Medical Technicians (NREMT) cognitive exam. Cadets must meet the requirements of the Functional Position Description for the Basic Life Support Provider.

Cadets receive instruction in treating and managing patients with a range of traumatic injuries and medical conditions. They participate in rotations with paramedics outside of school hours to apply their knowledge and skills. Completion of these rotations is required for eligibility to take the certification examination after the course ends.

It is important to note that final eligibility for national registry certification testing is determined by the education coordinator and the EMS physician.

This course connects to the following career pathways:
Health Science – Emergency and Sports Medical Training
Law, Public Safety, Corrections and Security - Public Safety (EMT and Firefighting)
**Credits** 1
**Length**
Semester
**Grades**
11, 12
**Schools**
Brentsville District High School
Unity Reed High School
**Prerequisites**
Introduction to Health and Medical Science
Emergency Medical Technician (EMT) 1
Recommended Medical Terminology
**Notes**
EMT 1 and 2 are taken concurrently. EMT 1 is offered in the Fall Semester, EMT 2 is offered in the Spring Semester.

**Eligibility**:

1. Students must be at least 16 years old prior to the first day of EMT instruction.
2. Students must pass the National Fire Protection Association 1582 physical assessment. The

assessment is funded for students accepted into the Emergency and Sports Medical Training Program and includes:
    a. Medical history and physical examination
    b. Stress test (cardiorespiratory fitness, muscular endurance, flexibility)
    c. Medical and health screenings (blood and urinalysis samples, cardio evaluation, vision and hearing tests)
    d. Chest x-ray
3. Students are required to complete all mandatory clinical hours to gain live patient contacts. The students cannot be considered "complete" until they have a minimum of 5 live patient contacts.
4. Students must earn a minimum of 70% on all assessments to be granted the ability to sit for the National Registry of Emergency Medical Technicians (NREMT) cognitive exam.
5. Students are required to successfully complete an end of course Terminal Competency Psychomotor Exam.
6. CPR is a required prerequisite.
7. Fingerprints and background checks prior to the course are REQUIRED by the state for every student.

## Marine Corps JROTC 1

Students are introduced to the Junior Reserve Officer Training Corps (JROTC) program. JROTC is a program designed to teach leadership skills, character development, self-discipline, and citizenship through the study and practical application of United States Marine Corps (USMC) leadership traits and principles. Students are introduced to general military subjects, leadership, citizenship, personal growth and responsibilities, public service, and career exploration in the first year of this program.

Students electing to use JROTC 1 in 9th grade as a substitution for their physical education graduation requirement must enroll in the full-year health course in tenth grade. The health course will include ninth and tenth grade health, CPR, and Family Life Education. In-person courses will include Driver Education; however, if a school does not have the minimum enrollment to support an in-person health course, students will be enrolled in a virtual course. The virtual course will not include Driver Education and students will need to enroll in classroom driver education outside of Prince William County Public Schools.
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Gar-Field High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards

## Marine Corps JROTC 2

Junior Reserve Officer Training Corps (JROTC) is a program designed to teach leadership skills, character development, self-discipline, and citizenship through the study and practical application of United States Marine Corps (USMC) leadership traits and principles. In the second year of the USMC JROTC program, students are developing and applying their knowledge of general military subjects, leadership, citizenship, personal growth and responsibilities, public service, and career exploration.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Gar-Field High School
**Requirements**
Students must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.
**Prerequisites**
Marine Corps JROTC 1

## Marine Corps JROTC 3

Junior Reserve Officer Training Corps (JROTC) is a program designed to teach leadership skills, character development, self-discipline, and citizenship through the study and practical application of United States Marine Corps (USMC) leadership traits and principles. In the third year of the USMC JROTC program, students are applying and mastering knowledge of general military subjects, leadership, citizenship, personal growth and responsibilities, public service and career exploration.
**Credits** 1
**Grades**
11, 12
**Schools**
Gar-Field High School
**Requirements**
Students must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.
**Prerequisites**
Marine Corps JROTC 2

## Marine Corps JROTC 4

The Junior Reserve Officer Training Corps (JROTC) is a program designed to teach leadership skills, character development, self-discipline, and citizenship through the study and practical application of United States Marine Corps (USMC) leadership traits and principles. In the fourth year of the USMC JROTC program, students are mastering knowledge of general military subjects, leadership, citizenship, personal growth and responsibilities, public service, and career exploration.
**Credits** 1
**Grades**
12
**Schools**
Gar-Field High School
**Requirements**
Students must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.
**Prerequisites**
Marine Corps JROTC 3

## Navy JROTC 1

This course introduces students to the Navy Junior Reserve Officer Training Corps program, the importance of citizenship, the elements of leadership, the U.S. government, and the value of scholarship in attaining life goals. Additional instruction includes: the principles of health and first aid, geography, orienteering, map reading skills, survival skills, financial skills, and overview of the U.S. Navy, naval ships and aircraft. The importance and promotion of a healthy lifestyle including physical fitness, proper diet, controlling stress, and drug awareness are pursued at the fundamental level.

Students electing to use JROTC 1 in 9th grade as a substitution for their physical education graduation requirement must enroll in the full-year health course in tenth grade. The health course will include ninth and tenth grade health, CPR, and Family Life Education. In-person courses will include Driver Education; however, if a school does not have the minimum enrollment to support an in-person health course, students will be enrolled in a virtual course.
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Osbourn Park High School
Potomac High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.

## Navy JROTC 2

This course builds on the general introduction provided in Navy JROTC 1, to further develop the traits of citizenship and leadership, introduce cadets to the technical areas of naval science, the role of the U.S. Navy in maritime history, and the vital importance of the world's oceans to the national security of the United States. An introduction to maritime history including the American Revolution, the American Civil War, the rise of the United States to world power status, World Wars 1 and 2, the Cold War era, the 1990s, and conflict in the new millennium is provided. Additional instruction in the nautical sciences will include an introduction to maritime geography, oceanography, meteorology, astronomy, and the physical sciences.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Osbourn Park High School
Potomac High School

**Requirements**

Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.

**Prerequisites**

Navy JROTC 1

## Navy JROTC 3

This course broadens a student's understanding of the principles of military leadership, citizenship, discipline, the concept and significance of teamwork, the intrinsic value of good order and discipline in the accomplishment of objectives, and the importance of sea power and national security. Students gain a more in-depth knowledge of naval ships, aircraft, and an introduction to marine navigation and seamanship. It includes instruction in sea power and national security, naval operations and support functions, military law, and international law and the sea. It provides an introduction to ship construction and damage control, shipboard organization and watch standing, and naval weaponry.

**Credits** 1

**Grades**

11, 12

**Schools**

Osbourn Park High School
Potomac High School

**Requirements**

Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.

**Prerequisites**

Navy JROTC 2

## Navy JROTC 4

This course prepares junior cadets for the real world through training in leadership and ethics. Seniors will be placed in positions of leadership under supervision and will analyze their performance throughout the year. Classroom activities include seminars, reading assignments, presentations, and practical work with junior cadets. Students also investigate topics in cyber technology and space exploration.

**Credits** 1

**Grades**

12

**Schools**

Osbourn Park High School
Potomac High School

**Requirements**

Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.

**Prerequisites**

Navy JROTC 3

# High School Career and Technical Education

## Cybersecurity Fundamentals

Cybersecurity affects every individual, organization, and nation. This course focuses on the evolving and pervasive technological environment with an emphasis on securing personal, organizational, and national information. Students will be introduced to the principles of cybersecurity, explore emerging technologies, examine threats and protective measures, and investigate the diverse high-skill, high-wage, and high-demand career opportunities in the field of cybersecurity. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Information Technology - Cybersecurity
Information Technology - CASIIT, Cybersecurity
**Credits** 1
**Length**
Year
**Grades**
9, 10, 11
**Schools**
Battlefield High School
Colgan High School
Patriot High School
**Prerequisites**
None

## Cybersecurity Operations

Cybersecurity Operations is designed to teach computer and network administration and security. Students learn cybersecurity concepts, including the practice of protecting systems, networks, and programs from digital attacks. Cybersecurity is defined as the steps and processes taken to protect networks, devices, programs, and data from unauthorized access that can result in theft or damage. Students learn to establish, implement, and maintain security networks. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Information Technology - Cybersecurity
Information Technology - CASIIT, Cybersecurity
**Credits** 1
**Length**
Year
**Grades**
10, 11, 12
**Schools**
Colgan High School
Potomac High School
**Prerequisites**
Cybersecurity Fundamentals OR

Information Technology (IT) Fundamentals, recommended

# Agriculture, Food, and Natural Resources

All agricultural sciences courses will count toward meeting the one-credit "Fine Arts or Career and Technical Education" requirement for graduation.

## Horticulture Sciences

Horticulture Sciences prepares students for postsecondary educational career programs and entry-level positions in the horticulture industry. Instruction includes safety in the horticulture industry, the science of horticulture and nursery plant production, greenhouse operation and management, landscape design, and turf management. Through hands-on activities, students will identify and manage plant-growing substrates and propagate and grow horticultural plants in the greenhouse and land laboratory.

This course connects to the following career pathways:
Agriculture, Food and Natural Resources
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Brentsville District High School
**Requirements**
Enrolled in Agriculture Specialty Program
**Prerequisites**
None

## Landscaping 1

Landscaping offers skilled workers satisfying career opportunities in varying working environments. The expanding and ever-evolving green industry requires skilled workers for high-demand occupations offering educational and leadership opportunities. This course focuses on preparing students for entry-level employment, postsecondary opportunities, and advancement in the landscape design, construction, and maintenance industries.

This course connects to the following career pathways:
Agriculture, Food, and Natural Resources
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Brentsville District High School
**Requirements**
Enrolled in Agriculture Specialty Program
**Prerequisites**
None

## Landscaping 2

Landscaping 2 offers skilled workers satisfying career opportunities in varying work environments. The expanding and ever-evolving green industry requires skilled workers for high-demand occupations that offer educational and leadership opportunities. This course focuses on preparing students for entry-level employment in the landscaping industry through hands-on experiences, to include landscape design, installation, and maintenance, incorporating technology, plant and soil science, and utilizing landscaping tools, equipment, and machinery.

This course connects to the following career pathways:
Agriculture, Food, and Natural Resources
**Credits** 1
**Grades**
11, 12
**Schools**
Brentsville District High School
**Requirements**
Enrolled in Agriculture Specialty Program
**Prerequisites**
Landscaping 1

## Turfgrass Management

Students will begin to master professional skills to establish and maintain environmentally friendly turfgrass in residential areas; golf courses; parks and recreational facilities; athletic fields; and school, industrial, and institutional campuses. The course integrates science, technology, engineering, and mathematics (STEM) concepts through hands-on application of sound turfgrass management and includes opportunities for industry certification.

This course connects to the following career pathways:
Agriculture, Food, and Natural Resources
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Brentsville District High School
**Requirements**
Enrolled in Agriculture Specialty Program
**Prerequisites**
Horticulture Sciences, recommended

# Business and Information Technology

## Accounting

Accounting students explore the intricacies of the accounting cycle for both service and merchandising businesses. They will analyze transactions, master journal entries, and create essential financial statements. Students will get hands-on experience with payroll records and learn to manage cash control systems while emphasizing the importance of business ethics and professional conduct. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Finance - Accounting
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Principles of Business and Marketing, recommended

## Advanced Accounting

Advanced Accounting encourages students to embark on a journey through the complex world of financial problem-solving and decision-making. Students explore advanced accounting principles and techniques that empower them to tackle real business challenges. Set in a technology-driven environment, students harness accounting and spreadsheet software to analyze and interpret vital financial data, covering everything from inventory and fixed assets to accounts payable and receivable, and the intricacies of partnerships and corporations. They engage with authentic workplace scenarios that mirror the latest industry trends, sharpening their analytical skills while reinforcing the importance of business ethics. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Finance - Accounting
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Accounting

## Advanced Computer Information Systems

Students will apply computer information technology and problem-solving skills to real-life situations through integrated software applications, such as word processing, spreadsheets, databases, and multimedia presentations. Students will work individually and in groups to explore website development, programming, and emerging technologies. Students will maintain, manage, and troubleshoot systems; explore legal and ethical issues; prepare for industry certifications; and develop employability skills. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Information Technology
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Computer Information Systems

## Advanced Design, Multimedia, and Web Technologies

Students acquire advanced skills in design, multimedia, and web development by applying project management principles to create professional quality digital media projects. Work-based learning experiences allow students to apply layout and design techniques in real-world situations. Students create portfolios that include a résumé, certifications earned, and a variety of print, multimedia, and website projects produced in the course. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills

This course connects to the following career pathways:
Information Technology
Arts, A/V Technology & Communications
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Potomac High School
Unity Reed High School
**Prerequisites**
Design, Multimedia, and Web Technologies

## Advanced Design, Multimedia, and Web Technologies DE

In this course, students acquire advanced skills in design, multimedia, and web development by applying project management principles to create professional quality digital media projects. Work-based learning experiences allow students to apply layout and design techniques in real-world situations. Students create portfolios that include a résumé, certifications earned, and a variety of print, multimedia, and website projects produced in the course.

This course connects to the following career pathways:
Information Technology
Arts, A/V Technology & Communications
**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Design, Multimedia, and Web Technologies DE
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Advanced Programming

This course is designed for students who have a solid foundation in programming and are ready to deepen their understanding of related concepts and practices. Students will write programs of increasing complexity to potentially solve real-world problems of personal interest and professional relevance. The course focuses on mastering advanced programming techniques, object-oriented programming (OOP), algorithm optimization, data structures, and software development methodologies. Students will explore real-world applications by working on collaborative projects, coding challenges, and hands-on labs. By the end of the course, students will have developed the skills necessary to design and implement efficient, scalable software solutions and will be prepared for further studies in the high-demand fields of technology. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

**Check with your counselor to see if this course is offered as Dual Enrollment at your school.

This course connects to the following career pathways:
Information Technology
Information Technology - Cybersecurity
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Freedom High School
Gar-Field High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Programming

## Advanced Programming DE

Building on their foundation of programming skills, Advanced Programming students use object-oriented programming to develop database applications, interactive multimedia applications including game applications, mobile applications, and web applications. Students continue to develop their employability skills as they research pathways for continuing education and careers in the information technology industry and engage in various career-building activities.

**Check with your counselor to see if this course is offered as Dual Enrollment at your school.

This course connects to the following career pathways:
Information Technology
Information Technology - Cybersecurity
**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Programming
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Business Law

Students examine the foundations of the American legal system, including federal and Virginia laws and court systems. Students gain knowledge and skills by exploring economic and social concepts related to the law, along with the legal rights and responsibilities of business entities and consumers. Focus areas include contracts, business and consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and careers in and related to the legal profession. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Business Management & Administration
Law, Public Safety, Corrections & Security - Criminal Justice
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Hylton High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Principles of Business and Marketing, recommended

## Business Management

Students study basic management concepts and leadership styles as they explore business ownership, planning, operations, marketing, finance, economics, communications, the global marketplace, and human relations. Quality concepts activities, project management, problem solving, and ethical decision-making are an integral part of the course. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Business Management & Administration
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
**Prerequisites**
Principles of Business and Marketing, recommended

## Computer Information Systems

Students will work individually and in groups to explore computer concepts, operating systems, networks, telecommunications, emerging technologies, and career opportunities related to the information technology field. Students will apply problem-solving skills to real-life situations through word processing, spreadsheets, databases, multimedia presentations, and integrated software activities. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Information Technology
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Design, Multimedia, and Web Technologies

Students apply creativity and technology to create visual design, multimedia projects, and web projects, using industry-standard software. Work-based learning experiences allow students to apply layout and design techniques in real-world situations. Students create portfolios that include a résumé, certifications earned, and a variety of projects produced in the course. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Information Technology
Arts, A/V Technology & Communications
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None
**Notes**
Information Technology (IT) Fundamentals, recommended

## Design, Multimedia, and Web Technologies DE

Students apply creativity and technology to create visual design, multimedia projects, and web projects, using industry-standard software. Additionally, students engage in website development process using HTML, XHTML, Dynamic HTML, XML, Server-side technologies, Java applets, tables, frames, metadata and Cascading Style Sheets. Students create portfolios that include a résumé, certifications earned, and a variety of projects produced in the course.

This course connects to the following career pathways:
Information Technology
Arts, A/V Technology & Communications
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
None
**Notes**
Information Technology (IT) Fundamentals, recommended.

To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Digital Applications

This course is designed for secondary school students to develop real-life, outcome-driven approach skills for digital citizenship, basic computer operations, keyboarding, application software (word processing, spreadsheets, multimedia applications, databases), and career exploration. This course promotes skills that can be applied across the curriculum and offers preparation relevant to 21st century skills and postsecondary education. Students who successfully complete this course may be eligible for a rigorous and relevant industry certification examination. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:

- Information Technology

**Credits** 1
**Grades**
9, 10, 11
**Schools**
Brentsville District High School
Colgan High School
Freedom High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Economics and Personal Finance

Students learn how economies and markets operate and how the U.S. economy is interconnected with the global economy. Additionally, students learn how to navigate financial decision making and to make informed decisions relating to career exploration, budgeting, banking, credit, insurance, spending, financing postsecondary education, taxes, saving and investing, buying/leasing a vehicle, and living independently. Students also learn the importance of investing in themselves to gain valuable knowledge and skills. Development of financial literacy skills and an understanding of economic principles will provide the basis for responsible citizenship, more effective participation in the workforce, and career success.

The course incorporates all economics and financial literacy objectives included in the Code of Virginia §22.1-200-03B.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## IT Adv Database Design and Management with PL/SQL (Oracle)

Web-based technologies used throughout industry, including interactive websites, accounting programs, research tools, search engines, e-learning environments, email managers, and numerous other applications, depend upon relational databases. PL/SQL, an extension of the SQL programming language, provides additional database functionality through variables, conditional statements, iterative controls, and packaging. Students enhance their relational database design and algorithm design skills by learning to write PL/SQL code that includes anonymous blocks, sub programs, procedures, functions, control structures, packages, and triggers, all within a browser-based programming environment.
**Credits** 1
**Grades**
11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
IT Database Design and Management (Oracle)

## IT Adv Database Design and Management with PL/SQL (Oracle) DE

Web-based technologies used throughout industry, including interactive websites, accounting programs, research tools, search engines, e-learning environments, email managers, and numerous other applications, depend upon relational databases. PL/SQL, an extension of the SQL programming language, provides additional database functionality through variables, conditional statements, iterative controls, and packaging. Students enhance their relational database design and algorithm design skills by learning to write PL/SQL code that includes anonymous blocks, sub programs, procedures, functions, control structures, packages, and triggers, all within a browser-based programming environment.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
IT Database Design and Management (Oracle) DE
**Notes**
To enroll in this course, students must meet all eligibility requirements established by NOVA.

## IT Advanced Programming DE

Students advance their programming skills by learning object-oriented design and programming using Python. The course covers key concepts such as classes, inheritance, polymorphism, and design patterns, while introducing best practices for code reusability and testing. Students also explore advanced Python features, modules, and frameworks through hands-on projects, preparing for future studies and careers in software development.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Requirements**
Enrolled in IT Specialty Program
**Prerequisites**
IT Programming DE
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## IT Advanced Web Technologies

In this course, students acquire advanced skills in design, multimedia, and web development by applying project management principles to create professional quality digital media projects. Work-based learning experiences allow students to apply layout and design techniques in real-world situations. Students create portfolios that include a résumé, certifications earned, and a variety of print, multimedia, and website projects produced in the course.
**Credits** 1
**Grades**
11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
Design, Multimedia, and Web Technologies **OR**

IT Web Technologies **OR**

IT Web Technologies (DE)
**Notes**
See Advanced Design, Multimedia, and Web Technologies

## IT Advanced Web Technologies DE

Students expand their web development skills by learning advanced techniques in planning, design, and usability while creating responsive, accessible websites. The course introduces front-end tools such as HTML5, CSS3, JavaScript, and Bootstrap, along with UX principles and wireframing. Students also explore multimedia integration, including images, audio, video, and animation, while addressing accessibility and copyright standards. Hands-on projects prepare students to design and deploy professional, visually engaging websites.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
IT Web Technologies DE
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## IT Database Design and Management (Oracle)

This course includes database design and Structured Query Language (SQL) programming. Students study database fundamentals, including database development, modeling, design, and normalization. In addition, students are introduced to database programming with SQL. Students gain the skills and knowledge needed to use features of database software and programming to manage and control access to data.
**Credits** 1
**Grades**
10, 11
**Schools**
High School Currently Unavailable
**Prerequisites**
Information Technology (IT) Fundamentals, recommended

## IT Database Design and Management (Oracle) DE

This course includes database design and Structured Query Language (SQL) programming. Students study database fundamentals, including database development, modeling, design, and normalization. In addition, students are introduced to database programming with SQL. Students gain the skills and knowledge needed to use features of database software and programming to manage and control access to data.
**Credits** 1
**Grades**
10, 11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Information Technology (IT) Fundamentals, recommended
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## IT Programming

Students in the IT Programming course explore programming concepts, use algorithmic procedures, implement programming procedures with one or more standard languages, and master programming fundamentals. Coding is used throughout the course. Graphical user interfaces may be used as students design and develop interactive multimedia applications, including game programs. In addition, students employ hypertext markup language (HTML) or JavaScript to create webpages. Students develop their employability skills through a variety of activities.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
Information Technology (IT) Fundamentals, recommended
**Notes**
See Programming

## IT Programming DE

Students are introduced to programming fundamentals using Python, focusing on algorithm development, coding, debugging, and documentation. The course covers core concepts such as data types, loops, functions, and object-oriented programming, including classes and inheritance. Hands-on projects help students build a strong foundation for advanced programming and careers in technology.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Information Technology (IT) Fundamentals, recommended
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## IT Web Technologies

Students apply creativity and technology to create visual design, multimedia projects, and web projects, using industry-standard software. Students create portfolios that include a résumé, certifications earned, and a variety of projects produced in the course. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

**Credits** 1
**Grades**
10, 11, 12
**Schools**
Forest Park High School
**Prerequisites**
Information Technology (IT) Fundamentals, recommended
**Notes**
See Design, Multimedia, and Web Technologies

## IT Web Technologies DE

Students gain a strong foundation in computer concepts, internet skills, and productivity tools, including word processing, spreadsheets, databases, and presentations. The course also introduces web design using HTML and CSS, covering site construction and management without automated code generators. Additional topics include operating systems, computer security, ethics, and emerging technologies. Hands-on projects prepare students to create websites and collaborate using cloud-based tools.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Forest Park High School
**Prerequisites**
Information Technology (IT) Fundamentals, recommended
**Notes**
This course is equivalent to Design, Multimedia, and Web Technologies.

To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Information Technology (IT) Fundamentals

Information Technology Fundamentals introduces the essential technical and professional skills required for students to pursue programs leading to professional careers and information technology certifications. The course introduces skills related to digital technology, digital applications, maintenance/upgrading/troubleshooting, and networking fundamentals. Students also explore ethical issues related to computers and internet technology, and examine webpage and game design. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Information Technology
Arts, A/V Technology & Communications
**Credits** 1
**Grades**
9, 10
**Schools**
Forest Park High School
Potomac High School
**Prerequisites**
None

## Information Technology (IT) Fundamentals DE

Information Technology Fundamentals introduces the essential technical and professional skills required for students to pursue programs leading to professional careers and information technology certifications. The course introduces skills related to digital technology, digital applications, maintenance/upgrading/troubleshooting, and networking fundamentals. Students also explore ethical issues related to computers and internet technology and examine webpage and game design.

This course connects to the following career pathways:
Information Technology
Arts, A/V Technology & Communications
**Credits** 1
**Grades**
9, 10
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
None
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Office Specialist 1 - Preparation

Students complete the Office Specialist sequence as identified locally or progress in the sequence until prepared to transfer into other business courses. Students develop skills in areas including keyboarding, word processing, office procedures, and records management. If a fourth year is needed, the teacher should use simulated activities in the following areas: word processing, spreadsheets, databases, telecommunications, graphic design, and records management. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Business Management & Administration
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Freedom High School
Patriot High School
**Prerequisites**
None

## Office Specialist 2 - Preparation

Students complete the Office Specialist sequence as identified locally or progress in the sequence until prepared to transfer into other business courses. Students develop skills in areas including keyboarding, word processing, office procedures, and records management. If a fourth year is needed, the teacher should use simulated activities in the following areas: word processing, spreadsheets, databases, telecommunications, graphic design, and records management. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:

- Business Management & Administration

**Credits** 1
**Grades**
10, 11, 12
**Schools**
High School Currently Unavailable

## Principles of Business and Marketing

This dynamic course provides students with a foundational understanding of business and marketing concepts. Students will develop career skills and examine economics; social, environmental, and ethical responsibilities; and current trends in the field as they prepare to be responsible consumers and leaders in business and marketing roles. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Business Management & Administration
Finance - Accounting
Hospitality & Tourism
Law, Public Safety, Corrections & Security - Criminal Justice
Marketing
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Programming

Students will develop critical thinking and problem-solving skills by writing programs and exploring programming concepts, using algorithmic procedures, implementing programming procedures in one or more languages, and mastering programming fundamentals. Students will also develop interactive multimedia applications, including apps or games. Concepts in this course shed light on a wide range of career opportunities in the tech industry as students will learn valuable computational thinking skills that help them understand the modern digital world. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Information Technology
Information Technology - Cybersecurity
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gar-Field High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

# Career Connections

## Career Strategies

Career Strategies consists of an in-depth study of career clusters through a variety of investigative activities. Students observe, analyze, and report on the demand for workers, worker qualifications, organizational structures, quality control measures, selected policies and regulations, ethical issues, and rewards of work. Students analyze career assessment results, compare various educational options, and develop or revise a plan related to their academic and career-related goals.
**Credits** 1
**Grades**
11, 12
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Unity Reed High School
**Prerequisites**
This course is intended for students who have previously completed a two-year Career and Technical Education (CTE) sequence of courses.

## Entrepreneurship

This course introduces students to the dynamic world of creating, owning, and launching their own ventures. Students will learn concepts and techniques for planning an entrepreneurial venture, using design thinking and business model development. Students will learn about financial statements, marketing principles, sales and customer service, and basic economic principles required for successful business operation.

** Check with your counselor to see if this course is offered as Dual Enrollment at your school.

This course connects to the following career pathways:
Finance - Accounting
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
This course is intended for students who have previously completed a two-year Career and Technical Education (CTE) sequence of courses.

## Entrepreneurship DE

Students learn the essential steps for starting a business, including product and service analysis, market research, financial planning, and business plan development. The course explores startup strategies such as franchising and buyouts and introduces tools for forecasting and opportunity evaluation using technology and social media. Through case studies and problem-solving, students gain practical skills for planning and launching a new business venture.

This course connects to the following career pathways:
Finance - Accounting

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Colgan High School
Freedom High School
**Prerequisites**
This course is intended for students who have previously completed a two-year Career and Technical Education (CTE) sequence of courses.
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

# Family and Consumer Sciences

## Child Development and Parenting

Students enrolled in Child Development and Parenting learn about parenting roles and responsibilities and parenting practices that maximize human growth and development. They focus on ensuring a healthy start for parent and child, balancing work and family, and understanding support systems that provide services for families. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course is included in the following career pathways:
Education & Training
Human Services
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Culinary Arts 1

Culinary Arts 1 provides students with a foundational understanding of the food service industry and opportunities to build technical skills in food preparation and service. Students examine basic rules of kitchen safety and sanitation, purchasing and receiving, nutrition, and menu development. The curriculum incorporates culinary applications of math, science, and technology. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This is a **double-blocked** course. This is a **transport** specialty program located at select schools.

This course connects to the following career pathways:
Hospitality & Tourism - Culinary Arts
**Credits** 2
**Grades**
11, 12
**Schools**
Gar-Field High School
Patriot High School
Potomac High School
**Requirements**
Students entering grade 11 are eligible to submit interest via the Specialty Program process and timeline.
**Prerequisites**
Introduction to Culinary Arts, recommended

## Culinary Arts 2

Culinary Arts 2 students progress to hands-on mastery of advanced culinary skills. They build on skills acquired in Culinary Arts 1 to gain a comprehensive knowledge of the food service industry, including kitchen safety and sanitation, nutritional principles, and advanced food-preparation techniques. Students may earn a food service certification as part of this course. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This is a **double-blocked** course. This is a **transport** specialty program located at select schools.

This course connects to the following career pathways:
Hospitality & Tourism - Culinary Arts
**Credits** 2
**Grades**
12
**Schools**
Gar-Field High School
Patriot High School
Potomac High School
**Prerequisites**
Culinary Arts 1

## Early Childhood, Education, and Services 1

Early Childhood, Education, and Services 1 students prepare to be primary providers of child care services. Students plan, organize, and conduct learning experiences that provide safe and healthy learning environments; promote physical, cognitive, language, social, and emotional development; utilize curricula responsive to children's needs; and promote family engagement. Students examine local, state, and federal regulations for early childhood education and services environments and professional expectations for early childhood education and services professionals. Coursework prepares students for balancing work and family, identifying education and training requirements, and entering careers in the education and training and human services career clusters. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This is a **double-blocked** course.

** Check with your counselor to see if this course is offered as dual enrollment at your school.

This course connects to the following career pathways:
Education & Training
**Credits** 2
**Grades**
11, 12
**Schools**
Hylton High School
Patriot High School
Unity Reed High School
**Prerequisites**
Introduction to Early Childhood Education, recommended

## Early Childhood, Education, and Services 1 DE

Students are introduced to early childhood education through hands-on experiences in programs for young children, including pre-kindergarten and primary grades. The course explores child development, classroom organization, and professional practices, while emphasizing strategies that support creativity through art, music, and movement. Students learn approaches for fostering exploration and play, and gain techniques for supporting exceptional learners and English Language Learners. This course provides a foundation for careers in early childhood education and related fields.

This is a **double-blocked** course.

This course connects to the following career pathways:
Education & Training
**Credits** 2
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Hylton High School
Patriot High School
Unity Reed High School
**Prerequisites**
Introduction to Early Childhood Education, recommended
**Notes**
To enroll in this course, students must meet the eligibility requirements established by Northern Virginia Community College.

## Early Childhood, Education, and Services 2

Early Childhood, Education, and Services 2, a specialized course for students with career interests in early childhood education and services, builds upon concepts introduced in Early Childhood, Education, and Services 1. Students plan, organize, and conduct learning experiences that provide safe and healthy learning environments; promote physical, cognitive, language, social, and emotional development; utilize curricula responsive to children's needs; and promote family engagement. Students expand their knowledge of legal, ethical, and education and training requirements for early childhood professionals. Reviewing knowledge, skills, and aptitudes required for careers in early childhood careers and creating a professional portfolio assist students with demonstrating college and career readiness. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This is a **double-blocked** course.

This course connects to the following career pathways:
Education & Training
**Credits** 2
**Grades**
12
**Schools**
Hylton High School
Patriot High School
Unity Reed High School
**Prerequisites**
Early Childhood, Education, and Services 1

## Early Childhood, Education, and Services 2 DE

Students learn to observe and document children's development in early learning settings using a variety of techniques. Emphasis is placed on gathering and analyzing data related to physical, cognitive, social, and emotional growth. The course includes a minimum of 30 hours of field experience and prepares students to apply observation skills in supporting effective early childhood education practices.

This is a **double-blocked** course.

This course connects to the following career pathways:
Education & Training
**Credits** 2
**Grades**
12
**Schools**
Hylton High School
Patriot High School
Unity Reed High School
**Prerequisites**
Early Childhood, Education, and Services 1 DE
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Family Relations

The Family Relations course empowers students to navigate life decisions in family, romantic, and peer relationships. Students gain a broad understanding of the structures, functions, and responsibilities of families. They explore strategies and skills to build a strong sense of self and foster healthy relationships. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Human Services
**Credits** 1
**Grades**
11, 12
**Schools**
Patriot High School
**Prerequisites**
None
**Notes**
Individual Development **OR** Life Planning, recommended

## Independent Living

Independent Living students become prepared to meet the challenges of living on their own. Students build life skills focusing on creating and maintaining healthy relationships and making responsible financial, consumer, nutrition, and housing decisions. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Human Services
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Individual Development

Individual Development students focus on cultivating positive future orientation; developing skills to build healthy relationships with family, peers, and community members; managing stress and conflict; and preparing to become college- and career-ready. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Human Services
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Gar-Field High School
Independence Nontraditional High School
Unity Reed High School
Woodbridge High School
**Notes**
Independent Living, recommended

## Introduction to Culinary Arts

In Introduction to Culinary Arts, students investigate food safety and sanitation, culinary preparation foundations, basic culinary skills, diverse cuisines, service styles, basic nutrition, and the economics of food. Students also explore postsecondary education options and career opportunities within the food service industry. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Hospitality & Tourism
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Brentsville District High School
Hylton High School
Patriot High School
Potomac High School
Unity Reed High School
**Prerequisites**
Nutrition and Wellness, recommended

## Introduction to Early Childhood Education

Introduction to Early Childhood Education students explore different types of early childhood education programs and delivery models, develop safe and healthy learning environments for children, and identify the ages and stages of child development and developmentally appropriate practices that support child development from birth through age 12. Students explore balancing work and family, professionalism, and education and training requirements for multiple early childhood education career pathways during the course. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course is included in the following career pathway(s):
Education & Training
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Colgan High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Unity Reed High School
**Prerequisites**
Child Development and Parenting, recommended

## Introduction to Fashion Careers

Introduction to Fashion Careers students learn what it takes to be successful in fashion by exploring careers within the industry. Instruction focuses on applied experiences, with students exploring the design process and demonstrating basic fashion design techniques. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Colgan High School
Woodbridge High School
**Prerequisites**
None

## Life Planning

Life Planning equips students with life skills. Creating and maintaining healthy work and family relationships, planning for a meaningful career, practicing responsible citizenship, exploring personal health and wellness, and developing a life-management plan are emphasized through relevant life applications. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course is included in the following career pathway(s):

- Human Services

**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Colgan High School
Gar-Field High School
Independence Nontraditional High School
Osbourn Park High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Independent Living, recommended

## Nutrition and Wellness

Students investigate the principles of nutrition and wellness, use science and technology in food management, ensure food safety, plan menus, prepare food, and explore careers. Students prepare for careers by using critical thinking and practical problem-solving skills as well as other workplace readiness skills. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course is included in the following career pathway(s):
Human Services
Hospitality & Tourism
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Virginia Teachers for Tomorrow 1

Virginia Teachers for Tomorrow (VTfT) 1 fosters student interest, understanding, and appreciation of the teaching profession and allows secondary students to explore careers in the education and training career cluster and related pathways. Students build a foundation for teaching; learn the history, structure, and governance of teaching; apply professional teaching techniques in classroom and field experiences; and reflect on their teaching experiences. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Education & Training
**Credits** 1
**Grades**
11, 12
**Schools**
Osbourn Park High School
Unity Reed High School
**Prerequisites**
Child Development and Parenting **AND/OR** Introduction to Early Childhood Education, recommended

## Virginia Teachers for Tomorrow 1 DE

This course introduces students to the teaching profession and the foundations of education, including historical, philosophical, social, legal, and ethical aspects. Students explore child and adolescent development, learning how physical, cognitive, and social stages influence classroom environments. Students will participate in classroom observations in K–12 settings. The course also supports college and career readiness through activities focused on study skills, academic planning, and resources for success in post-secondary education. Students gain insight into teaching as a career while building skills for future education and professional growth. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course is included in the following career pathway(s):
Education & Training
**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Child Development and Parenting **and/or** Introduction to Early Childhood Education, recommended
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Virginia Teachers for Tomorrow 2

Students continue to explore careers in the education and training career cluster and related pathways. This course provides hands-on opportunities for students to examine careers in education, observe professional practice, and apply professional standards and educational theory. In an authentic practicum experience, students will be able to teach lessons, manage classrooms, create learning opportunities, and build their professional portfolio in the process. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills. High-quality, work-based learning will provide experiential learning opportunities related to students' career goals and/or interests, integrated with instruction, and performed in partnership with local businesses and organizations.

This course is included in the following career pathway(s):
Education & Training
**Credits** 1
**Grades**
12
**Schools**
Osbourn Park High School
Unity Reed High School
**Prerequisites**
Virginia Teachers for Tomorrow 1

## Virginia Teachers for Tomorrow 2 DE

This course continues to prepare future educators to teach in diverse classrooms and manage positive learning environments. Students explore culturally responsive teaching, equity, and inclusion while learning strategies for classroom and behavioral management. Students participate in internship opportunities that provide hands-on experience as teacher assistants and tutors in K–12 settings. The course emphasizes professional communication, lesson planning, and advocacy, helping students develop the skills and confidence needed for success in education careers. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills. High-quality work-based learning (HQWBL) will provide experiential learning opportunities related to students' career goals and/or interests, integrated with instruction, and performed in partnership with local businesses and organizations.

This course is included in the following career pathway(s):
Education & Training
**Credits** 1
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Virginia Teachers for Tomorrow 1 DE
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

# Health And Medical Science

## Biomedical Innovation (PLTW)

In this specialization course for PLTW, students are taught concepts of human physiology, medical innovation, water contamination, public health issues, molecular biology, and forensic autopsy. Students complete an independent project as a culminating activity.

This course is included in the following career pathway(s):

- Health Science - Biomedical Science

**Credits** 1
**Grades**
12
**Course Designation**
Weighted (1.0W)
**Schools**
Gainesville High School
Osbourn Park High School
**Prerequisites**
Medical Interventions (PLTW), recommended

## Emergency Medical Technician (EMT) 1

Emergency Medical Technician (EMT) is a one-credit course designed for students, referred to as cadets, interested in becoming an EMT. Cadets explore and apply the fundamentals of emergency medical services (EMS), anatomy, physiology, and medical terminology while demonstrating skills in assessing and managing patient care, including the understanding of medical emergencies, trauma, shock, and resuscitation. Cadets must complete a minimum of 85 percent of the didactic and lab aspects of the course. Successful completion of all course requirements may lead to eligibility to take the National Registry of Emergency Medical Technicians (NREMT) cognitive exam. Cadets must meet the requirements of the Functional Position Description for the Basic Life Support Provider.

Cadets receive instruction in treating and managing patients with a range of traumatic injuries and medical conditions. They participate in rotations with paramedics outside of school hours to apply their knowledge and skills. Completion of these rotations is required for eligibility to take the certification examination after the course ends.

It is important to note that final eligibility for national registry certification testing is determined by the education coordinator and the EMS physician.

This course connects to the following career pathways:
Health Science – Emergency and Sports Medical Training
Law, Public Safety, Corrections and Security - Public Safety (EMT and Firefighting)
**Credits** 1
**Length**
Semester
**Grades**
11, 12
**Schools**
Brentsville District High School
Unity Reed High School
**Prerequisites**
Introduction to Health and Medical Science
Recommended Medical Terminology
**Notes**
EMT 1 and 2 are taken concurrently. EMT 1 is offered in the Fall Semester, EMT 2 is offered in the Spring Semester.

**Eligibility**:

1. Students must be at least 16 years old prior to the first day of EMT instruction.
2. Students must pass the National Fire Protection Association 1582 physical assessment. The

assessment is funded for students accepted into the Emergency and Sports Medical Training Program and includes:
    a. Medical history and physical examination
    b. Stress test (cardiorespiratory fitness, muscular endurance, flexibility)
    c. Medical and health screenings (blood and urinalysis samples, cardio evaluation, vision and hearing tests)
    d. Chest x-ray
3. Students are required to complete all mandatory clinical hours to gain live patient contacts. The students cannot be considered "complete" until they have a minimum of 5 live patient contacts.
4. Students must earn a minimum of 70% on all assessments to be granted the ability to sit for the National Registry of Emergency Medical Technicians (NREMT) cognitive exam.
5. Students are required to successfully complete an end of course Terminal Competency Psychomotor Exam.
6. CPR is a required prerequisite.
7. Fingerprints and background checks prior to the course are REQUIRED by the state for every student.

# Emergency Medical Technician (EMT) 2

Emergency Medical Technician (EMT) 2 is a one-credit course designed for students, referred to as cadets, interested in becoming an EMT. Cadets explore and apply the fundamentals of emergency medical services (EMS), anatomy, physiology, and medical terminology while demonstrating skills in assessing and managing patient care, including the understanding of medical emergencies, trauma, shock, and resuscitation. Cadets must complete a minimum of 85 percent of the didactic and lab aspects of the course. Successful completion of all course requirements may lead to eligibility to take the National Registry of Emergency Medical Technicians (NREMT) cognitive exam. Cadets must meet the requirements of the Functional Position Description for the Basic Life Support Provider.

Cadets receive instruction in treating and managing patients with a range of traumatic injuries and medical conditions. They participate in rotations with paramedics outside of school hours to apply their knowledge and skills. Completion of these rotations is required for eligibility to take the certification examination after the course ends.

It is important to note that final eligibility for national registry certification testing is determined by the education coordinator and the EMS physician.

This course connects to the following career pathways:
Health Science – Emergency and Sports Medical Training
Law, Public Safety, Corrections and Security - Public Safety (EMT and Firefighting)
**Credits** 1
**Length**
Semester
**Grades**
11, 12
**Schools**
Brentsville District High School
Unity Reed High School
**Prerequisites**
Introduction to Health and Medical Science
Emergency Medical Technician (EMT) 1
Recommended Medical Terminology
**Notes**
EMT 1 and 2 are taken concurrently. EMT 1 is offered in the Fall Semester, EMT 2 is offered in the Spring Semester.

**Eligibility**:

1. Students must be at least 16 years old prior to the first day of EMT instruction.
2. Students must pass the National Fire Protection Association 1582 physical assessment. The

assessment is funded for students accepted into the Emergency and Sports Medical Training Program and includes:
   a. Medical history and physical examination
   b. Stress test (cardiorespiratory fitness, muscular endurance, flexibility)
   c. Medical and health screenings (blood and urinalysis samples, cardio evaluation, vision and hearing tests)
   d. Chest x-ray
3. Students are required to complete all mandatory clinical hours to gain live patient contacts. The students cannot be considered "complete" until they have a minimum of 5 live patient contacts.
4. Students must earn a minimum of 70% on all assessments to be granted the ability to sit for the National Registry of Emergency Medical Technicians (NREMT) cognitive exam.
5. Students are required to successfully complete an end of course Terminal Competency Psychomotor Exam.
6. CPR is a required prerequisite.
7. Fingerprints and background checks prior to the course are REQUIRED by the state for every student.

## Human Body Systems (PLTW)

In this specialization course for Project Lead the Way (PLTW), students explore the human body systems of communication, power, and movement. To do this, students are taught the body's components, tissues, molecules, and cells, as well as concepts of homeostasis and body system defenses. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Health Science - Biomedical Science
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Gainesville High School
Osbourn Park High School
**Prerequisites**
Principles of Biomedical Science (PLTW)

## Introduction to Health and Medical Science

This course introduces the student to a variety of healthcare careers and develops basic skills required in all health and medical sciences. It is designed to help students understand the key elements of the U.S. healthcare system and to learn basic healthcare terminology, anatomy and physiology for each body system, pathologies, diagnostic and clinical procedures, therapeutic interventions, and the fundamentals of traumatic and medical emergency care. Throughout the course, instruction emphasizes safety, cleanliness, asepsis, professionalism, accountability, and efficiency within the healthcare environment. Students also begin gaining job-seeking skills for entry into the health and medical sciences field. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Health Science – Emergency and Sports Medical Training
Health Science - Medical Coding and Billing
Health Science - Practical Nursing
Health Science - Therapeutic Services
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Brentsville District High School
Freedom High School
**Prerequisites**
None

## Medical Coding and Billing 1

Students will be introduced to healthcare systems, management of an office, and the electronic medical record (EMR) as it pertains to the field of medical coding and billing. Students will be introduced to the field of health informatics as well as medical terminology used to describe human anatomy and physiology. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Health Science - Medical Coding and Billing
**Credits** 1
**Grades**
11, 12
**Schools**
Freedom High School

## Medical Coding and Billing 2

Students will learn the health insurance industry and legal and regulatory issues, the principles of medical coding and billing related to reimbursement, claim submission, and payment. Students will examine the International Classification of Diseases (ICD), Current Procedural Terminology (CPT), and Healthcare Common Procedure Coding System (HCPCS) coding systems. Students will consider the effect of fraud on health care and importance of ethics in medical coding and billing. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:

- Health Science - Medical Coding and Billing

**Credits** 1
**Grades**
12
**Schools**
Freedom High School
**Prerequisites**
Medical Coding and Billing 1

## Medical Interventions (PLTW)

In this specialization course for Project Lead the Way (PLTW), students are taught concepts in fighting infections, understanding genetics, and preventing, detecting, and treating cancer and organ failure. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Health Science - Biomedical Science
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Gainesville High School
Osbourn Park High School
**Prerequisites**
Human Body Systems (PLTW)

## Medical Terminology

Medical Terminology is designed to help students learn common medical terms essential for patient care. Topics are presented in logical order, beginning with each body system's anatomy and physiology and progressing through pathology, laboratory tests and clinical procedures, therapeutic interventions, and pharmacology. Students learn concepts, terms, and abbreviations for each topic. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Health Science - Therapeutic Services
Health Science - Medical Coding and Billing
Health Science - Practical Nursing
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Freedom High School
**Prerequisites**
Introduction to Health and Medical Science, recommended

## Medical Terminology DE

Medical Terminology is designed to help students learn common medical terms essential for patient care. Topics are presented in logical order, beginning with each body system's anatomy and physiology and progressing through pathology, laboratory tests and clinical procedures, therapeutic interventions, and pharmacology. Students learn concepts, terms, and abbreviations for each topic. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

Check with your school counselor to see if this course is offered as dual enrollment.

This course connects to the following career pathways:
Health Science - Therapeutic Services
Health Science - Medical Coding and Billing
Health Science - Practical Nursing
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Introduction to Health and Medical Science, recommended
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Pharmacy Technician 1

Pharmacy Technician 1 is designed for students to explore and apply the fundamentals of pharmacy practice, pharmacy law, regulations and ethics, prescription interpretation and pharmacy calculations. Successful completion of this course qualifies students to enroll in Pharmacy Technician 2 to complete the program sequence and fulfill the requirements of the Virginia Board of Pharmacy and prepare students to take a national examination.
**Credits** 1
1
**Grades**
11
**Schools**
Freedom High School

## Pharmacy Technician 2

This certificate program is designed for students to apply advanced pharmacy practice, sterile compounding, non-sterile compounding, and inventory management. Successful completion of Pharmacy Technician 1 qualifies student to apply to Virginia Board of Pharmacy for clinical pharmacy technician trainee license. For students to receive credit for completion of an accredited pharmacy technician training program, the program requirements must be met, to include both classroom and clinical portions of the program. Furthermore, clinical experiences must include a minimum of 130 hours in a dispensing pharmacy setting where the students will utilize skills learned during the course.
**Credits** 2
2
**Grades**
12
**Schools**
Freedom High School
**Prerequisites**
Pharmacy Technician 1

## Practical Nursing 1 (Semester)

In the first semester of Practical Nursing, students will learn the fundamentals of nursing that include communication, human anatomy, body function, and nutrition, as related to patients/clients across the life cycle. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This specialty program is available by application to high school students in **grade 12** and includes **both** Practical Nursing 1 (Semester) and Practical Nursing 2 (Semester). Visit www.pwcs.edu/practicalnursing to learn more and to submit an application.

This course connects to the following career pathways:
Health Science - Practical Nursing
**Credits** 2
**Length**
Semester
**Grades**
12
**Schools**
Osbourn Park High School
**Requirements**
Admission by application
**Prerequisites**
Algebra, Biology, Chemistry, and Introduction to Health and Medical Science, recommended
**Semester**
18 Weeks

## Practical Nursing 2 (Semester)

In the second semester of Practical Nursing, instruction will focus on basic nursing skills, medical asepsis, human development across the life cycle, and an introduction to pharmacology. Students will also apply basic nursing skills in interactive settings. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This specialty program is available by application to high school students in **grade 12** and includes ***both*** Practical Nursing 1 (Semester) and Practical Nursing 2 (Semester). Visit www.pwcs.edu/practicalnursing to learn more and to submit an application.

This course connects to the following career pathways:
Health Science - Practical Nursing
**Credits** 2
**Length**
Semester
**Grades**
12
**Schools**
Osbourn Park High School
**Prerequisites**
Practical Nursing 1 (Semester)
**Semester**
18 Weeks

## Practical Nursing 3

This high school extended course provides classroom instruction and clinical training (a minimum of 400 direct client-care hours) in approved hospitals, clinics, licensed nursing homes, home-care settings, group homes, assisted living facilities, and/or schools under the direction of a nurse educator. Instruction emphasizes administration of medicines and advanced and complex client care across the life cycle. Students learn advanced anatomy, physiology, and human behavior as related to health and disease, including mental illness. Upon successful completion of the total program, students are eligible to take the National Council Licensure Examination for Practical Nursing (NCLEX-PN).

This course connects to the following career pathways:
Health Science - Practical Nursing
**Credits** 0
Adult
**Schools**
Osbourn Park High School
**Prerequisites**
Practical Nursing 1 (Semester)
Practical Nursing 2 (Semester)

## Principles of Biomedical Science (PLTW)

In this introductory course for Project Lead the Way (PLTW), students are taught concepts of forensic inquiry, DNA and inheritance, and the function of human body systems, exploring the body through diseases, such as those leading to diabetes and heart, sickle cell, and infectious diseases. Students also explore medical interventions, postmortem examination, bioprocessing, bioinformatics, and concepts of microbiology and genetic engineering. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Health Science - Biomedical Science
**Credits** 1
**Grades**
9, 10, 11
**Course Designation**
Weighted (1.0W)
**Schools**
Gainesville High School
Osbourn Park High School
**Prerequisites**
None

## Sports Medicine 1

The course introduces students to topics such as human anatomy and physiology, nutrition, medical terminology, injuries and illnesses, and legal and ethical issues in sports medicine. Students will learn and demonstrate emergency care, taping and wrapping of injuries, and apply other hands-on skills for treating injuries. Students also examine prospective careers in the sports medicine field. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills. Students earn a certification in First Aid, Cardiopulmonary Resuscitation (CPR), and automatic external defibrillator administration (AED).

This course connects to the following career pathways:
Health Science – Emergency and Sports Medical Training
Health Science - Therapeutic Services
**Credits** 1
**Grades**
11, 12
**Schools**
Brentsville District High School
Patriot High School
Woodbridge High School
**Prerequisites**
Introduction to Health and Medical Science, recommended

## Sports Medicine 2

This course builds upon basic knowledge acquired in Sports Medicine 1 on topics such as exercise physiology, biomechanics, exercise program design, and injury prevention, assessment, treatment, and management. Students will assess fitness, measure body composition, and design exercise programs. Students prepare for a career in sports medicine, including completing a 10-hour shadowing experience with an Athletic Trainer, practicing interview skills, and building a resume. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills..

This course connects to the following career pathways:
Health Science – Emergency and Sports Medical Training
Health Science - Therapeutic Services
**Credits** 1
**Grades**
12
**Schools**
Brentsville District High School
Patriot High School
Woodbridge High School
**Prerequisites**
Sports Medicine 1

# CTE - IB Programme

## IB Business Management (SL)

IB Business and Management is a recognized IB course. This course is designed to provide a rigorous and critical study of the ways in which individuals and groups interact in a dynamic business environment. It examines how business decisions are made, how these decisions make an impact on internal and external environments, and how these decisions foster international cooperation and responsible citizenship.
**Credits** 1
**Grades**
11, 12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Enrollment in IB Programme
**Prerequisites**
None

## IB Business Management (SL) DE

Students explore the unique challenges of managing a small business, including startup requirements, financial and administrative controls, marketing strategies, and legal considerations. The course emphasizes developing a business plan and using technology and social media to support operations. Through case studies and problem-solving, students gain practical skills to identify and address common issues faced by small business owners.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Enrollment in IB Programme
**Prerequisites**
None
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## IB Information Technology in a Global Society

This course is designed to promote an understanding and appreciation of the social significance of information technology and networking as students analyze and evaluate in a critical manner the impact and ethical considerations arising from the widespread use of information technology and networking. The course focuses on how information systems and networks are used to process and exchange information for control, analysis, and communications.
**Credits** 1
**Grades**
11, 12
**Course Designation**
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Requirements**
Enrollment in IB Programme
**Prerequisites**
None

## IB Personal and Professional Skills (SL)

This course is designed to introduce students to life skills. In this model, the learner uses a range of skills to make sense of the world and develops skills with an emphasis on thinking critically and ethically and communicating effectively.
**Credits** 1
**Grades**
11, 12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Enrollment in IB Programme
**Prerequisites**
None

# Marketing

## Advanced Fashion Marketing

Students will gain deeper knowledge of the exciting and ever-changing world of fashion, where they can apply skills and develop strategies in fashion marketing. Students will produce promotional events and explore sustainability, social responsibility, entrepreneurship, technology applications, buying, portfolio development, and careers. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Marketing
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Freedom High School
Hylton High School
Potomac High School
**Prerequisites**
Fashion Marketing

## Fashion Marketing

This course leads students into the exciting and ever-changing world of fashion. Students gain knowledge of marketing as it relates to the fashion industry. From brick-and-mortar retail establishments to online retail and social media marketing, students will explore aspects such as trends, technology, the buying process, visual merchandising, the nature and history of fashion and fashion designers, and the global impact of the fashion industry on the economy. Academic skills related to the content are part of this course. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Marketing
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Colgan High School
Freedom High School
Hylton High School
Potomac High School
Unity Reed High School
**Prerequisites**
Introduction to Fashion Careers **OR** Principles of Business and Marketing, recommended

## Marketing

Students will learn how products are developed, branded, and sold. They will analyze industry trends and gain hands-on experience in the marketing of goods, services, and ideas and be prepared for success in postsecondary education and employment. Topics include professionalism in the workplace, product planning and positioning, promotion, pricing, selling, economic issues, and changes in the marketplace. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:

- Hospitality & Tourism
- Marketing

**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Forest Park High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
Principles of Business and Marketing, recommended

## Opportunities in Global Trade

Opportunities in Global Trade (formerly International Business & Marketing) is a specialized course for students with a career interest in the field of international trade. Students gain an understanding of marketing concepts and strategies in the global marketplace, Virginia's role in global commerce, and trade challenges associated with import/exports, as they examine the global economy. International marketing plan, structures of international business organizations and the influence of culture on business activities are integral components of this course. Students investigate careers and professional development opportunities in global marketing. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.
**Credits** 1
**Grades**
11, 12
**Schools**
Hylton High School
**Prerequisites**
Principles of Business and Marketing, recommended

## Sports, Entertainment, and Event Management

Students will build on prior knowledge of Sports, Entertainment, and Event Marketing. This course focuses on the principles of management and planning supported by research and by financial, economic, ethical, and legal concepts. Students will be able to plan and execute an event, establish a sports, entertainment, or recreation marketing product/business, and develop a career plan. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Hospitality & Tourism
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
Sports, Entertainment, and Event Marketing

## Sports, Entertainment, and Event Marketing

This course helps students develop a thorough understanding of fundamental marketing concepts and theories as they relate to the sports, entertainment, and event industries. Students will investigate the components of customer service, branding, product development, pricing and distribution, business structures, sales processes, digital media, sponsorships and endorsements, as well as promotion needed for sports and entertainment events. The course explores career options and develops workplace readiness skills. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Hospitality & Tourism
Marketing
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Principles of Business and Marketing, recommended

## Strategic Marketing

In this course, students learn to leverage marketing activities to best differentiate themselves and their businesses. They will participate in supervisory and management activities focusing on the marketing mix, purchasing, financing, human resources, global marketing, pricing, distribution, selling, operations research, and promotion. Students will prepare for marketing careers and postsecondary education, continuing to enhance self-presentation, communication, and leadership skills. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills. Dual enrollment credit may be available; check with your school counselor to learn more.

This course connects to the following career pathways:

- Hospitality & Tourism
- Marketing

**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Gar-Field High School
**Prerequisites**
Marketing **OR** Sports and Entertainment Management, recommended

## Strategic Marketing DE

Students are introduced to the fundamentals of marketing and its role in creating customer value and building relationships. The course covers key principles such as consumer behavior, brand development, and the 4 Ps of marketing—product, price, place, and promotion—while exploring the impact of digital technology on marketing strategies. Students learn to analyze market trends and develop a strategic marketing plan, gaining skills that support careers in business, entrepreneurship, and related fields.

This course connects to the following career pathways:

- Hospitality & Tourism
- Marketing

**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
**Prerequisites**
Marketing **OR** Sports and Entertainment Management, recommended
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Travel and Tourism Marketing

This course examines the components of the hospitality and tourism industry, including attractions, lodging, transportation, and food and beverage. Other topics include the history, political, social, and cultural impacts hospitality and tourism have had on local, state, and global environments. Students will develop competencies in the areas of communication, customer service, marketing, industry technology, economics, and management functions, and will be provided with opportunities for hands-on, real-world applications. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

This course connects to the following career pathways:
Hospitality & Tourism
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Osbourn Park High School
Unity Reed High School
**Prerequisites**
Principles of Business and Marketing, recommended

# Technology and Engineering Education

## Advanced Game Design and Development

Students will work collaboratively in teams to refine their game design skills as they apply graphic design, animation, audio and writing skills to create innovative games for education and entertainment. This project-based course enhances problem-solving, project management, and communication skills through the analysis, design, construction, and critique of interactive games. Students will learn about career opportunities in game design and development and investigate the training and certification requirements.

This course connects to the following career pathways:
Information Technology
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Woodbridge High School
**Prerequisites**
Game Design and Development

## Animation and Digital Content Technology

In Animation and Digital Content Technology, students will gain experiences with computer animation by using graphics and design concepts. Students will solve problems involving 2D and 3D object manipulation, storyboarding, texturing/mapping, lighting concepts, and environmental geometry. They will create a variety of animations that reflect real-world applications and will explore interactive and animation software. Production of a portfolio showcasing original student work is included.

This course connects to the following career pathways:
Arts, A/V Technology & Communications
**Credits** 1
**Length**
Year
**Grades**
9, 10, 11
**Schools**
Colgan High School
Hylton High School
Patriot High School
**Prerequisites**
None

## Architectural Drawing and Design

Architectural Drawing and Design students learn the principles of communicating architecture designs and increase their understanding of working drawings and construction techniques learned in Technical Drawing and Design. Experiences include residential and commercial building designs, rendering, model development, and structural detail developments. Students use computer-aided drawing and design (CADD) equipment and established standards or codes to prepare models for presentation. The course is especially beneficial to future architects, interior designers, or home builders.

This course connects to the following career pathways:
Architecture & Construction
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Hylton High School
**Prerequisites**
Technical Drawing and Design

## Civil Engineering and Architecture (PLTW)

In this Project Lead the Way (PLTW) Engineering specialization course, students collaborate on both the development of community-based building and design projects and conceptual design for project presentations.

This course connects to the following career pathways:
Science, Technology, Engineering & Mathematics (STEM)
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Introduction to Engineering Design (PLTW)

## Communication Systems

Communication Systems provides experiences in the fields of imaging technology, graphic productions, video and media, technical design, and various modes of communicating information through the use of data. Students develop critical-thinking and problem-solving skills using the universal systems model. Students also learn about the impact of communication on society and potential career fields relating to communications.

This course connects to the following career pathways:
Arts, A/V Technology & Communications
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Battlefield High School
Freedom High School
Unity Reed High School
**Prerequisites**
None

## Computer Integrated Manufacturing (PLTW)

In this Project Lead the Way (PLTW) Engineering specialization course, students are taught concepts of robotics and automated manufacturing by creating 3D designs with computer modeling software and producing computer-controlled models of their designs.

This course connects to the following career pathways:
Manufacturing
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Woodbridge High School
**Prerequisites**
Introduction to Engineering Design (PLTW)

## Construction Technology

Students explore commercial, industrial, residential, public works, and institutional technologies to help them understand construction careers. Through hands-on projects, students learn proper safety procedures for tools and machinery, while exploring preconstruction and construction processes and investigating evolving technologies. Students apply mathematics concepts and principles used in construction.

This course connects to the following career pathways:
Architecture & Construction
Manufacturing, Mechatronics
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Brentsville District High School
Colgan High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Production Systems, strongly recommended

## Digital Electronics (PLTW)

Students use computer simulations to learn about the logic of electronics as they design, test, and actually construct circuits and devices. They apply control system programming and explore sequential logic and digital circuitry fundamentals. Topics in computer circuitry are also presented.

This course connects to the following career pathways:
Science, Technology, Engineering & Mathematics (STEM)
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Introduction to Engineering Design (PLTW)

## Engineering Analysis and Applications 2

Engineering Analysis and Applications 2 is the second of a possible four-course sequence that will allow students to apply the engineering design process to areas of the designed world and examine engineering systems. Students will participate in STEM-based, hands-on projects as they communicate information through team-based presentations, proposals, and technical reports.

This course connects to the following career pathways:
Science, Technology, Engineering & Mathematics (STEM)
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
**Prerequisites**
Engineering Explorations 1

## Engineering Drawing and Design

Students use graphic language for product design, technical illustration, evaluation of designs, and engineering drawings. Students increase their understanding of drawing techniques. Students use computers, calculators, and descriptive geometry and adhere to established standards to solve design problems. They work in teams to design solutions for an identified need and to produce parts on a 3D printer.

This course connects to the following career pathways:
Science, Technology, Engineering & Mathematics (STEM)
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Hylton High School
**Prerequisites**
Technical Drawing and Design **OR** Introduction to Engineering Design (PLTW)

## Engineering Explorations 1

In Engineering Explorations 1, students examine technology and engineering fundamentals in relation to solving real-world problems. Students investigate engineering history, including major engineering accomplishments, and their effect on society. They also examine engineering specialty fields and their related careers. Students practice engineering fundamentals and apply the engineering design process through participation in hands-on engineering projects. Students communicate project-related information through presentations, proposals, and technical reports.

This course connects to the following career pathways:
Science, Technology, Engineering & Mathematics (STEM)
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Battlefield High School
Colgan High School
Woodbridge High School
**Prerequisites**
None

## Environmental Sustainability (PLTW)

Environmental Sustainability (ES) is a specialization course in PLTW Engineering. Students investigate and design solutions to solve real-world challenges related to clean drinking water, a stable food supply, and renewable energy. Students are introduced to environmental issues and use the engineering design process to research and design potential solutions.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Unity Reed High School
**Prerequisites**
Introduction to Engineering Design (PLTW)

## Game Design and Development

The game design industry is the fastest revenue growing entertainment medium and has created many new job disciplines. In this project-based course, students will create innovative games through the application of graphic design, animation, audio, and writing skills. Students will work in teams while developing problem-solving, critical thinking, and effective communication skills. They will analyze, design, prototype, and critique interactive games within a project management environment. Career opportunities across multiple industries, including the entertainment and educational arenas, will be explored.

This course connects to the following career pathways:
Information Technology
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Woodbridge High School
**Prerequisites**
None

## Graphic Communications Systems

The Graphic Communications Systems course provides experiences related to a wide range of tools and materials used to reproduce information and images. Students develop competencies in message design, composition and assembly, and message transfer and product conversion. Various digital and print output techniques and devices are used to develop concepts into finished products.

This course connects to the following career pathways:
Arts, A/V Technology & Communications
**Credits** 1
**Grades**
10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
Communication Systems, strongly recommended

## Introduction to Engineering Design (PLTW)

In this introductory Project Lead the Way (PLTW) Engineering course, students use 3D computer modeling software as they learn the engineering-design process and solve design problems for which they develop, analyze, and create product models.

This course connects to the following career pathways:
Manufacturing
Science, Technology, Engineering & Mathematics (STEM)
**Credits** 1
**Grades**
9, 10, 11
**Course Designation**
Weighted (1.0W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Mechatronics 1 DE

This introductory course in the Mechatronics pathway provides students with foundational skills in electrical systems, technical drawing interpretation, digital literacy, and workplace safety. Students learn to read schematics and wiring diagrams, understand AC/DC circuits, and apply troubleshooting techniques for electro-mechanical systems. The course also introduces computer concepts, productivity tools, and basic web development, while emphasizing safe work practices through OSHA 10 certification. These skills prepare students for advanced manufacturing coursework and careers that combine mechanical, electrical, and digital technologies.

This course connects to the following career pathways:
Manufacturing, Mechatronics
**Credits** 1
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Freedom High School
**Prerequisites**
Construction Technology, recommended
**Notes**
To enroll in this course, students must meet the eligibility requirements established by Northern Virginia Community College.

## Mechatronics 2 DE

This advanced course in the Mechatronics pathway builds skills in electrical motor control and fiber optic technology—key components in modern automated systems—while supporting students' transition to college and career success. Students learn to design and troubleshoot motor control circuits using solid-state devices, frequency drives, and programmable logic controllers (PLCs) for speed, direction, and safety control. The course also introduces fiber optic systems, including splicing, testing, and repair, using industry-standard tools and techniques. In addition, students explore effective study habits, academic planning, and resources for success in postsecondary education and technical fields. Hands-on labs and career-focused activities prepare students for automation, robotics, and industrial networking roles by combining mechanical, electrical, and communication technologies.

**This is a hybrid course that requires weekly online assignments.**

This course connects to the following career pathways:
Manufacturing, Mechatronics
**Credits** 1
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Freedom High School
**Prerequisites**
Mechatronics 1 DE
**Notes**
To enroll in this course, students must meet the eligibility requirements established by Northern Virginia Community College.

## PLTW Capstone

In the Project Lead the Way (PLTW) Capstone course, teams of students, guided by community mentors, work together to research, design, and construct solutions to engineering problems. Students synthesize knowledge, skills, and abilities through an authentic engineering experience. Students are expected to develop and formally present an independent-study project and a team-oriented project that are critiqued by an evaluation committee.

This course connects to the following career pathways:
Manufacturing

**Credits** 1
**Length**
Year
**Grades**
12
**Course Designation**
Weighted (1.0W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Introduction to Engineering Design (PLTW)

## Principles of Engineering (PLTW)

In this foundational PLTW Engineering course, students explore the engineering profession and the fundamental aspects of engineering problem solving. Students study the historical and current impacts of engineering on society, including ethical implications. Mathematical and scientific concepts will be applied to fundamental engineering topics, including mechanics and electrical-circuit theory.

This course connects to the following career pathways:
Manufacturing
Science, Technology, Engineering & Mathematics (STEM)
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Introduction to Engineering Design (PLTW)

## Production Systems

Students assess the relationship between production and society as they compose design portfolios, construct production prototypes, and apply automation to evaluate their solutions to technological problems.

This course connects to the following career pathways:
Architecture & Construction
Manufacturing, Mechatronics
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Brentsville District High School
Colgan High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Software Engineering (PLTW)

This Project Lead the Way course aims to develop students' computational thinking, generate excitement about career paths that utilize computing, and introduce professional tools that foster creativity and collaboration. Students develop programming expertise and explore the workings of the internet. Projects and problems include app development, visualization of data, cybersecurity, and simulation.

This course connects to the following career pathways:
Science, Technology, Engineering & Mathematics (STEM)
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Woodbridge High School
**Prerequisites**
Software Engineering Essentials (PLTW)

## Software Engineering Essentials (PLTW)

Students will experience the major topics, big ideas, and computational thinking practices used by computing professionals to solve problems and create value for others. This course will empower students to develop computational thinking skills while building confidence that prepares them to advance to Computer Science Principles and Computer Science A.

This course connects to the following career pathways:
Science, Technology, Engineering & Mathematics (STEM)
**Credits** 1
**Grades**
9, 10, 11
**Course Designation**
Weighted (1.0W)
**Schools**
Woodbridge High School
**Prerequisites**
None

## Sustainability and Renewable Technologies

Sustainability and Renewable Technologies explores issues that affect global citizens in the areas of economics, culture, and the environment. The course introduces students to the historic, economic, political, environmental, and cultural issues that impact the global community and its future. Students will address issues affecting the health of our environment and explore solutions offered by sustainable agriculture, energy efficient building design, and renewable energy sources.

This course connects to the following career pathways:

- Science, Technology, Engineering & Mathematics (STEM)

**Credits** 1
**Grades**
10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
Technology Foundations, recommended

## Technical Drawing and Design

In this foundational course, students design, sketch, and make technical drawings, models, or prototypes of real design problems while learning the language of technical drawing and design. The course introduces the language of graphic communication to all science, technology, engineering, and mathematics (STEM) students and is especially recommended for those planning a future in engineering and architecture.

This course connects to the following career pathways:

- Architecture & Construction
- Science, Technology, Engineering & Mathematics (STEM)
- Manufacturing - Welding

**Credits** 1
**Grades**
9, 10, 11
**Schools**
Gainesville High School
Hylton High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Technology Foundations

In this hands-on technology education course, students use tools to build and control objects and systems using engineering design. Students will learn about materials, energy, and engineering processes. Students design, create, and assess innovations, systems, and products to learn about how and why technology works.

This course connects to the following career pathways:

- Science, Technology, Engineering & Mathematics (STEM)

**Credits** 1
**Grades**
9, 10, 11
**Schools**
Colgan High School
**Prerequisites**
None

## Video and Media Technology

This Video and Media Technology course allows students to explore video and media technology, from the history of the field to current methods of planning and producing video media. Students will learn the basics of camera operation, audio, lighting, and editing by creating their own videos from storyboard to presentation.

This course connects to the following career pathways:
Arts, A/V Technology & Communications
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Hylton High School
Patriot High School
**Prerequisites**
Animation and Digital Content Technology

# Trade and Industrial Education

## Advanced Cybersecurity Systems Technology

This Advanced Cybersecurity Systems Technology course provides students with training in procedures for optimizing and troubleshooting concepts for computer systems, subsystems, and networks. Students explore basic network design and connectivity, network documentation, network limitations and weaknesses, and network security, standards, and protocols.

Students will gain a basic understanding of emerging technologies including unified communications, mobile, cloud, and virtualization technologies. The course prepares students for postsecondary education and training and a successful career in information technology. Upon successful completion of the course, students may qualify to take CompTIA's A+ certification exams.

**This is a double-blocked course.**

This course connects to the following career pathways:
Information Technology - Cybersecurity
**Credits** 2
**Grades**
11, 12
**Schools**
Forest Park High School
Freedom High School
Potomac High School
**Prerequisites**
Cybersecurity Systems Technology

## Advanced Cybersecurity Systems Technology DE

Students explore the inner workings of personal computers and operating systems in this hands-on course. Students learn how hardware components and software systems work together while gaining practical skills in installation, configuration, troubleshooting, and maintenance. This course builds a strong foundation for technology careers and prepares students with knowledge and skills for industry-recognized credentials.

**This is a double-blocked course.**

This course connects to the following career pathways:
Information Technology - Cybersecurity
Information Technology - CASIIT, Cybersecurity
**Credits** 2
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Battlefield High School
**Prerequisites**
Cybersecurity Systems Technology
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Automotive Technology 1

In this course, students explore, handle, and perform basic functions in engine repair, automatic transmission and transaxle, manual drive train and axles, suspension and steering systems, and brakes. Students who successfully complete the Automotive Technology program may be eligible to take the Automotive Service Excellence (ASE) Student Certification examination. The ASE Student Certification is the first step in building a career as a service professional in the automotive industry.

This course connects to the following career pathways:
Transportation, Distribution and Logistics - Automotive Technology
**Credits** 1
**Grades**
10, 11
**Schools**
Hylton High School
Osbourn Park High School

## Automotive Technology 2

In this course, students build upon their basic knowledge of automotive technology, exploring more advanced tasks in engine repair, automatic transmission and transaxle, manual drive train and axles, suspension and steering systems, and brakes. They also learn about electrical, electronic, and HVAC systems in automobiles. Upon successful completion of the course, students may be eligible to take the Automotive Service Excellence (ASE) Student Certification examination.

**This is a double-blocked course.**

This course connects to the following career pathways:
Transportation, Distribution and Logistics - Automotive Technology
**Credits** 2
**Grades**
11, 12
**Schools**
Hylton High School
Osbourn Park High School
**Prerequisites**
Automotive Technology 1

## Automotive Technology 3

This course prepares students to perform automotive diagnosis and repairs in the following areas: engine repair, cooling systems, transmission and transaxle, manual drive trains and axles, suspension and steering, wheel and tire, brakes, electrical/electronic systems, HVAC, and engine performance. Students are provided with more advanced instruction in all systems as they prepare for the Automotive Service Excellence (ASE) certification examinations. The Automotive Technology program provides the fundamental skills necessary to succeed in an ever-changing and challenging industry as an automotive technician.

**This is a double-blocked course.**

This course connects to the following career pathways:
Transportation, Distribution and Logistics - Automotive Technology
**Credits** 2
**Grades**
12
**Schools**
Hylton High School
Osbourn Park High School
**Prerequisites**
Automotive Technology 2

## Aviation Maintenance Technology 1

Students will work with airframe and control surfaces, power plants, and basic aviation electricity, and perform ground operations and servicing procedures, as specified by Federal Aviation Administration (FAA) requirements. Students will also practice lab and tool safety, apply science and mathematics principles to aviation maintenance tasks, and research and use maintenance publications, forms, and records.

**This is a double-blocked course.**

This course connects to the following career pathways:
Transportation, Distribution and Logistics - Aviation Maintenance
**Credits** 2
**Grades**
10, 11
**Schools**
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Aviation Maintenance Technology 2

Students will explore design features of aircraft through drawings and blueprints. Students will investigate aircraft materials and processes, weight and balance procedures, and fluid lines and fittings. Additionally, students will learn care and maintenance techniques, practice lab and tool safety, and apply academic principles while working with aircraft.

**This is a double-blocked course.**

This course connects to the following career pathways:
Transportation, Distribution and Logistics - Aviation Maintenance
**Credits** 2
**Grades**
11, 12
**Schools**
Unity Reed High School
Woodbridge High School
**Prerequisites**
Aviation Maintenance Technology 1

## Building Trades 1

Building Trades 1 introduces students to skills in the four core areas of residential construction: masonry, carpentry, electricity, and plumbing. Students emphasize safety by earning the Construction Industry Occupational Safety and Health Administration (OSHA) 10 card as they build or repair residential structures, using a variety of materials and tools. Students will also learn current residential building codes associated with the trades.

This course connects to the following career pathways:
Architecture & Construction - Building Trades
**Credits** 1
**Grades**
10, 11
**Schools**
Osbourn Park High School
Patriot High School
**Prerequisites**
None

## Building Trades 2

Building Trades 2 teaches students advanced skills in masonry, carpentry, electricity, and plumbing. The class prepares students to synthesize these valuable skills to build or repair residential structures, using a variety of materials and tools. Students will also learn current residential building codes associated with the trades.

**This is a double-blocked course.**

This course connects to the following career pathways:
Architecture & Construction - Building Trades
**Credits** 2
**Grades**
11, 12
**Schools**
Osbourn Park High School
Patriot High School
**Prerequisites**
Building Trades 1

## Cabinetmaking 1

Students learn workshop and tool safety and employability skills as they practice reading blueprints; estimating and selecting materials; cutting and shaping stock; assembling, fastening, and installing components; and finishing surfaces. The technical, problem-solving, leadership, and creative skills learned in Cabinetmaking can be applied in industries well beyond construction trades and professions and can prepare the student for lifelong learning and success.

This course connects to the following career pathways:
Architecture & Construction - Cabinetmaking
**Credits** 1
**Grades**
10, 11
**Schools**
Hylton High School
**Prerequisites**
None

## Cabinetmaking 2

Students continue to learn workshop and tool safety and enhance their employability skills as they interpret plans; estimate and select materials; cut and shape stock; assemble, fasten, and install components; install interior finishes; apply wood veneers and plastic laminates; finish surfaces; and transport and install cabinets. The technical, problem-solving, leadership, and creative skills learned in Cabinetmaking can be applied in industries well beyond construction trades and professions and can prepare the student for lifelong learning and success.

**This is a double-blocked course.**

This course connects to the following career pathways:
Architecture & Construction - Cabinetmaking
**Credits** 2
**Grades**
11, 12
**Schools**
Hylton High School
**Prerequisites**
Cabinetmaking 1

## Computer Networking Hardware Operations 1 (Semester)

This course is designed for students who wish to pursue careers in information technology (IT). Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install operating systems (OS), and troubleshoot these using software tools and diagnostics. The course covers the fundamentals of computer hardware and software and advanced concepts such as security, networking, scripting basics, remote access technology use, Internet of Things (IoT) device configuration, documentation and change-management best practices, disaster prevention and recovery methods, virtualization, and cloud computing.

**Credits** 0.5

**Length**
Semester

**Grades**
11

**Schools**
High School Currently Unavailable

**Notes**
This course is paired with Computer Networking Hardware Operations 2.

**Semester**
I

## Computer Networking Hardware Operations 1 DE (Semester)

Students are introduced to the fundamentals of computer networking, including network environments, router operations, and basic configuration. This course provides a foundation for understanding how networks are created, operated, and maintained, preparing students for advanced study and careers in information technology.

**Credits** 0.5

**Length**
Semester

**Grades**
11

**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)

**Schools**
Battlefield High School

**Notes**
This course is paired with Computer Networking Hardware Operations 2 DE.

To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

**Semester**
I

## Computer Networking Hardware Operations 2 (Semester)

The first of the Cisco Networking Academy CCNAv7 courses, this course will help students develop workplace readiness skills and build a foundation for success in networking-related degree programs and careers. This course covers the architecture, structure, functions, and components of the internet and other computer networks. With the support of video and rich interactive media, students achieve a basic understanding of how networks operate and how to build simple local area networks (LAN), perform basic configurations for routers and switches, and implement Internet Protocol (IP).

Upon completion of all Cisco Networking Academy CCNAv7 course offerings, learners will be prepared to take the Cisco CCNA Unified certification exam. CCNAv7 teaches comprehensive networking concepts and skills, from network applications to the protocols and services provided to those applications. Learners will progress from basic networking to more complex enterprise and theoretical networking models later in the curriculum.

**Credits** 0.5
**Length**
Semester
**Grades**
11
**Schools**
High School Currently Unavailable
**Prerequisites**
Computer Networking Hardware Operations 1 (Semester)
**Notes**
This course is paired with Computer Networking Hardware Operations 1.
**Semester**
II

## Computer Networking Hardware Operations 2 DE (Semester)

Students build on foundational networking skills by learning to install, operate, and troubleshoot routers and switches in small networks. The course introduces wireless local area networks (WLANs) and essential network security concepts, preparing students for advanced networking studies and careers in information technology.

**Credits** 0.5
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Battlefield High School
**Prerequisites**
Computer Networking Hardware Operations 1 DE (Semester)
**Notes**
This course is paired with Computer Networking Hardware Operations 1 DE.

To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

**Semester**
II

## Computer Networking Hardware Operations 3 (Semester)

Students learn to configure, troubleshoot, and secure enterprise networks while exploring advanced concepts such as virtualization, APIs, and automation tools. This course builds on prior networking knowledge and prepares students for careers in information technology, networking, or cybersecurity.

**Credits** 0.5
**Length**
Semester
**Grades**
12
**Schools**
High School Currently Unavailable
**Prerequisites**
Computer Networking Hardware Operations 2 (Semester)
**Notes**
This semester course is paired with Computer Networking Hardware Operations 4.
**Semester**
I

## Computer Networking Hardware Operations 3 DE (Semester)

The second of the Cisco Networking Academy CCNAv7 courses, this curriculum is designed for students who are seeking entry-level jobs in the information technology (IT) industry or who hope to fulfill prerequisites to pursue more specialized IT skills. This course covers the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure and troubleshoot routers and switches for advanced functionality using security best practices and resolve common issues with protocols in both IPv4 and IPv6 networks.

**Credits** 0.5

**Length**
Semester

**Grades**
12

**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)

**Schools**
Battlefield High School

**Prerequisites**
Computer Networking Hardware Operations 2 DE (Semester)

**Notes**
This course is paired with Computer Networking Hardware Operations 4 DE.

To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

**Semester**
I

## Computer Networking Hardware Operations 4 (Semester)

Students explore advanced networking concepts with an emphasis on Wide Area Networks (WANs), including design and protocols such as LAPB, Frame Relay, ISDN, HDLC, and PPP. Extensive lab activities reinforce router and switch configuration skills while introducing IP services, network assurance, and preparation for Cisco certification exams.

**Credits** 0.5

**Length**
Semester

**Grades**
12

**Schools**
High School Currently Unavailable

**Prerequisites**
Computer Networking Hardware Operations 3 (Semester)

**Notes**
This course is paired with Computer Networking Hardware Operations 3.

**Semester**
II

## Computer Networking Hardware Operations 4 DE (Semester)

The final of three Cisco Networking Academy CCNAv7 courses, this course describes the architecture, components, operations, and security to scale for large, complex networks, including wide area network (WAN) technologies. The course emphasizes network security concepts and introduces network virtualization and automation. Students learn how to configure, troubleshoot, and secure enterprise network devices and understand application programming interfaces (API) and configuration management. Upon completion of this course, students will be prepared to take the Cisco CCNA Unified certification exam.
**Credits** 0.5
**Length**
Semester
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Battlefield High School
**Prerequisites**
Computer Networking Hardware Operations 3 DE (Semester)
**Notes**
This course is paired with Computer Networking Hardware Operations 3 DE.

To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.
**Semester**
II

## Cosmetology 1

In this introductory course, students study hair, skin, and nails and their related care. Students are grounded in theory as they prepare to practice procedures in a clinical lab setting and classroom, using manikins for manipulative skill practice. The first-year course emphasizes personal safety, professionalism, and sanitation and disinfection of equipment and facilities. Students develop skills in shampooing and conditioning hair, as well as styling and cutting hair. They are introduced to hair coloring and chemical texture services and develop skills in manicure and pedicure procedures.

**This is a triple-blocked course.**

This course connects to the following career pathways:
Human Services - Cosmetology
**Credits** 3
**Grades**
11
**Schools**
Unity Reed High School
Woodbridge High School
**Notes**
This is the first course in a two-year program.

## Cosmetology 2

In this continuing course, students build on their theoretical foundation of general sciences and practices in cosmetology to increase proficiency in hair cutting and styling on live models, with attention to professionalism, client consultation, safety, and infection control. Students are trained in safe chemical processes related to permanent waves, relaxers, lightening, and coloring hair. In addition, students learn to care for skin, hands, and feet, developing experience in providing facials, manicures, pedicures, and nail enhancements. Students will be introduced to a business management unit with a focus on managing the salon.

**This is a triple-blocked course.**

This course connects to the following career pathways:
Human Services - Cosmetology
**Credits** 3
**Grades**
12
**Schools**
Unity Reed High School
Woodbridge High School
**Prerequisites**
Cosmetology 1
**Notes**
This is the second course in a two-year program.

## Criminal Justice 1

Students are introduced to law, public safety, corrections, and security practices. Students examine contemporary issues in the criminal justice system and explore crime scene investigation, criminal investigation, court procedures, policing, and juvenile justice. This course provides a foundation for careers as lawyers, as forensics specialists, and as law enforcement and corrections officers.

This course connects to the following career pathways: Law, Public Safety, Corrections & Security - Criminal Justice
**Credits** 1
**Grades**
10, 11
**Schools**
Battlefield High School
Colgan High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
**Prerequisites**
None

## Criminal Justice 2

Students apply knowledge learned in Criminal Justice 1 through practical scenarios involving crime scene investigation, criminal investigation, and crisis intervention. Students explore trends in correctional standards and in identifying and preventing terror threats. This course prepares students for careers as lawyers, forensics specialists, and law enforcement and corrections officers.

**This is a double-blocked course.**

This course connects to the following career pathways: Law, Public Safety, Corrections & Security - Criminal Justice
**Credits** 2
**Grades**
11, 12
**Schools**
Battlefield High School
Colgan High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
**Prerequisites**
Criminal Justice 1

## Cybersecurity Network Systems

This Cybersecurity Network Systems course in an advanced-level course which prepares students for postsecondary education and careers in the rapidly growing field of cybersecurity. Students gain competitive skills required to administer, analyze, and secure applications, networks, and devices. Students perform threat analysis and participate in risk mitigation. Concepts include understanding threats, attacks, and vulnerabilities; exploring technology and tools; examining architecture and design; analyzing identity and access management; demonstrating risk management; and examining cryptography and public key management. Upon successful completion of this course, students may qualify for the CompTIA Security+ certification exam. Individuals with a Security+ credential are well-equipped to further develop their skills toward a CompTIA Cybersecurity Analyst (CSA+) credential.
**Credits** 1
**Grades**
12
**Schools**
High School Currently Unavailable
**Prerequisites**
Advanced Cybersecurity Systems Technology

## Cybersecurity Network Systems DE

This Cybersecurity Network Systems course in an advanced-level course which prepares students for postsecondary education and careers in the rapidly growing field of cybersecurity. Students gain competitive skills required to administer, analyze, and secure applications, networks, and devices. Students perform threat analysis and participate in risk mitigation. Concepts include understanding threats, attacks, and vulnerabilities; exploring technology and tools; examining architecture and design; analyzing identity and access management; demonstrating risk management; and examining cryptography and public key management. Upon successful completion of this course, students may qualify for the CompTIA Security+ certification exam. Individuals with a Security+ credential are well-equipped to further develop their skills toward a CompTIA Cybersecurity Analyst (CSA+) credential.

**Credits** 1
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Advanced Cybersecurity Systems Technology
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Cybersecurity Systems Technology

Students enter the world of computer networking and learn to troubleshoot networks and networking devices, using system tools and diagnostic software. They develop skills in computer networking, resource sharing, and associated security risks. In addition, students explore the relationships between internal and external computer components.

This course connects to the following career pathways:
Information Technology - Cybersecurity
**Credits** 1
**Grades**
10, 11
**Schools**
Freedom High School
Potomac High School
**Prerequisites**
Cybersecurity Fundamentals, recommended

## Cybersecurity Systems Technology DE

Students gain a comprehensive foundation in networking concepts and technologies, including media types, physical and logical topologies, and common standards and protocols. Emphasis is placed on the TCP/IP suite, IP addressing schemes such as CIDR, and selected topics in network implementation, support, and LAN/WAN connectivity. This course prepares students for advanced networking studies and industry-recognized certifications.

This course connects to the following career pathways:
Information Technology - Cybersecurity
Information Technology - CASIIT, Cybersecurity
**Credits** 1
**Grades**
10, 11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Battlefield High School
**Prerequisites**
Cybersecurity Fundamentals, recommended
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Electricity 1

Electricity 1 students develop fundamental electrical skills to help them prepare for a career in the installation, operation, maintenance, and repair of residential, commercial, and industrial systems. Students will engage in hands-on activities in a lab setting. They will be introduced to residential wiring of houses and apartments; commercial wiring of retailers, schools, businesses, and hospitals; and industrial wiring of factories.

This course connects to the following career pathways:
Architecture & Construction - Electricity
**Credits** 1
**Grades**
10, 11
**Schools**
Unity Reed High School
**Prerequisites**
None

## Electricity 2

Electricity 2 students will continue to develop skills in the installation, operation, maintenance, and repair of residential, commercial, and industrial electrical systems. Students will also study electrical theory and mathematical problems related to electricity; apply requirements of the National Electrical Code (NEC); select and install conductors; examine lighting, communication, and power systems; and work with conduits and raceways, panelboards, switchboards, grounding systems, and generators.

**This is a double-blocked course.**

This course connects to the following career pathways:
Architecture & Construction - Electricity
**Credits** 2
**Grades**
11, 12
**Schools**
Unity Reed High School
**Prerequisites**
Electricity 1

## Firefighting

Firefighting is a two-credit course intended for students, referred to as cadets, aspiring to pursue a career as a Firefighter. The program is physically demanding and requires students to adhere to both academic and professional standards, preparing them to effectively respond to live fire scenarios, hazardous material incidents, and search-and-rescue operations. Cadets gain comprehensive knowledge of procedures, equipment, and technologies commonly employed in fire departments. This course offers academic, mental, and physical challenges, aligning with National Fire Protection Association 1001-2013 standards, and provides the pathway to earn the Virginia Department of Fire Protection Firefighter I certification.

This course connects to the following career pathways:
Law, Public Safety, Corrections and Security - Public Safety (EMT and Firefighting)
**Credits** 2
**Length**
Year
**Grades**
12
**Schools**
Unity Reed High School
**Notes**
**Eligibility**:

1. Students must be at least 16 years old prior to the first day of instruction
2. Students must pass the National Fire Protection Association 1582 physical assessment. The assessment is funded for students accepted into the Public Safety Specialty Program and includes:
    a. Medical history and physical examination
    b. Stress test (cardiorespiratory fitness, muscular endurance, flexibility)
    c. Medical and health screenings (blood and urinalysis samples, cardia evaluation, vision and hearing tests)
    d. Chest x-ray

## Plumbing 1

Plumbing 1 students are introduced to the plumbing profession and practice mathematical calculations required for plumbing systems. They learn to safely assemble, install, and repair pipes and fittings, and are introduced to installing fixtures of heating, water, and drainage systems, according to specification and plumbing codes.

This course connects to the following career pathways:
Architecture & Construction - Plumbing
**Credits** 1
**Grades**
10, 11
**Schools**
Gar-Field High School
**Prerequisites**
None

## Plumbing 2

Plumbing 2 students practice mathematics skills related to the plumbing profession. They read, interpret, and create drawings of piping systems. Students learn to safely assemble, install, and repair pipes, fittings, and fixtures of heating, water, and drainage systems, according to specification and plumbing codes.

**This is a double-blocked course.**

This course connects to the following career pathways:
Architecture & Construction - Plumbing
**Credits** 2
**Grades**
11, 12
**Schools**
Gar-Field High School
**Prerequisites**
Plumbing 1

## Television and Media Production 1

In this Television and Media Production 1 course, students will engage in hands-on digital media production while using industry-standard equipment and software. They will learn how to work as media producers and explore careers in the dynamic industry of digital media production.

This course connects to the following career pathways:
Arts, A/V Technology & Communications - Television Production
**Credits** 1
**Grades**
11
**Schools**
Hylton High School
Patriot High School
**Prerequisites**
None

## Television and Media Production 1 DE

In this Television and Media Production 1 course, students will engage in hands-on digital media production while using industry-standard equipment and software. They will learn how to work as media producers and explore careers in the dynamic industry of digital media production.

This course connects to the following career pathways:
Arts, A/V Technology & Communications - Television Production
**Credits** 1
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
None
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Television and Media Production 2

This Television and Media Production 2 course builds upon knowledge and skills from Television and Media Production 1. Students will generate fiction and non-fictional media content. Students will enhance their digital media production skills by entering the studio and control room and become proficient with industry-standard equipment and software. They put their knowledge of digital media production into action with use of sophisticated tools and equipment as they begin to develop their personal portfolios.

**This is a double-blocked course.**

This course connects to the following career pathways:
Arts, A/V Technology & Communications - Television Production
**Credits** 2
**Grades**
12
**Schools**
Hylton High School
Patriot High School
**Prerequisites**
Television and Media Production 1

## Television and Media Production 2 DE

This Television and Media Production 2 course builds upon knowledge and skills from Television and Media Production 1. Students will generate fiction and non-fictional media content. Students will enhance their digital media production skills by entering the studio and control room and become proficient with industry-standard equipment and software. They put their knowledge of digital media production into action with use of sophisticated tools and equipment as they begin to develop their personal portfolios.

**This is a double-blocked course.**

This course connects to the following career pathways:
Arts, A/V Technology & Communications - Television Production
**Credits** 2
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Television and Media Production 1 DE
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Welding 1

Welding is required by a wide variety of industries anywhere fusible materials and high heat are needed to manufacture, repair, or alter tools and products. Students in Welding 1 are taught to use manual welding, cutting, and electrical arc welding processes to fabricate and join metal parts according to diagrams, blueprints, and specifications. Students will also learn all safety-related practices and techniques, including earning the Occupational Safety and Health Administration (OSHA) 10 card.

This course connects to the following career pathways:
Manufacturing - Welding
**Credits** 1
**Grades**
10, 11
**Schools**
Potomac High School

## Welding 1 DE

This course introduces students to the fundamentals of welding and metal fabrication. Students learn the history of welding processes, safety practices, and proper setup and operation of equipment. Hands-on training includes oxyacetylene welding and cutting, shielded metal arc welding (SMAW), and MIG welding, as well as techniques for joining metals in various positions using AC and DC power sources. Emphasis is placed on developing practical skills for industrial applications and exploring career opportunities in welding and related fields.

This course connects to the following career pathways:
Manufacturing - Welding (Dual Enrollment), Specialty Programs
**Credits** 1
**Grades**
10, 11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Potomac High School
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Welding 2

This Welding 2 course teaches advanced welding students how to fine-tune their craft and to perform welds in various positions, using multiple welding processes. Welding is required by a wide variety of industries anywhere fusible materials and high heat are needed to manufacture, repair, or alter products. Professional welders are in high demand and can earn accordingly.

**This is a double-blocked course.**

This course connects to the following career pathways:
Manufacturing - Welding
**Credits** 2
**Grades**
11, 12
**Schools**
Potomac High School
**Prerequisites**
Welding 1

## Welding 2 DE

This course continues to build upon foundational welding skills with a focus on electric arc welding and blueprint interpretation. Students learn to operate AC and DC welding equipment, select electrodes for various alloys, and apply advanced welding techniques in vertical and overhead positions. The course also covers reading and interpreting welding blueprints and symbols, along with drafting fundamentals used in the welding industry. Hands-on labs emphasize safety and precision, preparing students for careers in welding and metal fabrication. Students will also prepare for industry-recognized credentials to enhance employability in the field.

**This is a double-blocked course.**

This course connects to the following career pathways:
Manufacturing - Welding (Dual Enrollment), Specialty Programs
**Credits** 2
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Potomac High School
**Prerequisites**
Welding 1 DE
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

## Welding 3

This Welding 3 capstone course teaches students the industry's emerging technologies, along with shielded metal arc welding (SMAW) and flux-cored arc welding (FCAW). Students will also learn to operate a computer numerical control (CNC) cutting table. Students are prepared to earn relevant industry credentials toward employment in production or manufacturing facilities.

**This is a double-blocked course.**

This course connects to the following career pathways:
Manufacturing - Welding
**Credits** 2
**Grades**
12
**Schools**
Potomac High School
**Prerequisites**
Welding 2

## Welding 3 DE

In this advanced course, students build upon prior welding experience to master professional techniques such as TIG and MIG welding, along with semi-automatic processes like GMAW, FCAW, and SAW. Students will learn to set up and operate specialized equipment, select the correct gases, wires, and rods, and produce strong, precise welds in multiple positions. Safety practices are emphasized throughout all lab work. By the end of the course, students will demonstrate advanced welding skills and be prepared for industry certifications, college welding programs, or entry-level careers in manufacturing, construction, and metal fabrication.

**This is a double-blocked course.**

This course connects to the following career pathways: Manufacturing - Welding (Dual Enrollment), Specialty Programs

**Credits** 2
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Potomac High School
**Prerequisites**
Welding 2 DE
**Notes**
To enroll in this course, students must meet all eligibility requirements established by Northern Virginia Community College.

# Air Force JROTC

## Air Force JROTC 1

Students are introduced to the Air Force JROTC program with instruction focusing on aerospace science, including aviation history, principles of aircraft flight and navigation, development of aerospace power, aerospace vehicles, rocketry, space and technology programs, and the aerospace industry. Students explore Air Force traditions, customs and courtesies, character, and the foundations of U.S citizenship. Leadership education develops leadership skills, acquaints students with the practical applications of life skills, and includes a drill and ceremonies component. Instruction in personal wellness and health and fitness encourages cadets to lead healthy, active lifestyles into adulthood.

Students electing to use JROTC 1 in 9th grade as a substitution for their physical education graduation requirement must enroll in the full-year health course in tenth grade. The health course will include ninth and tenth grade health, CPR, and Family Life Education. In-person courses will include Driver Education; however, if a school does not have the minimum enrollment to support an in-person health course, students will be enrolled in a virtual course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Freedom High School
Hylton High School
Unity Reed High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform, and meet and maintain the personal grooming standards.

## Air Force JROTC 2

Students explore the Air Force JROTC program with instruction focusing on aerospace science including flight conditions affecting flight, flight's effects on the human body, analyses of flight navigation, and purposes of aerial navigation aids. The course focuses on Air Force traditions, customs and courtesies, effective communication skills, and the influences of varying global cultures, religions, and ethnicities in the development of nations. Leadership education develops leadership skills, acquaints students with the practical applications of life skills, and includes a drill and ceremonies component. Personal wellness studies encourage cadets to lead healthy, active lifestyles into adulthood.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School
Freedom High School
Hylton High School
Unity Reed High School

**Requirements**

Student must be able to participate in physical education program, dress in regulation uniform, and meet and maintain the personal grooming standards.

**Prerequisites**

Air Force JROTC 1

## Air Force JROTC 3

Students explore the Air Force JROTC program, with instruction focusing on aerospace science, including astronomy, space exploration, the history and development of aerospace vehicles and rocketry. Aerospace science acquaints students with the elements of aerospace and the aerospace environment and introduces them to the history and development of air power. Leadership education develops leadership skills, acquaints students with the practical applications of life skills, and includes a drill and ceremonies component. Instruction on effective communication and management techniques, human relations skills, and postsecondary education and career opportunities is also included. Personal wellness studies encourage cadets to lead healthy, active lifestyles into adulthood.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Freedom High School
Hylton High School
Unity Reed High School

**Requirements**

Student must be able to participate in physical education program, dress in regulation uniform, and meet and maintain the personal grooming standards.

**Prerequisites**

Air Force JROTC 2

## Air Force JROTC 4

Students explore the Air Force JROTC program, focusing on aerospace science, the fundamentals of management, and personal wellness. Aerospace science acquaints students with the elements of aerospace, the aerospace environment, and introduces them to the history and development of air power. Leadership education develops leadership skills, acquaints students with the practical applications of life skills, and includes a drill and ceremonies component. Personal wellness studies encourage cadets to lead healthy, active lifestyles into adulthood.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Freedom High School
Hylton High School
Unity Reed High School

**Requirements**

Student must be able to participate in physical education program, dress in regulation uniform, and meet and maintain the personal grooming standards.

**Prerequisites**

Air Force JROTC 3

# Army JROTC

## Army JROTC 1

This course introduces students to the foundations of the Army JROTC program, the rights and responsibilities of U.S. citizenship, the principle components of leadership, and the foundational elements needed for academic and career success. Additionally, students receive instruction in U.S. and military history, discipline, personal wellness, physical fitness, career education, and workplace readiness skills. Military customs and courtesies, proper uniform wear and personal appearance guidelines are established and reinforced in the classroom, drill, and military ceremonies.

Students electing to use JROTC 1 in 9th grade as a substitution for their physical education graduation requirement must enroll in the full-year health course in tenth grade. The health course will include ninth and tenth grade health, CPR, and Family Life Education. In-person courses will include Driver Education; however, if a school does not have the minimum enrollment to support an in-person health course, students will be enrolled in a virtual course.

**Credits** 1

**Grades**

9, 10, 11

**Schools**

Forest Park High School
Woodbridge High School

**Requirements**

Students planning to enroll in JRTOC programs must meet program entry requirements. Student must be able to participate in the JROTC physical fitness program, dress in regulation uniform and meet and maintain the personal grooming standards as outlined in the USA Cadet Command Regulation.

## Army JROTC 2

This course continues to provide students instruction in the Army JROTC program and the rights and responsibilities of U.S. citizenship. Students continue to learn leadership skills, U.S. and military history, the origins and development of the U.S. Government, discipline, personal wellness, physical fitness, first aid, map skills, career education, and workplace readiness skills. Military customs and courtesies, proper uniform wear, and personal appearance guidelines are required in the leadership lab, drill, and military ceremonies.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Forest Park High School
Woodbridge High School

**Requirements**

Students planning to enroll in JRTOC programs must meet program entry requirements. Student must be able to participate in the JROTC physical fitness program, dress in regulation uniform and meet and maintain the personal grooming standards as outlined in the USA Cadet Command Regulation, and must have successfully completed Army JROTC 1 or equal level in another JROTC program.

**Prerequisites**

Army JROTC 1

## Army JROTC 3

This course continues to provide students instruction in the Army JROTC program, reinforcing U.S. citizenship rights and responsibilities, leadership, military history, discipline, physical fitness, career education, financial planning, personal development, and workplace readiness skills. Military customs and courtesies, proper uniform wear, and personal appearance guidelines are required in the leadership lab, drill, and military ceremonies.

**Credits** 1

**Grades**

11, 12

**Schools**

Forest Park High School
Woodbridge High School

**Requirements**

Students planning to enroll in JRTOC programs must meet program entry requirements. Student must be able to participate in the JROTC physical fitness program, dress in regulation uniform and meet and maintain the personal grooming standards as outlined in the USA Cadet Command Regulation and must have successfully completed Army JROTC 1 and 2.

**Prerequisites**

Army JROTC 2

## Army JROTC 4

Students continue instruction in the Army JROTC program, consisting of U.S. citizenship rights and responsibilities, leadership, military history, discipline, citizenship, physical fitness, career education, and workplace readiness skills. Students receive additional instruction in military customs and courtesies, proper uniform wear, and personal appearance guidelines. Adherence to the guidelines is required in leadership lab, drill, and military ceremonies.

**Credits** 1

**Grades**

12

**Schools**

Forest Park High School
Woodbridge High School

**Requirements**

Students planning to enroll in JRTOC programs must meet program entry requirements. Student must be able to participate in the JROTC physical fitness program, dress in regulation uniform and meet and maintain the personal grooming standards as outlined in the USA Cadet Command Regulation and must have successfully completed Army JROTC 1, 2, and 3.

**Prerequisites**

Army JROTC 3

# Marine Corps JROTC

## Marine Corps JROTC 1

Students are introduced to the Junior Reserve Officer Training Corps (JROTC) program. JROTC is a program designed to teach leadership skills, character development, self-discipline, and citizenship through the study and practical application of United States Marine Corps (USMC) leadership traits and principles. Students are introduced to general military subjects, leadership, citizenship, personal growth and responsibilities, public service, and career exploration in the first year of this program.

Students electing to use JROTC 1 in 9th grade as a substitution for their physical education graduation requirement must enroll in the full-year health course in tenth grade. The health course will include ninth and tenth grade health, CPR, and Family Life Education. In-person courses will include Driver Education; however, if a school does not have the minimum enrollment to support an in-person health course, students will be enrolled in a virtual course. The virtual course will not include Driver Education and students will need to enroll in classroom driver education outside of Prince William County Public Schools.
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Gar-Field High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards

## Marine Corps JROTC 2

Junior Reserve Officer Training Corps (JROTC) is a program designed to teach leadership skills, character development, self-discipline, and citizenship through the study and practical application of United States Marine Corps (USMC) leadership traits and principles. In the second year of the USMC JROTC program, students are developing and applying their knowledge of general military subjects, leadership, citizenship, personal growth and responsibilities, public service, and career exploration.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Gar-Field High School
**Requirements**
Students must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.
**Prerequisites**
Marine Corps JROTC 1

## Marine Corps JROTC 3

Junior Reserve Officer Training Corps (JROTC) is a program designed to teach leadership skills, character development, self-discipline, and citizenship through the study and practical application of United States Marine Corps (USMC) leadership traits and principles. In the third year of the USMC JROTC program, students are applying and mastering knowledge of general military subjects, leadership, citizenship, personal growth and responsibilities, public service and career exploration.
**Credits** 1
**Grades**
11, 12
**Schools**
Gar-Field High School
**Requirements**
Students must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.
**Prerequisites**
Marine Corps JROTC 2

## Marine Corps JROTC 4

The Junior Reserve Officer Training Corps (JROTC) is a program designed to teach leadership skills, character development, self-discipline, and citizenship through the study and practical application of United States Marine Corps (USMC) leadership traits and principles. In the fourth year of the USMC JROTC program, students are mastering knowledge of general military subjects, leadership, citizenship, personal growth and responsibilities, public service, and career exploration.
**Credits** 1
**Grades**
12
**Schools**
Gar-Field High School
**Requirements**
Students must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.
**Prerequisites**
Marine Corps JROTC 3

# Navy JROTC

## Navy JROTC 1

This course introduces students to the Navy Junior Reserve Officer Training Corps program, the importance of citizenship, the elements of leadership, the U.S. government, and the value of scholarship in attaining life goals. Additional instruction includes: the principles of health and first aid, geography, orienteering, map reading skills, survival skills, financial skills, and overview of the U.S. Navy, naval ships and aircraft. The importance and promotion of a healthy lifestyle including physical fitness, proper diet, controlling stress, and drug awareness are pursued at the fundamental level.

Students electing to use JROTC 1 in 9th grade as a substitution for their physical education graduation requirement must enroll in the full-year health course in tenth grade. The health course will include ninth and tenth grade health, CPR, and Family Life Education. In-person courses will include Driver Education; however, if a school does not have the minimum enrollment to support an in-person health course, students will be enrolled in a virtual course.
**Credits** 1
**Grades**
9, 10, 11
**Schools**
Osbourn Park High School
Potomac High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.

## Navy JROTC 2

This course builds on the general introduction provided in Navy JROTC 1, to further develop the traits of citizenship and leadership, introduce cadets to the technical areas of naval science, the role of the U.S. Navy in maritime history, and the vital importance of the world's oceans to the national security of the United States. An introduction to maritime history including the American Revolution, the American Civil War, the rise of the United States to world power status, World Wars 1 and 2, the Cold War era, the 1990s, and conflict in the new millennium is provided. Additional instruction in the nautical sciences will include an introduction to maritime geography, oceanography, meteorology, astronomy, and the physical sciences.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Osbourn Park High School
Potomac High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.
**Prerequisites**
Navy JROTC 1

## Navy JROTC 3

This course broadens a student's understanding of the principles of military leadership, citizenship, discipline, the concept and significance of teamwork, the intrinsic value of good order and discipline in the accomplishment of objectives, and the importance of sea power and national security. Students gain a more in-depth knowledge of naval ships, aircraft, and an introduction to marine navigation and seamanship. It includes instruction in sea power and national security, naval operations and support functions, military law, and international law and the sea. It provides an introduction to ship construction and damage control, shipboard organization and watch standing, and naval weaponry.
**Credits** 1
**Grades**
11, 12
**Schools**
Osbourn Park High School
Potomac High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.
**Prerequisites**
Navy JROTC 2

## Navy JROTC 4

This course prepares junior cadets for the real world through training in leadership and ethics. Seniors will be placed in positions of leadership under supervision and will analyze their performance throughout the year. Classroom activities include seminars, reading assignments, presentations, and practical work with junior cadets. Students also investigate topics in cyber technology and space exploration.
**Credits** 1
**Grades**
12
**Schools**
Osbourn Park High School
Potomac High School
**Requirements**
Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards.
**Prerequisites**
Navy JROTC 3

# Student Assistant

## Lab Assistant / Science Seminar

Lab Assistant/Science Seminar offers the student the opportunity to learn more science while assisting a science teacher. The instructional objectives vary according to the course in which the student is assisting and according to the program, interests, and ability of the student. This course may be taken more than once for credit with prior approval of the science department chairperson. To earn credit instructional objectives and evaluative criteria must be delineated as per Regulation 681-3, Section III.C.
**Credits** 0.5
**Length**
Year
**Grades**
10, 11, 12
**Schools**
Gar-Field High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
**Requirements**
Approval of supervising teacher
**Prerequisites**
Successful completion of subject in which assisting.

## Library Assistant

Students are trained to assist the library staff in maintaining the library program. Students are under the supervision of the librarian(s) but must be able to work independently to perform duties and carry out responsibilities as assigned. Basic duties may include shelving books in alpha or numeric order, assisting patrons in various capacities; circulation of books; knowledge of the computer databases; ability to evaluate websites; use of A/V equipment and duties as assigned by the librarian. This course may be taken more than once for credit

**Credits** 0.5
**Length**
Year
**Grades**
10, 11, 12
**Schools**
Colgan High School
Freedom High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
**Semester**
36 weeks

## Physical Education Assistant

This course offers opportunities for further positive learning experiences for the student who is interested in pursuing a career in Health and Physical Education. Emphasis is placed on assisting in the instructional program. This course may be taken more than once for credit.

**Credits** 0.5
**Length**
Year
**Grades**
11, 12
**Schools**
Freedom High School
Gar-Field High School
Patriot High School
Potomac High School
**Requirements**
Approval of the department chairperson ***and*** the supervising teacher.
**Prerequisites**
Health and Physical Education 1

## Student Assistant for Special Education

The Student Assistant for Special Education course offers the student the opportunity to learn about the field of special education while assisting a special education teacher. Students will be introduced to a professional and practical experience in working with students with disabilities who require special education. The course may be taken more than once for credit with prior approval of the special education department chairperson.

**Credits** 0.5
**Length**
Year
**Grades**
9, 10, 11, 12
**Schools**
Colgan High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Unity Reed High School
**Requirements**
Teacher recommendation
**Prerequisites**
None
**Semester**
36 weeks

# High School Special Education

## EMPLOY 1

Employment Opportunities for Youth (EMPLOY) 1 is a Career and Technical Education course designed for students with disabilities. The course introduces career awareness activities that help students build a foundational understanding of work and explore diverse career pathways. These activities progress into High Quality Work-Based Learning (HQWBL) experiences, allowing students to strengthen their knowledge of the workplace and apply classroom skills in real-world settings.

**Credits** 1

**Length**

Year

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Any student who is receiving special education services and whose Individualized Education Program (IEP) and transition goals indicate the appropriateness of the EMPLOY curriculum.

**Notes**

EMPLOY courses can fulfill Sequential Elective requirement and Career and Technical Education (CTE) completer sequence elective.

## EMPLOY 2

Employment Opportunities for Youth (EMPLOY) 2 is a Career and Technical Education course designed for students with disabilities. The course emphasizes career exploration, guiding students to discover personal strengths, research career options, engage in new experiences, and develop plans for achieving postsecondary goals. Instruction is delivered through participation in a School-Based Enterprise, where students build both soft and technical skills that prepare them for community-based work experiences in EMPLOY 3 or direct entry into the workforce through EMPLOY 4.

**Credits** 1

**Length**

Year

**Grades**

10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Any student who is receiving special education services and whose Individualized Education Program (IEP) and transition goals indicate the appropriateness of the EMPLOY curriculum.

**Notes**

It is recommended that a student complete EMPLOY 1 before enrolling in EMPLOY 2.

EMPLOY courses can fulfill Sequential Elective requirement and Career and Technical Education (CTE) completer sequence elective.

## EMPLOY 3: Internship

Employment Opportunities for Youth (EMPLOY) 3 is a course that offers students unpaid internships with local businesses aligned to their career interests and postsecondary employment goals. This two-period, back-to-back class builds on the foundations of EMPLOY 1 and EMPLOY 2, emphasizing vocational exploration and the development of transferable, marketable job skills. Through hands-on internship experiences, students strengthen their understanding of the workplace while applying and expanding the skills learned in earlier courses.

**Credits** 2
**Length**
Year
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Requirements**
Any student who is receiving special education services and whose Individualized Education Program (IEP) and transition goals indicate the appropriateness of the EMPLOY curriculum.
**Notes**
It is recommended that a student complete EMPLOY 1 and/or EMPLOY 2 before enrolling in EMPLOY 3.

EMPLOY courses can fulfill Sequential Elective requirement and Career and Technical Education (CTE) completer sequence elective.

## EMPLOY 4

Employment Opportunities for Youth (EMPLOY) 4 is a course that allows students to earn credit by demonstrating Virginia's 21st Century Workplace Readiness Skills through a minimum of 396 hours in competitive employment. The course emphasizes applying self-awareness, employability, self-advocacy, and life management skills to secure and maintain meaningful work. Over the school year, students gain real-world experience while meeting the 396-hour employment requirement.

**Credits** 1
**Length**
Year
**Grades**
10, 11, 12
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Requirements**
Any student who is receiving special education services and whose Individualized Education Program (IEP) and transition goals indicate the appropriateness of the EMPLOY curriculum.
**Notes**
It is recommended that a student complete EMPLOY 1 and/or EMPLOY 2 before enrolling in EMPLOY 4.

EMPLOY courses can fulfill Sequential Elective requirement and Career and Technical Education (CTE) completer sequence elective.

## Explore

PWCS Explore partners with local businesses to provide students ages 18–22 with meaningful internship experiences that help them identify career interests, develop workplace skills, and prepare for future employment. Interns spend the majority of their day engaged in hands-on, work-based learning activities designed to foster career exploration and skill development. In addition to gaining practical, marketable job skills, students learn to meet the demands of competitive work environments while building essential 21st-century soft skills such as responsibility, confidence, teamwork, positive work habits, and self-management.

Participants complete three unpaid internships, each lasting 10–12 weeks. While enrolled in the program, students remain registered at their home high school but attend their internship at the designated Explore business site rather than on the high school campus. Program participation is contingent upon acceptance through an application process.

**Credits** 1
**Length**
Year
Grade: 12 Postgraduate
**Schools**
Battlefield High School
Brentsville District High School
Gainesville High School
Potomac High School
Unity Reed High School
**Requirements**
Any student with a disability, aged 18 - 21, who has completed the requirements for an Applied Studies Diploma and whose IEP team has determined the need for an unpaid, community-based, High-Quality Work-Based Learning internship experience in a supported environment.
**Prerequisites**
None
**Notes**
Check with your counselor to see if this course is offered at your school.

## Learning Strategies 1-2

Learning Strategies 1 and 2 are special education elective courses considered and decided upon by an IEP team that provide students who access the general curriculum with direct and explicit instruction on building study, learning and executive function skills. Students will explore a variety of research-based strategies and programs that will enable them to experience success in high school. The goal of this class is to support students in developing the habits of academic success.
**Credits** 1
**Length**
Year
**Grades**
9, 10, 11, 12
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Requirements**
Any student who is receiving special education services whose Individualized Education Program (IEP) indicates the appropriateness of the Learning Strategies course offerings.

## Life Skills

Life Skills is a special education elective course considered and decided upon by an IEP team that prepares students who access the adapted curriculum to develop independence at home and in the community. Students will develop and enhance communication skills, self-advocacy skills, organizational/study techniques, and social skills. Students will learn to manage their personal care needs and household responsibilities, i.e., create to-do lists, prepare nutritious meals, and care for laundry. Students will participate in the development of individual transition plans and explore skills needed for employment/post-secondary education while learning to be contributing members of their community.

**Credits** 0

**Length**

Year

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Any student who is receiving special education services and whose Individualized Education Program (IEP) indicates the appropriateness of the Life Skills course offering.

**Prerequisites**

None

## Methods of Study 1-4

Methods of Study 1-4 are special education elective courses considered and decided upon by an IEP team that provide specialized instruction in organization and study skills to students on the general curriculum. Instruction is tailored to each student's specific areas of need as outlined through the eligibility and IEP processes. Students may also receive remediation and support of content coursework and may be provided necessary time to complete assignments and assessments to ensure progress in the general education courses.

**Credits** 1

**Length**

Year

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Any student whose Individualized Education Program (IEP) indicates the appropriateness of the compensatory skills course offering.

**Prerequisites**

None

**Notes**

Students can take Methods of Study each year up to four years.

## Personal Living and Finance

Personal Living and Finance is a special education elective course considered and decided upon by an IEP team that can replace Economics and Personal Finance as a graduation requirement for any student whose Individual Education Program (IEP) indicates eligibility for the credit accommodation. This course addresses the need for students to learn the skills to manage personal finances and to make sound financial decisions. This course is designed to incorporate the 21 Work Readiness Skills (WRS) identified by the Commonwealth of Virginia. Students will participate in the Work Readiness Skills assessment to earn the Board-approved workplace readiness skills credential at the end of the school year. Additionally, students in this course will participate in at least one virtual module satisfying the virtual requirement for graduation.

**Credits** 1

**Length**

Year

elective credit for Standard or Advanced Studies Diplomas

**Grades**

10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Any student who is receiving special education services and whose Individual Education Program (IEP) indicates the appropriateness of the Personal Living and Finance Course.

**Prerequisites**

None

## Project SEARCH

Prince William Project SEARCH is a collaborative initiative between PWCS, DARS, and Didlake Inc. This business-led, one-year Transition-to-Work Program serves students ages 18–22 and provides full workplace immersion, combining classroom instruction, career exploration, and hands-on training through internships. The program takes place entirely at the workplace, offering a seamless experience that prepares students for employment success.

Participants complete three unpaid internships, each lasting 10–12 weeks, at Novant UVA Health Systems, Prince William Medical Center. While enrolled in the program, students remain registered at their home high school but attend their internship at the designated Explore business site rather than on the high school campus. Program participation is contingent upon acceptance through an application process.

**Credits** 1

**Length**

Year

**Grades**

12

Postgraduate (applied studies)

**Schools**

Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Any student with a disability, aged 18-21, who has completed the requirements for an Applied Studies Diploma, has an open case with the Virginia Department of Aging and Rehabilitative Services, and meets the eligibility requirements for state and local developmental disabilities follow along services may be eligible. Course participation is not determined by an IEP team decision; there is an application and selection process.

**Prerequisites**

None

## Reading Strategies 1 - 4

Reading Strategies 1-4 are special education elective courses considered and decided upon by an IEP team. They are cumulative elective courses that enhance students' reading abilities through direct and explicit instruction in essential reading strategies. Students will engage with research-based instructional programs to develop and strengthen key reading skills, including comprehension, vocabulary, phonics, phonemic awareness, and fluency. Through a combination of interactive lessons, guided practice, and independent reading activities, students will apply various strategies to decode text, understand complex vocabulary, and enhance overall reading comprehension.

**Credits** 1

**Length**

Year

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Any student who is receiving special education services and whose Individualized Educational Program (IEP) indicates the appropriateness of the Reading Improvement 1 -4 course offerings.

**Prerequisites**

None

## Social Skills 1 - 4

Social Skills 1 - 4 are special education elective courses considered and decided upon by an IEP team that provide students with specialized instruction in the social skills they need to effectively participate in the school environment and in the community. Specific skills are identified through IEP goals and may focus on communication skills, conflict resolution, social interaction, teamwork, and self-regulation. Through practical exercises, role-playing, and real-world application, students will gain the tools needed to navigate social situations confidently and build meaningful connections.

**Credits** 1

**Length**

Year

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Any student who is receiving special education services and whose Individualized Educational Program (IEP) indicates the appropriateness of the Social Skills 1 -4 course offerings.

**Prerequisites**

None

## Transitional Work Skills

This course is intended to address the vocational needs of high school students participating in the Virginia Alternate Assessment Program. Course proficiencies can contribute in the development of the student's transition plan. Pre-vocational and vocation tasks will be the fundamental areas of instruction. The focus of this course, Transitional Work Skills, is to provide students with opportunities to develop competencies required for increased independence and to facilitate post-secondary employment. This course will be open to any student who is receiving special education services at the high school level whose Individualized Education Program (IEP) indicates the need for vocational skills, to include students with disabilities who are English learners.

**Credits** 1

**Length**

Year

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Any student whose Individualized Educational Program (IEP) indicates the appropriateness of Transitional Work Skills is eligible for this course.

**Prerequisites**

None

# English

## Advanced English 9

Advanced English 9 offers a rigorous and enriched curriculum for students prepared to engage in deeper literary analysis and more sophisticated writing. In alignment with the 2024 Virginia Standards of Learning, this course challenges students to interpret complex texts, craft analytical and argumentative essays with precision, and participate in academic discourse. Emphasis is placed on advanced vocabulary, grammar, and research skills, as well as multimodal communication and collaborative inquiry. Designed to prepare students for AP English and other advanced coursework, this class fosters intellectual curiosity, independence, and a strong foundation in academic literacy.

**Credits** 1

**Grades**

9

**Course Designation**

Weighted (0.5W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Requirements**

Successful completion of Grade 8 and interest in Advanced study

**Prerequisites**

None

## Advanced English 10

Advanced English 10 offers a challenging curriculum for students seeking deeper engagement with literature, writing, and critical thinking in preparation for AP English courses and other advanced academic pathways. Aligned with the 2024 Virginia Standards of Learning, this course emphasizes sophisticated literary analysis, advanced composition techniques, and nuanced interpretation of complex texts from diverse genres and cultures. Students will craft analytical, argumentative, and creative pieces with attention to voice, structure, and style, while refining grammar and vocabulary in context. Research and multimodal communication are integral, with students conducting independent inquiries and presenting findings through varied formats. Class discussions and collaborative projects foster academic discourse and intellectual independence, equipping students with the skills necessary for success in college-level English and interdisciplinary studies.

**Credits** 1

**Grades**

10

**Course Designation**

Weighted (0.5W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Requirements**

Student interest in Advanced study and teacher recommendation

**Prerequisites**

Advanced English 9 ***or*** English 9

## English 9

English 9 introduces students to a broad range of literary and nonfiction texts, fostering foundational skills in reading comprehension, writing, speaking, listening, and research. Aligned with the 2024 Virginia Standards of Learning, the course emphasizes literary analysis, narrative and expository writing, vocabulary development, and grammar in context. Students will explore themes across cultures and genres, engage in collaborative discussions, and begin developing research and multimodal communication skills. This course prepares students for continued growth in literacy and critical thinking throughout high school.

**Credits** 1

**Grades**

9

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

## English 10

This course builds upon foundational literacy skills to deepen students' abilities in reading, writing, speaking, listening, and research. Aligned with the 2024 Virginia Standards of Learning, English 10 emphasizes critical analysis of literary and nonfiction texts from diverse cultures and time periods. Students will refine their writing through narrative, analytical, and argumentative compositions, with a focus on organization, style, and grammar. Vocabulary development and language conventions are integrated throughout the curriculum. Learners will engage in multimodal communication and collaborative discussions, strengthening their ability to present ideas clearly and effectively. Research skills are expanded through inquiry-based projects that require evaluation and synthesis of credible sources. This course prepares students for advanced literacy demands in academic and real-world contexts.

**Credits** 1

**Grades**

10

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

English 9

## English 11

English 11 focuses on American literature and the development of advanced literacy skills aligned with the 2024 Virginia Standards of Learning. Students will read and analyze texts from a range of historical periods and cultural perspectives, exploring themes central to the American experience. Special emphasis is placed on the contributions of diverse cultures to American literary voices and themes, highlighting how these perspectives shape and enrich the national narrative. Writing instruction emphasizes analytical, persuasive, and research-based compositions, with continued attention to grammar, usage, and vocabulary. Students will refine their ability to communicate effectively through speaking, listening, and multimodal presentations. Research skills are strengthened through inquiry projects that require evaluation of sources and synthesis of ideas. This course supports students in preparing for the English 11 Standards of Learning assessment and future academic writing demands.

**Credits** 1

**Grades**

11

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

English 10

## English 12

English 12 centers on British and world literature, guiding students in the exploration of global themes, historical contexts, and literary traditions. Aligned with the 2024 Virginia Standards of Learning, the course emphasizes critical reading, literary analysis, and effective writing across genres. Students will produce narrative, analytical, and argumentative texts, with continued development of grammar, vocabulary, and style. Research and presentation skills are refined through inquiry-based projects and multimodal communication. Class discussions and collaborative tasks support students in articulating ideas and engaging with diverse perspectives. English 12 prepares students for postsecondary literacy demands and civic participation.

**Credits** 1

**Grades**

12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

English 11

# English - Advanced Placement

## AP English Language and Composition

AP English Language and Composition course cultivates the reading and writing skills that students need for college success and for intellectually responsible civic engagement. The course guides students in becoming curious, critical, and responsive readers of diverse texts and becoming flexible, reflective writers of texts addressed to diverse audiences for diverse purposes. The reading and writing students do in the course should deepen and expand their understanding of how written language functions rhetorically: to communicate writers' intentions and elicit readers' responses in particular situations. This course includes nonfiction readings to give students opportunities to identify, explain, and emulate an author's use of rhetorical strategies and techniques. Fiction and poetry may also be assigned to help students understand how various effects are achieved by writers' rhetorical choices. This course satisfies all the objectives for English 11. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Requirements**

Student interest in advanced study and teacher recommendation

**Prerequisites**

Successful completion of Advanced English 10 ***or*** English 10

## AP Literature and Composition

In the AP English Literature and Composition course, students study literary works written in (or translated into) English. Careful reading and critical analysis of such works of fiction, drama, and poetry provide rich opportunities for students to develop an appreciation of how literature reflects and comments on a range of experiences, institutions, and social structures. Students will examine the choices literary writers make and the techniques they utilize. Students develop the skills of literary analysis and composition as they practice analyzing poetry and prose, while composing arguments about their interpretation of a literary work. This course satisfies all the objectives for English 12. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Requirements**

Student interest in advanced study and teacher recommendation

**Prerequisites**

Successful completion of AP English Language and Composition ***or*** English 11

## AP Research

This course cultivates the skills and discipline necessary to conduct independent research in order to produce and defend a scholarly academic thesis. The course offers an opportunity for students to explore an academic topic, problem, or issue of individual interest. Through this exploration, students design, plan and conduct a yearlong mentored, research-based investigation to address a research question. The course culminates in an academic thesis paper and a presentation with an oral defense. Students may qualify for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

AP Seminar

## AP Seminar

The Capstone curriculum is designed to further develop inquiry and research skills as applied to topics of global relevance. The program helps foster communication, collaboration, and creative skills to improve college and career readiness and success. Students participating in this program have required tasks that include a team project, and an individual presentation, and are expected to take the accompanying AP Exam which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

None

## English 10: AP Seminar

The Capstone curriculum is designed to further develop inquiry and research skills as applied to topics of global relevance. The program helps foster communication, collaboration, and creative skills to improve college and career readiness and success. This course satisfies all the objectives for English 10. Students participating in this program have required tasks that include a team project, and an individual presentation, and are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit. After completing English 10: AP Seminar, students are eligible to enroll in the subsequent AP Research course and may be eligible for the AP Capstone Diploma.

**Credits** 1

**Grades**

10

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Requirements**

Student interest in advanced study and teacher recommendation

**Prerequisites**

Successful completion of Advanced English 9 ***or*** English 9

# English - Center for Fine and Performing Arts Creative Writing Program

## Advanced Creative Writing Workshop and Seminar

In this capstone course, Advanced creative writing students will work on written pieces of their choice, in genres of their choosing, under the guidance of an instructor.
**Credits** 1
**Grades**
12
**Schools**
High School Currently Unavailable
**Requirements**
Must be in the CFPA program
**Prerequisites**
A grade of C or better in Creative Writing Exploration ***and*** a grade of C or better in ***two*** Advanced Genre Focus courses:

- Advanced Genre Focus - Poetry and Fiction
- Advanced Genre Focus - Script Writing and Creative Nonfiction
- Advanced Genre Focus - Writing for Publication

## Advanced Genre Focus - Poetry and Fiction

Students will extend their study of classic and contemporary fiction writers and poets; read, analyze, and respond to craft essays on fiction and poetry writing; write original works focusing on the development of characterization, plot structure, story frames, point of view, dialogue, style, voice, sensory imagery, and figurative language.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Colgan High School
**Prerequisites**
A grade of C or better in Creative Writing Exploration

## Advanced Genre Focus - Script Writing and Creative Nonfiction

Students will explore the composing processes of professional writers; view, analyze, and critique classic and contemporary plays, films, and broadcasts for dramatic structure; write for live theatre and screen; study different types of creative nonfiction writing; write original works focusing on the development of voice, style, and tone.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Colgan High School
**Prerequisites**
A grade of C or better in Creative Writing Exploration

## Advanced Genre Focus - Writing for Publication

Students contribute to the production of literary magazines and publications which includes elements of graphic arts, marketing, and business management. Priority enrollment will be given to CFPA creative writing students. This course may be repeated for credit. CFPA students from other disciplines may request to waive the prerequisite with special permission from the course instructor.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Colgan High School
**Prerequisites**
A grade of C or better in Creative Writing Exploration

## Creative Writing Exploration

Students read, analyze, and write in a variety of genres, learn and collaborate with other writers as they explore writing techniques and the writing process to develop polished pieces in fiction, creative nonfiction, poetry, and scriptwriting.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Colgan High School
**Prerequisites**
None

# English - Dual Enrollment

## College Composition 12 (DE)

Students will complete ENG 111 College Composition I in the Fall and English 112 College Composition II in the Spring. In ENG 111 students learn to write for various types of college writing and focus on the process of writing, expository and argumentative writing, and critical thinking and research. In ENG 112 students continue preparation for college-level writing with a focus on critical essays and argumentation. Students will read, study, research, and respond to a variety of literary texts reflecting the human experiences. Students must earn a grade of C or better to continue to ENG 112. Those who do not will be moved to a non-college-level courses to satisfy English 12 requirements. Students must earn a C or better in ENG 111 and ENG 112 to receive credit for English 12. Successful completion of this course equates to completion of ENG 111 (3 credits) and ENG 112 (3 credits) at NOVA.

**Credits** 1

**Grades**

12

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

English 11

**Notes**

To enroll in this course, students must meet all eligibility requirements established by NOVA.

## Introduction to Speech Communications (DE)

CST 110, Principles of Public Speaking, applies theory and principles of public address with emphasis on preparation and delivery. Students spend the semester focusing on how to become proficient at preparing and presenting speeches in public. Introduction to Communication, examines the elements affecting speech communication at the individual, small group, and public communication levels with emphasis on practice of communication at each level. Students focus on how to effectively communicate with others in various situations including interviews, small groups, and speeches. Successful completion of this course equates to completion of CST 110 Principles of Public Speaking (3 credits) at NOVA.

**Credits** 1

**Grades**

9, 10, 11, 12

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

High School Currently Unavailable

**Prerequisites**

None

**Notes**

Most colleges and universities require students to take a course in oral communication to earn a degree. Taking the Introduction to Communication course and the Principles of Public Speaking course satisfies that requirement at most schools and gives students an elective credit as well.

To enroll in this course, students must meet all eligibility requirements established by NOVA.

## SOL College Composition 11 (DE)

Students will complete ENG 111 College Composition I in the Fall and English 112 College Composition II in the Spring. In ENG 111 students learn to write for various types of college writing and focus on the process of writing, expository and argumentative writing, and critical thinking and research. In ENG 112 students continue preparation for college-level writing with a focus on critical essays and argumentation. Students will read, study, research, and respond to a variety of literary texts reflecting the human experiences. Students must earn a grade of C or better to continue to ENG 112. Those who do not will be moved to a non-college-level courses to satisfy English 11 requirements. Students must earn a C or better in ENG 111 and ENG 112 to receive credit for English 11. Successful completion of this course equates to completion of ENG 111 (3 credits) and ENG 112 (3 credits) at NOVA.

**Credits** 1

**Grades**

11

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

Battlefield High School
Forest Park High School
Freedom High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

English 10

**Notes**

To enroll in this course, students must meet all eligibility requirements established by NOVA.

## Survey of World Literature 12 (DE)

Students will examine literary texts across a variety of cultures, genres, and time periods. They will focus on developing critical thinking and interpretive skills through close reading, discussion, and analysis of literary texts from around the world in their historical, cultural, social, and/or literary contexts. Students will look at the diversity and depth of the human experience through literature across a variety of cultures and traditions. Successful completion of this course equates to ENG 255 World Literature (3 credits) at NOVA.

**Credits** 1

**Grades**

12

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

Battlefield High School
Forest Park High School
Freedom High School
Patriot High School
Woodbridge High School

**Prerequisites**

SOL College Composition 11 (DE)

**Notes**

To enroll in this course, students must meet all eligibility requirements established by NOVA.

# English - Electives

## Creative Writing 1

Creative Writing 1 invites students to explore and develop their unique writing voice and style through extensive practice and revision. Students will experiment with a wide range of subjects, genres, techniques, purposes, and audiences, producing polished original works in fiction, nonfiction, poetry, and drama. Emphasis is placed on creativity, craft, and the writing process—from brainstorming and drafting to peer feedback and final publication. Students will submit selected pieces for inclusion in the school's literary magazine, gaining experience in preparing work for public readership. This course fosters imaginative expression, critical reflection, and confidence in sharing ideas through the written word.

**Credits** 1

**Grades**

10, 11, 12

9 with Permission

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School

**Requirements**

Successful mastery of Grade 9 and Grade 10 Language Arts objectives

## Creative Writing 2

Creative Writing 2 is designed for students who have successfully completed Creative Writing 1 and wish to further refine their craft. This advanced course deepens students' understanding of voice, style, and technique through extensive writing and revision across multiple genres, including fiction, nonfiction, poetry, and drama. Students will study the composing processes of professional writers to inform their own creative choices and enhance their literary awareness. A key component of the course is active participation in the production of the school's literary magazine, offering students authentic experience in editing, design, and publication. Creative Writing 2 fosters artistic growth, critical reflection, and preparation for future creative endeavors.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

Creative Writing 1

## English 9 Seminar

Students who did not pass the 8th grade language arts SOLs or are two or more years below grade level in reading are required to participate in this remedial program which does not replace English 9. Students work intensely with reading comprehension strategies and the writing domains in a small class setting. An opportunity to retake the 8th grade SOLs is offered in the spring.

**Credits** 1

**Grades**

9

**Schools**

High School Currently Unavailable

**Notes**

Assigned based on SOL Language Arts scores

## Enrichment in Speech Communication

Enrichment in Speech Communications is designed for students who have completed Introduction to Speech and wish to further develop their public speaking and performance skills. This advanced course reinforces and refines foundational techniques while expanding students' abilities in competitive speaking formats. Students will prepare for and participate in intra-scholastic contests including Forensics, Student Congress, Lincoln-Douglas Debate, and/or Policy Debate, gaining experience in argumentation, interpretation, and formal presentation. Emphasis is placed on advanced delivery strategies, critical thinking, and audience awareness. Through practice, performance, and peer critique, students build confidence and versatility as communicators in academic and competitive settings.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

High School Currently Unavailable

**Prerequisites**

Introduction to Speech Communication

## Global Connections in Multicultural Literature

Global Connections in Multicultural Literature is a junior/senior enrichment course designed to immerse students in the lifestyles, cultures, traditions, and experiences of various ethnic groups within American culture through the study of representative literature, field trips, speakers, and projects. Students broaden their understanding of multicultural literature by drawing upon personal experiences, discussions, and presentations as they expand their understanding of America's diverse and changing society.

**Credits** 1

**Grades**

11, 12

**Schools**

High School Currently Unavailable

**Requirements**

Teacher recommendation

## Introduction to Speech Communication

Introduction to Speech develops students' public speaking skills while exploring the dynamics of effective verbal communication. Students will learn the principles of speech delivery, audience engagement, and rhetorical strategies across a variety of formats. The course introduces categories of competitive speech (forensics), including original oratory, extemporaneous speaking, and dramatic interpretation. Through the creative process of oral interpretation, students will analyze and perform literary texts, enhancing their expressive abilities and confidence. Emphasis is placed on preparation, performance, and constructive critique, equipping students with the tools to speak with clarity, purpose, and impact in academic and real-world settings.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Gainesville High School
Osbourn Park High School
Woodbridge High School

**Prerequisites**

None

## Journalism 1

Journalism 1 introduces students to the fundamentals of journalistic writing and media production. Students will study and produce a variety of article types, including news, features, sports, editorials, and human-interest stories, while developing skills in interviewing, research, and ethical reporting. The course also explores legal rights and responsibilities of journalists, page design, photography, desktop publishing, and advertising. Emphasis is placed on real-world application, with students contributing original content for publication in school and local media outlets. Journalism 1 fosters critical thinking, media literacy, and effective communication in both print and digital formats.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School

**Requirements**

Successful completion of previous English courses and teacher recommendation

## Journalism 2

Journalism 2 is an advanced course for students who have completed Journalism I and are ready to apply their skills in a professional, collaborative setting. Students work as a newsroom team to produce a school news publication, taking on roles in writing, editing, photography, design, and layout. Building on foundational techniques, students refine their journalistic voice and apply ethical standards, research strategies, and media production skills in real-world contexts. Emphasis is placed on teamwork, editorial decision-making, and meeting publication deadlines. Journalism 2 provides authentic experience in media creation and prepares students for leadership roles in student journalism and beyond.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Gainesville High School
Patriot High School
Woodbridge High School

**Requirements**

Journalism teacher recommendation

**Prerequisites**

Journalism 1

## Journalism 3

Journalism 3 is an advanced course for experienced student journalists who are ready to take on editorial leadership and mentor roles within the publication staff. Students deepen their understanding of professional journalism by studying the role of the press in society, developing editorial judgment, and modeling ethical standards. As leaders, mentors, and peer tutors, students guide the newsroom team through the production process and uphold the quality and integrity of the publication. Journalism 3 fosters professionalism, collaboration, and civic responsibility through authentic journalistic practice.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Gainesville High School
Patriot High School

**Prerequisites**

Journalism 2

## Journalism 4

Journalism 4 is for student journalists who have demonstrated mastery of reporting, writing, and editorial leadership. This advanced class emphasizes innovation, investigative journalism, and multimedia storytelling. Students could take full responsibility for managing the publication process, including setting editorial policy, overseeing production schedules, and ensuring adherence to professional standards. Students pursue in-depth independent projects. Journalism 4 prepares students for college-level journalism and media careers by fostering independence, ethical decision-making, and advanced communication skills in a dynamic, real-world context.

**Credits** 1

**Grades**

12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Gainesville High School
Patriot High School

**Prerequisites**

Journalism 3

## PSAT - SAT® Verbal-Math Preparation Class

Students study and practice the skills necessary for improving scores on the PSAT - SAT® tests.

**Credits** 0.5

**Grades**

10, 11, 12

**Schools**

High School Currently Unavailable

**Prerequisites**

English 9
Geometry

## Photo Journalism - Yearbook

Yearbook is a hands-on course in publication design and production, where students collaborate to create the high school yearbook from concept to completion. Students learn and apply skills in layout design, photography, writing, editing, and desktop publishing. They participate in every stage of production, including planning the ladder diagram, organizing content, designing pages, and distributing the final publication. Emphasis is placed on teamwork, time management, and attention to detail. This course offers students a unique opportunity to document the school year while developing real-world communication and media skills. Yearbook may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Yearbook staff assignment

## Reading Support and Development

This course is designed to support students who need specific instruction in reading and writing secondary content material. It aims to strengthen literacy skills and strategies, particularly for those reading one year or more below expected grade level according to appropriate literacy screeners. The course provides direct instruction in content area reading skills

Additionally, the course provides differentiated instruction specific to student needs through the application of evidence-based literacy strategies such as questioning, visualizing, connecting, predicting, summarizing, and monitoring one's understanding. Through these focused areas, students will develop the necessary skills to navigate and comprehend complex secondary content material.

**Credits** 1
**Length**
Year
**Grades**
9, 10, 11, 12
**Schools**
Gainesville High School
Hylton High School
Unity Reed High School
**Requirements**
Students reading two to four years below grade level

# English - Cambridge Programme

## AICE English Language and Composition (AS)

AICE English Language and Composition is an Advanced language and composition course which meets all the objectives for English 11 and employs an international curriculum. Focusing on reading and writing from a wide variety of genres, styles, and contexts, students respond in critical and detailed analysis through directed writing, oral presentations, and group discussion. Students meet the requirements for an Advanced International Certificate of Education Diploma and Advanced Placement English Language and Composition credit with possible college credit through successful completion of external assessments.

**Credits** 1
**Grades**
11
**Course Designation**
Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)
**Schools**
Brentsville District High School
Potomac High School
**Requirements**
Student interest in Advanced study and teacher recommendation
**Prerequisites**
IGCSE English 10 ***or*** a grade of B or better in English 10

## AICE English Literature (A Level)

Students in AICE English Literature A Level, while meeting all objectives for English 12, follow an accelerated, international curriculum. They study a range of texts in the three main forms of literature: prose, poetry, and drama. A variety of texts are offered from a wide range of different periods and cultures. Students enhance their reading skills and expand their ability to analyze text. Diverse reading material assists students in their comprehension of the work of various authors and expedites their ability to speak coherently about all forms of literature. Students meet the requirements of an Advanced International Certificate of Education (AICE) with possible college credit through successful completion of external assessments.

**Credits** 1

**Grades**

12

**Course Designation**

Advanced Level (A),
Cambridge,
Weighted (1.0W)

**Schools**

High School Currently Unavailable

**Requirements**

Student interest in Advanced study and teacher recommendations

**Prerequisites**

A grade of B or better in AICE English Language and Composition (AS)

## AICE English Literature (AS Level)

Students in AICE English Literature, while meeting all the objectives for English 12, follow an accelerated, international curriculum. They read a wide variety of texts from a broad range of cultures and literary periods. Students write both personal and formal literary responses to literature, practicing their skills of logical, critical analysis. Oral skills are honed in group and individual presentations and discussions. Students meet the requirements of an Advanced International Certificate of Education Diploma and Advanced Placement English Literature and Composition credit with possible college credit through successful completion of external assessments.

**Credits** 1

**Grades**

12

**Course Designation**

Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)

**Schools**

Brentsville District High School
Potomac High School

**Requirements**

Student interest in Advanced study and teacher recommendation

**Prerequisites**

AICE English Language and Composition (AS) ***or*** a grade of B or better in English 11

## IGCSE English 9

Students study a variety of literature to develop an awareness of the relationship between life and literary experience while completing all objectives of grade 9. Writing frequently for varied purposes, students develop critical thinking skills in analyzing and evaluating. Modified Oxford debates help develop oral skills. Vocabulary is increased through a study of Greek and Latin roots. Several independent research projects, large and small group participation, required outside reading, and a study of persuasion in the media are all part of this course.

**Credits** 1
**Grades**
9
**Course Designation**
Cambridge,
Weighted (0.5W)
**Schools**
Brentsville District High School
Potomac High School
**Requirements**
Successful completion of Grade 8 and interest in Advanced study
**Prerequisites**
None

## IGCSE English 10

Students analyze a variety of genres to understand the structural elements and the relationship of those elements to the meaning of the work and its literary tradition. Through frequent personal and literary writing, students study the principal essay forms of narrative, descriptive, expository, persuasive, and documented essays. Students increase vocabulary, evaluate critically, write and speak persuasively and responsibly, as well as present dramatic material effectively. Assessment will include an external student examination.

**Credits** 1
**Grades**
10
**Course Designation**
Cambridge,
Weighted (0.5W)
**Schools**
Brentsville District High School
Potomac High School
**Requirements**
Student interest in Advanced study and teacher recommendation
**Prerequisites**
IGCSE English 9 ***or*** a grade of B or better in English 9

# English - IB Programme

## Advanced Middle Years Programme English 9

Advanced Middle Years Programme (MYP) English 9 prepares students planning to enroll in the IB Sequence of English classes. Students will complete all objectives of English 9 in an accelerated program. Students expand speaking skills by creating presentations from group and individual research. In class studies, emphasis is placed on the reading and analysis of complex texts, and independent reading is expected. Students develop both grammar and vocabulary skills in conjunction with frequent writing in all expository modes. Development of critical analysis and support in thinking and writing are emphasized. This course will incorporate the MYP global contexts, strategies, and assessments.

**Credits** 1
**Grades**
9
**Course Designation**
International Baccalaureate (IB),
Weighted (0.5W)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Successful completion of Grade 8 and interest in Advanced study
**Prerequisites**
None

## Advanced Middle Years Programme English 10

Advanced Middle Years Programme (MYP) English 10 prepares students planning to enroll in IB English courses in Grades 11 and 12. Students will complete all English 10 objectives through an accelerated program using challenging in-depth readings. Grammar and vocabulary studies are structured to support reading and writing levels. Oral skills are honed in group and individual presentations and discussions. Formal writings are evaluated for close analysis, elaboration of details, and fluid articulation of ideas. This course will incorporate the MYP global contexts, strategies, and assessments.

**Credits** 1

**Grades**

10

**Course Designation**

International Baccalaureate (IB),
Weighted (0.5W)

**Schools**

Gar-Field High School
Unity Reed High School

**Requirements**

Student interest in Advanced study and teacher recommendation

**Prerequisites**

Advanced Middle Years Programme English 9 ***or*** a grade of B or better in English 9

## IB English 1 Literature (HL)

While meeting all the objectives for English 11, students follow an accelerated, internationally based curriculum. IB English 1 is part one of a two-year program in which students develop a knowledge of the literature and culture of both the United States and other countries. Reading from a variety of genres and texts, students develop and practice detailed and critical analysis in oral and written forms. Students produce one essay that is externally assessed by the IB Organization and one oral presentation that is internally assessed. In addition to these assessments, students will be required to complete additional assessments in IB English 2 to meet the requirements for a Higher Level IB Diploma or Certificate.

**Credits** 1

**Grades**

11

**Course Designation**

Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)

**Schools**

High School Currently Unavailable

**Requirements**

Student interest in Advanced study and teacher recommendation

**Prerequisites**

Advanced Middle Years Programme English 10 ***or*** a grade of B or better in English 10

## IB English 2 (SL)

While completing all the requirements of English 12, IB English 2, Standard Level, students work at a more accelerated pace learning to approach literature in an independent manner, expressing their ideas with precision, fluency, and clarity. Students develop an ability to comment on major works of literature and structure their writing in a logical and sustained manner. Successful completion of one externally assessed paper and an exam, as well as an internally assessed oral exam, meets the requirement for an IB Diploma or Certificate and may quality for Advanced standing in college and/or college credit.

**Credits** 1
**Grades**
12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Requirements**
Student interest in Advanced study and teacher recommendation
**Prerequisites**
IB English 1 Literature (HL) ***or*** a grade of B or better in English 11

## IB English 2 Literature (HL)

The students in IB English 2, while meeting all the objectives for English 12, complete the second year of the accelerated internationally based curriculum begun in IB English 1. Students refine their skills in structuring ideas and argumentation in a logical, persuasive, and sustained manner in both oral and written work. Students engage in independent literary criticism of major works of literature through detailed study, supporting their ideas with precise and relevant examples. In addition to the assessments completed in IB English 1, successful completion of an internally assessed oral exam, and two externally assessed written exams meet the requirements for a Higher Level IB Diploma or Certificate and may qualify for Advanced standing in college and/or college credit.

**Credits** 1
**Grades**
12
**Course Designation**
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
A grade of C or better in IB English 1 Literature (HL)

## IB English Language and Literature 1 (HL)

In this course, students study a wide range of literary and nonliterary texts in a variety of media. By examining communicative acts across literary form and textual type alongside appropriate secondary readings, students will investigate the nature of language itself and the ways in which it shapes and is influenced by identity and culture. Approaches to study in the course are meant to be wide-ranging and can include literary theory, sociolinguistics, media studies, and critical discourse analysis among others. Students study six works from a representative selection of literary forms, periods, and places.

**Credits** 1
**Grades**
11
**Course Designation**
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Student interest in Advanced study and teacher recommendation
**Prerequisites**
Advanced Middle Years Programme English 10 ***or*** a grade of B or better in English 10

## IB English Language and Literature 1 (SL)

In this course, students study a wide range of literary and nonliterary texts in a variety of media. By examining communicative acts across literary form and textual type alongside appropriate secondary readings, students will investigate the nature of language itself and the ways in which it shapes and is influenced by identity and culture. Approaches to study in the course are meant to be wide-ranging and can include literary theory, sociolinguistics, media studies, and critical discourse analysis among others. Students study four works from a representative selection of literary forms, periods, and places.

**Credits** 1
**Grades**
11
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
Advanced Middle Years Programme English 10

## IB English Language and Literature 2 (HL)

In this course, students study a wide range of literary and nonliterary texts in a variety of media. By examining communicative acts across literary form and textual type alongside appropriate secondary readings, students will investigate the nature of language itself and the ways in which it shapes and is influenced by identity and culture. Approaches to study in the course are meant to be wide-ranging and can include literary theory, sociolinguistics, media studies, and critical discourse analysis among others. Students study six works from a representative selection of literary forms, periods, and places. Students submit a 1200-1500 word essay on one of the works or bodies of works studied.

**Credits** 1
**Grades**
12
**Course Designation**
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Student interest in Advanced study and teacher recommendation
**Prerequisites**
IB English Language and Literature 1 (HL)

## IB English Language and Literature 2 (SL)

In this course, students study a wide range of literary and nonliterary texts in a variety of media. By examining communicative acts across literary form and textual type alongside appropriate secondary readings, students will investigate the nature of language itself and the ways in which it shapes and is influenced by identity and culture. Approaches to study in the course are meant to be wide-ranging and can include literary theory, sociolinguistics, media studies, and critical discourse analysis among others. Students study four works from a representative selection of literary forms, periods, and places.

**Credits** 1
**Grades**
12
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
IB English Language and Literature 1 (SL)

## IBMYP English 9

English 9 introduces students to a broad range of literary and nonfiction texts, fostering foundational skills in reading comprehension, writing, speaking, listening, and research. Aligned with the 2024 Virginia Standards of Learning, the course emphasizes literary analysis, narrative and expository writing, vocabulary development, and grammar in context. Students will explore themes across cultures and genres, engage in collaborative discussions, and begin developing research and multimodal communication skills. This course prepares students for continued growth in literacy and critical thinking throughout high school. The curriculum for IBMYP English 9 will incorporate MYP global contexts, strategies, and assessment criteria.

**Credits** 1
**Length**
Year
**Grades**
9
**Course Designation**
International Baccalaureate (IB)
**Schools**
Gar-Field High School
Unity Reed High School

## IBMYP English 10

This course builds upon foundational literacy skills to deepen students' abilities in reading, writing, speaking, listening, and research. Aligned with the 2024 Virginia Standards of Learning, English 10 emphasizes critical analysis of literary and nonfiction texts from diverse cultures and time periods. Students will refine their writing through narrative, analytical, and argumentative compositions, with a focus on organization, style, and grammar. Vocabulary development and language conventions are integrated throughout the curriculum. Learners will engage in multimodal communication and collaborative discussions, strengthening their ability to present ideas clearly and effectively. Research skills are expanded through inquiry-based projects that require evaluation and synthesis of credible sources. This course prepares students for advanced literacy demands in academic and real-world contexts. The curriculum for IBMYP English 10 will incorporate MYP global contexts, strategies, and assessment criteria.

**Credits** 1
**Length**
Year
**Grades**
10
**Course Designation**
International Baccalaureate (IB)
**Schools**
Gar-Field High School
Unity Reed High School

# General Cross-Curricular

## AP Business and Personal Finance

AP Business with Personal Finance is a year-long high school business and personal finance course that aligns closely with a college-level introduction to business course. Students explore the business disciplines of entrepreneurship, marketing, finance, accounting, and management through real-world business applications, case studies, and project-based learning.

This course fulfills the Economics and Personal Finance graduation requirements.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Colgan High School
Forest Park High School
Woodbridge High School
**Notes**
This course fulfills the Economics and Personal Finance graduation requirements.

## AP Cybersecurity

AP Cybersecurity is a year-long high school course that offers a broad introduction to the field and aligns closely with a college-level, introductory cybersecurity course. Students learn about common threats and vulnerabilities and how they combine to create risk. Students study how individuals and organizations manage risk and how risk can be mitigated through a defense-in-depth strategy. Students explore specific vulnerabilities, attacks, mitigations, and detection measures across a variety of domains including physical spaces, computer networks, devices, and data and applications.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Colgan High School
Woodbridge High School

## Athletic and Sports Leadership Development

This course provides leadership skills and lessons for students that participate in athletics and want to extend their knowledge of being a leader. Upon completion of this course, students will understand the importance of teambuilding, create mission and vision statements, develop refined public speaking skills, examine the importance of reflection, and assess the value of building relationships within the team and with coaches.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Freedom High School
Woodbridge High School
**Prerequisites**
None

## IB Theory of Knowledge

IB Theory of Knowledge is a course required for IB Diploma candidates. It is designed to foster in students a habit of mind that reflects on human ways and limits of knowing as well as on the human ability to communicate these ways of knowing. Students will explore fundamental questions of epistemology by reflecting and questioning the basis of knowledge and experience, examining cultural and ideological bias, and by formulating rational arguments and value judgments of their own. Academic disciplines examined include language, history, logic, science, mathematics, ethics, and aesthetics. The course includes an externally assessed paper and an internally assessed oral presentation.
**Credits** 1
**Grades**
12
**Course Designation**
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
Unity Reed High School
**Requirements**
IB diploma candidacy or at least four IB classes taken concurrently

## Leadership Development 1, 2, & 3

Students will learn about the aspects of leadership by looking at historical and modern examples. Planning and implementing school activities will allow the students the practical application of leadership theory. Through the practice of planning, coordinating, and implementing school wide activities, students will be exposed to a wide variety of leadership experiences. Each student enrolled in the course is assigned a position in which they are responsible for specific tasks that support the student body.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Application and interview

**Prerequisites**

None

# The Governor's School @ Innovation Park Math

## GS Calculus 1

GS Calculus 1 is an analytic geometry and calculus-based course utilizing Advanced technologies which includes a study of functions, limits, derivatives, maximum and minimum problems, integrals, and transcendental functions. Each topic will be taught with a problem-solving approach emphasizing students' ability to analyze, model and solve real world problems.

**Credits** 0.5

High School credit

**Grades**

11, 12

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

Governor's School @ Innovation Park

**Prerequisites**

GS Pre-Calculus

**Notes**

GMU MATH 115 - 4 credits

## GS Calculus 2

GS Calculus 2 is an analytic geometry and calculus-based course utilizing Advanced technologies which includes a study of methods of integration, conic sections, parametric equations, infinite series, and power series. Each topic will be taught with a problem-solving approach emphasizing students' ability to analyze, model and solve real world problems. Students will be prepared to take the Advanced Placement Calculus BC exam at the end of this two-course sequence

**Credits** 0.5

High School credit

**Grades**

11, 12

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

Governor's School @ Innovation Park

**Prerequisites**

GS Pre-Calculus

**Notes**

GMU MATH 116 - 4 credits

## GS Linear Algebra

GS Linear Algebra focuses on the study of systems of linear equations, linear independence, linear transformations, inverse of a matrix, determinants, vector spaces, eigenvalues, eigenvectors, and orthogonalization.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
GS Calculus
**Notes**
GMU MATH 203 - 3 credits

## GS Multivariable Calculus

GS Multivariable Calculus follows GS Calculus and includes a study of vectors and vector-valued functions, partial differentiation, multiple integrals, line integrals, surface integrals, and transformation of coordinates.
**Credits** 0.5
High School credit
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
GS Calculus
**Notes**
GMU MATH 215 - 3 credits

## GS Pre-Calculus

GS Pre-Calculus is a pre-calculus mathematics course utilizing Advanced technologies designed to support the science program and provide a thorough preparation for calculus and other Advanced mathematics courses. The course will include college Algebra and trigonometry with an emphasis on vectors and a comprehensive introduction to calculus.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
Algebra 2 ***or*** Trigonometry
**Notes**
GMU MATH 105 - 4 credits

## GS Statistics

GS Statistics is an elementary introduction to statistics with applications to all fields of study. Topics include data analysis for one and two variables, probability, estimation and hypothesis testing for proportions and means, correlation, and regression.
**Credits** 0.5
**Length**
Semester
High School Credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
GS Calculus 1
**Notes**
GMU STAT 250 - 3 credits

# The Governor's School @ Innovation Park Science

## GS Anatomy and Physiology

This course is an introduction to the structure and function of the body's major organ systems. The course will cover basic principles of biology and chemistry required to understand physiology. Students will study the chemical, cellular and tissue levels of organization in the human body and begin a survey of organ systems with a study of the structure and function of the integumentary, skeletal, muscular and nervous systems. Laboratory exercises are designed to reinforce lecture material by providing opportunities for both observation and manipulation of anatomical structures and experiments in physiological principles.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Biology 103 and Biology 104
**Notes**
GMU BIOLOGY 124 and LAB - 4 credits

## GS Bioengineering

Surveys the field of bioengineering and the global impact of technology innovation in solving problems in biology and medicine with an emphasis on engineering tools and concepts. Introduces mathematical modeling and analysis of bioengineering problems through the use of standard software packages for simulation. Discusses the history, ethical/social implications, and career paths in Bioengineering. CDS-130 is an introductory course in how to think computationally. Thinking computationally is a problem solving methodology where computational tools (e.g., MATLAB) are used to solve scientific problems. Thinking computationally approaches problem solving by first developing a theoretical model to represent what is happening in a natural event and then converting that model into a computer simulation to solve the problem being investigated.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
None
**Notes**
GMU BENG 101 - 3 credits

## GS College Physics 1

This is a two-semester basic physics course with emphasis on topics of classical and modern physics of particular importance to science majors. Principles of mechanics, heat, electricity, magnetism, optics, and atomic and nuclear physics are discussed.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
Algebra 2 or Trigonometry; ***and*** a grade of C or better in Chemistry
**Notes**
GMU PHYS 243 and LAB 244 - 4 credits

## GS College Physics 1 Lab

Enrollment in this lab requires concurrent enrollment in GS College Physics 1.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
Algebra 2 or Trigonometry; ***and*** a grade of C or better in Chemistry
**Notes**
GMU PHYS 243 and LAB 244 - 4 credits

## GS College Physics 2

Successful completion of PHYS 243 with a C or better is prerequisite to PHYS 245. Two-semester basic physics course with emphasis on topics of classical and modern physics of particular importance to science majors. Principles of mechanics, heat, electricity, magnetism, optics, and atomic and nuclear physics are discussed.
**Credits** 0.5
High School credit each
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
Algebra 2 or Trigonometry; ***and*** a grade of C or better in Chemistry
**Notes**
GMU PHYS 245 and LAB 246 - 4 credits

## GS College Physics 2 Lab

Enrollment in this lab requires concurrent enrollment in GS College Physics 2.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
Advanced Algebra 2
A grade of C or better in Chemistry
**Notes**
GMU PHYS 245 and LAB 246 - 4 credits

## GS Computer Science 1

Utilizing JAVA programming language, focuses on problem solving, testing, and debugging; and introduces object-oriented programming. Topics include classes, inheritance, packages, collections, exceptions, and polymorphism. Examples in the course may include the use of basic data structures.
**Credits** 0.5
High School credit
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
None
**Notes**
GMU CS 112 - 4 credits

## GS Computer Science 2

Introduces the use of computer programming as a problem-solving tool. Topics in procedural programming include expressions, control structures, simple data types, input/output, graphical interfaces, testing, debugging, and programming environments.
**Credits** 0.5
High School credit
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in CS 112
**Notes**
GMU CS 211 - 4 credits

## GS Computing for Scientists

CDS-130 is an introductory course in how to think computationally. Thinking computationally is a problem solving methodology where computational tools (e.g., MATLAB) are used to solve scientific problems. Thinking computationally approaches problem solving by first developing a theoretical model to represent what is happening in a natural event and then converting that model into a computer simulation to solve the problem being investigated.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
None
**Notes**
GMU CDS 130 - 3 credits

## GS Environmental Chemistry

This course in modern chemistry is an introduction to major topics of environmental chemistry. Topics include atmospheric chemistry and air pollution, energy and climate change, water chemistry and water pollution, and select topics on toxic organic compounds. The laboratory component focuses on water chemistry yet includes atmospheric chemistry and analytical chemistry topics.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Chemistry 211 and Chemistry 212
**Notes**
GMU CHEM 155 and LAB - 3 credits

## GS Environmental Chemistry Lab

Enrollment in this lab requires concurrent enrollment in GS Environmental Chemistry.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Chemistry 211 and Chemistry 212
**Notes**
GMU CHEM 155 and LAB - 3 credits

## GS General Biology 1

Introductory Biology 1 is a focused survey course with objectives centered on the chemistry of life; cells and molecular structure; cell functions; enzymes and their roles and functions; genetics and DNA; and diversity of life and evolution.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Advanced ***or*** Honors Biology
**Notes**
GMU BIOLOGY 103 and LAB 105 - 4 credits

## GS General Biology 1 Lab

Enrollment in this lab requires concurrent enrollment in GS General Biology 1.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Advanced ***or*** Honors Biology
**Notes**
GMU BIOLOGY 103 and LAB 105 - 4 credits

## GS General Biology 2

Topics in this course include animal (including human) structure, function, homeostatic mechanisms, organ systems, behavior, higher plant systems, and major concepts in ecology.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Biology 103 and Lab 105
**Notes**
GMU BIOLOGY 104 and LAB 106 - 4 credits

## GS General Biology 2 Lab

Enrollment in this lab requires concurrent enrollment in GS General Biology 2.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Biology 103 and Lab 105
**Notes**
GMU BIOLOGY 104 and LAB 106 - 4 credits

## GS General Chemistry 1

This course offers basic facts and principles of chemistry, including atomic and molecular structure, gas laws, kinetics, equilibrium, electrochemistry, nuclear chemistry, and properties and uses of the more important elements and their compounds.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Advanced ***or*** Honors Chemistry
**Notes**
GMU CHEM 211 and LAB - 4 credits

## GS General Chemistry 1 Lab

Enrollment in this lab requires concurrent enrollment in GS General Chemistry 1.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Advanced ***or*** Honors Chemistry
**Notes**
GMU CHEM 211 and LAB - 4 credits

## GS General Chemistry 2

This is a focused survey course with objectives that include physical and chemical changes and properties; interactions of matter; structures of atoms; and intermolecular forces.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Chemistry 211
**Notes**
GMU CHEM 212 and LAB - 4 credits

## GS General Chemistry 2 Lab

Enrollment in this lab requires concurrent enrollment in GS General Chemistry 2.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Chemistry 211
**Notes**
GMU CHEM 212 and LAB - 4 credits

## GS Geomatics

Introduces topographic surveying and engineering drawing for civil engineering applications. Topics include surveying, GPS, GIS, digital terrain modeling, design of horizontal and vertical curve geometry for road applications, engineering drawing concepts, and drawing with CAD-based software. Field work required on selected topics.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
None
**Notes**
GMU CEIE 203 - 3 credits

## GS Innovations (Non-Mason Equivalent)

As a result of the "Innovations" course, students will have gained an understanding of how to identify problems/issues that are global in nature, develop a thorough understanding of the nature of the problem/ issue through research, design creative and innovative solutions to the problem/issue, evaluate the solutions to the problem/issue using cost and value optimization scales, and implement the solution to the problem/issue using marketing strategies.
**Credits** 0.5
High School credit
**Grades**
11, 12
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
None
**Notes**
Students can repeat this course.

## GS Introduction to Engineering

This course introduces student to fundamental disciplines and concepts in engineering. Basic problem solving skills will be developed as applied to various engineering disciplines.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
None
**Notes**
GMU ENGR 107 - 2 credits

## GS Introduction to Organic Chemistry

This course in modern chemistry is an introduction to the major classes of organic compounds and biomolecules. Topics include structure, nomenclature, chemical and physical properties, and reactions of organic compounds as well as a survey of the biochemistry of proteins, carbohydrates, lipids, and nucleic acids. Students will also complete a laboratory section.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Chemistry 211 and Chemistry 212
**Notes**
GMU CHEM 104 and LAB - 4 credits

## GS Introduction to Organic Chemistry Lab

Enrollment in this lab requires concurrent enrollment in GS Introduction to Organic Chemistry.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Chemistry 211 and Chemistry 212
**Notes**
GMU CHEM 104 and LAB - 4 credits

## GS Introduction to Research 1 and 2

This course is designed to provide students with an opportunity to apply what they have learned from previous course work. They will design their own active inquiry experience, followed by engaging in research and preparing a technical paper and electronic presentation of their results. Students will have the opportunity not only to collaborate with their peers but with scientists from the industry and academia as well. Students enroll in mentorship research both junior and senior year, and have the option to either continue with the research topic chosen during the junior year for a more extended study during the senior year, or begin a new and more detailed topic of study for the senior year.
**Credits** 0.5
High School credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
None
**Notes**
This is for students who want to earn a GMU dual-enrollment credit as part of their strand mentorship research.

GMU COS 120 - 1 credit

## GS Microbiology

The course is an introduction to microbial cell structure, physiology and pathogenicity of various microorganisms including bacteria, viruses, and fungi. Emphasis is on host-parasite relationships, epidemiology, and immunology of infections. The students will also receive a broad coverage of various infectious diseases including etiological agents, modes of transmission, presentations of systems, and treatments and prevention. An environmental aspect will also be included to increase students' understanding of the utilization of microorganisms in environmental processes such as fermentation and waste management.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Introductory Biology 103 and Biology 104
**Notes**
GMU BIOLOGY 246 - 4 credits; LAB - only high school credit available

## GS Microbiology Lab

Enrollment in this lab requires concurrent enrollment in GS Microbiology.
**Credits** 0.5
High School credit
**Grades**
12
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Introductory Biology 103 and Biology 104
**Notes**
GMU BIOLOGY 246 - 4 credits; LAB - only high school credit available

## GS Practicum in Engineering

GS Practicum in Engineering course provides students with experiences in algorithmic thinking, visualization and communications of Engineering principals.
**Credits** 0.5
High School Credit
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
GS Introduction to Engineering
**Notes**
For Dual Enrollment: GMU ME 151 - 2 credits

## GS Statics

GS Statics is a course in applied vector mechanics with emphasis on static equilibrium. Topics include forces, moments, couples, equivalent force-couple systems, centroids, distributed forces, and Coulomb friction. The application of the free body diagram in the analysis of static equilibrium of frames, machines and trusses is stressed.
**Credits** 0.5
High School Credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
GS Practicum in Engineering
**Notes**
For Dual Enrollment: GMU ME 211 – 3 CREDITS

## GS Thermodynamics

Basic thermodynamics is a course in which the first and second laws of thermodynamics are studied primarily from the classical macroscopic viewpoint and applied to both closed and open systems. Working substances include perfect gases, real gases and vapors in addition to solids and liquids.
**Credits** 0.5
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
GS Statics
**Notes**
For Dual Enrollment: GMU ME 221 – 3 CREDITS

## GS University Physics 1

This is a two-semester calculus-based introductory physics sequence, designed primarily for science and engineering majors.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Physics 243 and Physics 246
**Corequisites**
Math 115 and Math 116
**Notes**
GMU PHYS 160 and LAB 161 - 4 credits

## GS University Physics 1 Lab

Enrollment in this lab requires concurrent enrollment in GS University Physics 1.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in Physics 243 and Physics 246
**Corequisites**
Math 115 and Math 116
**Notes**
GMU PHYS 160 and LAB 161 - 4 credits

## GS University Physics 2

Successful completion of PHYS 160 with a C or better is a prerequisite to PHYS 260. This is a two-semester calculus-based introductory physics sequence, designed primarily for science and engineering majors.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in PHYS 160
**Corequisites**
Math 115 and Math 116
**Notes**
GMU PHYS 260 and LAB 261 - 4 credits

## GS University Physics 2 Lab

Enrollment in this lab requires concurrent enrollment in GS University Physics 2.
**Credits** 0.5
High School credit
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Governor's School @ Innovation Park
**Prerequisites**
A grade of C or better in PHYS 160
**Corequisites**
Math 115 and Math 116
**Notes**
GMU PHYS 260 and LAB 261 - 4 credits

# High School Health and Physical Education

## Health & Driver Ed (Health & Driver Ed Credit)

This course is designed for students who received a Physical Education only credit towards graduation in 9th grade through Unified PE or JROTC. Students will explore health concepts necessary to develop the knowledge, skill, and habits needed to make safe and healthy decisions for a lifetime. Instruction includes family life education, healthy decision making, health concepts and promotion, First Aid, CPR and use of AED, and classroom driver education. Classroom driver education consists of a minimum of 36 periods of structured learning experiences aimed at developing safe and efficient drivers. Completion of driver education through private instruction does not exempt the student from completing all course objectives.
**Credits** 1
**Length**
Year
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Forest Park High School
Freedom High School
Gar-Field High School
Osbourn Park High School
**Prerequisites**
Unified Physical Education Recreational Activities OR Air Force JROTC 1 OR Army JROTC 1 OR Marine Corps JROTC 1 OR Navy JROTC 1

# Physical Education Electives

## AICE Physical Education

The AICE Physical Education course will allow our student learners to have both practical and theoretical experiences. The course will cover anatomy and physiology, movement skills, and contemporary studies in sports. Learners will be encouraged to try out a range of physical activities, including team and individual sports, games, and outdoor activities, and then use the theoretical knowledge they have gained to analyze the different factors influencing performance. The course also encourages learners to understand and explain global trends in Physical Education and Sports.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Cambridge
**Schools**
Brentsville District High School
**Prerequisites**
None

## Applied Fitness & Wellness (Personal Fitness)

Applied Fitness & Wellness (formerly Personal Fitness) offers students opportunities to engage in physical activities with a focus on health and wellness. The course emphasizes the importance of physical activity for overall well-being, helping students develop the ability to self-assess fitness and movement performance while improving skills through a variety of activities. Students will engage in physical activities that support lifelong personal fitness, with special attention to the five health-related components of fitness including cardiorespiratory fitness, muscular strength and endurance, flexibility, and body composition. Instruction also covers lifestyle-related health risk factors and the role of nutrition in wellness. Learning experiences may include classroom discussions as well as individual and team-based activities. This course may be taken more than once for credit.

**Credits** 1

**Grades**

11, 12

**Schools**

Brentsville District High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Health and Physical Education 1

## Aquatic Fitness and Activities and Lifeguard Training

Students will demonstrate the skills and understanding necessary to earn the certification of Lifeguard. Students will also participate in a variety of aquatic activities and sports to include swimming for fitness, kayaking, glide fit board workouts, water aerobics, aqua jogging, and water polo. The lifeguard certification will provide job readiness and skills for students to enter the work force. The aquatic activities and sports will promote fitness opportunities for students and encourage lifetime wellness.

**Credits** 1

**Grades**

11, 12

**Schools**

High School Currently Unavailable

**Prerequisites**

None

## Driver Education (In-Car)

In-Car Driver Education includes Behind-the-Wheel (BTW) instruction. The class is scheduled as an after school elective program providing the required 14 class periods needed to receive a Virginia Driver's License. Upon completion of the two phases of the course and submission of the 45-hour driving log the student will be issued a Provisional Driver's License. This Provisional Driver's License is valid only after the student reaches the age of 16 and 3 months and after they have held a Virginia learner's permit for 9 months. All students should complete all requirements for health and physical education before enrolling in the 10th grade Driver Education Program.

**Credits** 0

**Grades**

10, 11, 12

**Schools**

High School Currently Unavailable

**Requirements**

Learner's Permit and enrollment in, or successful completion of, Classroom Driver Education.

**Notes**

It is recommended that students complete a minimum of 10 hours behind the wheel experience prior to taking In-Car Driver Education.

## Personal Fitness 1 (Principles of Weight Training)

Personal Fitness 1 ( formerly Principles of Weight Training and Conditioning) focuses on fitness, strength training, and physical conditioning. Students will learn how and why weight training and conditioning improve muscle development, core strength, injury prevention, and athletic performance. The course emphasizes mastering movement skills used in strength training, conditioning, and fitness-based activities. Students will also explore the five health-related components of fitness including cardiorespiratory fitness, muscular strength and endurance, flexibility, and body composition. Students will assess their own fitness needs, set personal goals, and design and implement a fitness and conditioning program that supports lifelong health. Instruction includes discussion of lifestyle-related health risks and the impact of nutrition on wellness. This course may be taken more than once for credit.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Health and Physical Education 1

## Personal Fitness 2 (Conditioning Program and Performance)

Personal Fitness 2 (formerly Weight Training and Conditioning Program and Performance) builds on the foundation established in Personal Fitness 1, advancing students' knowledge and skills in weight training, conditioning, and performance evaluation. With the knowledge and experience gained from the Personal Fitness I course, students will apply scientific principles to analyze movement performance; implement effective practice strategies for skillful execution in specialized movement forms; and expand expertise in evaluating performance skill and training program design. The course emphasizes measurable benefits of strength training and conditioning, including muscle development, core strength, injury prevention, and enhanced athletic performance. Students will continue to focus on the five health-related components of fitness including cardiorespiratory fitness, muscular strength and endurance, flexibility, and body composition. Students will assess their individual fitness needs, formulate personal goals, and develop individual fitness programs. Instruction includes emphasis on health risk factors related to lifestyles and how nutrition affects wellness.

**Credits** 1

**Grades**

11, 12

**Schools**

Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Personal Fitness 1 (Principles of Weight Training)

## Unified Physical Education Recreational Activities

Unified Physical Education Recreational Activities places emphasis on the opportunity for students of all abilities to participate together through ongoing educational and physical activities. Additionally, the course supports the development of student leadership skills and empowers students to foster an inclusive environment in a variety of recreational movement activities. Student learning outcomes emphasize motor skills, anatomical basis of movement, fitness planning, social and emotional development, and energy balance to support healthy living. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Students electing to use Unified PE as a substitution for their physical education graduation requirement must enroll in the full-year health course in tenth grade. The health course will include ninth and tenth grade health, CPR, and Family Life Education. In-person courses will include Driver Education, however, if a school does not have the minimum enrollment to support an in-person health course, students will be enrolled in a virtual course.

**Prerequisites**

Health and Physical Education 1 ***and*** Health and Physical Education 2 ***and/or*** recommendation from the department chairperson ***or*** the supervising teacher

# Health and Physical Education Required Courses

## Health, Physical Education, and Classroom Driver Education 2

Students continue to participate in classroom instruction and in individual and team activities designed to develop knowledge, skills, and habits necessary to maintain personal fitness for a lifetime. Fifty percent of the course focuses on classroom instruction in family life education, healthy decision making, health concepts and promotion, and classroom driver education. Classroom driver education consists of a minimum of 36 periods of structured learning experiences aimed at developing safe and efficient drivers. Completion of driver education through private instruction does not exempt the student from completing all course objectives.

**Credits** 1

**Grades**

9, 10, 11, 12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Health and Physical Education 1

**Notes**

Juvenile licensing requires a parent/guardian and student to attend an in-person 90-minute teen-traffic safety presentation. This requirement must be met for the student to successfully meet all of the classroom driver education certification requirements.

## Health and Physical Education 1

Students will participate in classroom instruction and in individual and team activities designed to develop knowledge, skills, and habits necessary to maintain personal fitness for a lifetime. Fifty percent of the course focuses on classroom instruction in fitness, nutrition, body systems, physical health, mental wellness/social emotional skills, First Aid, CPR and use of AED, violence prevention, community and environmental health, disease prevention and health promotion, substance abuse prevention, and family life education.

**Credits** 1

**Grades**

9, 10, 11, 12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

# Math

## Advanced Algebra 1

Success in Algebra 1 is widely considered to be a determining factor in success in upper-level mathematics coursework. The skills in Advanced Algebra 1 build on algebraic thinking which students have experienced in kindergarten through middle school. Algebra 1 content includes arithmetic concepts, proportional reasoning, and functions. Graphing technologies will be used to assist in teaching and learning. Advanced Algebra 1 provides instruction on all the Algebra 1 Standards and the following content from Algebra 2: absolute value equations and inequalities, simplifying and performing operations on radical expressions that include variables, and polynomial expressions with two variables. At the end of the year, students will take the Algebra 1 Standards of Learning test.

**Credits** 1

**Grades**

9

**Course Designation**

Weighted (0.5W)

**Schools**

Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School

## Advanced Algebra 2

Advanced Algebra 2 is an accelerated course that integrates select precalculus concepts to prepare students for Precalculus for BC or AP Precalculus for BC. Students are expected to master Algebraic mechanics and understand the underlying theory and apply the concepts to real-world situations. Extended topics will include advanced functions and trigonometric circular functions to continue from Advanced Geometry and prepare students for further study of this topic in the Precalculus courses for both AP Calculus AB and AP Calculus BC. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements. Algebra 2 is required for the Advanced Studies Diploma.

**Credits** 1
**Grades**
9, 10, 11
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
Advanced Algebra 1 ***or*** Algebra 1 (with teacher recommendation)

## Advanced Geometry

This course includes emphasis on two- and three-dimensional reasoning skills, coordinate and transformational geometry, and the use of geometric models to solve problems. The intent of this course is to provide students with many opportunities to explore, conjecture, reason logically, formulate and solve problems, and communicate mathematically. Technology tools and dynamic geometry software will be used to assist in teaching and learning. In Advanced Geometry, students are provided instruction on all the Geometry Standards along with the following content: Truth Tables and Two-Column Proofs, The Unit Circle, and The Law of Sines and the Law of Cosines. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1
**Grades**
9, 10
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
Advanced Algebra 1 ***or*** Algebra 1 (with teacher recommendation)

## Precalculus with Trigonometry for AB

Precalculus with Trigonometry for AB is a one year preparatory course for AP Calculus AB. The course content is comprised of the Algebra of real numbers and complex numbers, polynomial, piecewise, step, exponential, and logarithmic functions, applications of composition and inverse functions, limits and continuity of functions, matrices, discrete mathematics, and trigonometry, including the unit circle. Students who successfully complete Precalculus with Trigonometry for AB are eligible to enroll in AP Calculus AB. Students intending to pursue AP Calculus BC should complete either AP Precalculus for BC or Precalculus with Trigonometry for BC as the prerequisite course in their sequence.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Virtual Prince William (VPW),
Weighted (1.0W)
**Schools**
Colgan High School
Forest Park High School
Freedom High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
**Prerequisites**
Algebra 2

## Precalculus with Trigonometry for BC

Precalculus with Trigonometry for BC is a one year preparatory course for AP Calculus BC. The course content is comprised of the algebra of real numbers and complex numbers, limits and the continuity of functions, analytic geometry including vectors, polar and parametric equations, matrices, and trigonometry.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Forest Park High School
Osbourn Park High School
**Prerequisites**
Advanced Algebra 2 or Algebra 2 (with a B or better and teacher recommendation)

# Math - Advanced Placement

## AP Calculus AB

AP Calculus AB explores the topics of limits/ continuity, derivatives, and integrals. These ideas are examined using a multi-layered approach. The student will be expected to relate the connections among these approaches. Students will also be required to synthesize knowledge of the topics of the course to solve applications that model physical, social and/or economic situations. As mandated by the College Board, graphing calculators will be required. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Requirements**
Teacher recommendation
**Prerequisites**
Precalculus with Trigonometry for AB, Precalculus with Trigonometry for BC, or AP Precalculus for AB, AP Precalculus for BC, ***or*** Precalculus with Trigonometry for AB (DE)

## AP Calculus BC

AP Calculus BC is intended for students who have a thorough knowledge of analytic geometry and elementary functions. Although all of the elements of the AP Calculus AB course are included, this course provides a more rigorous treatment of these introductory calculus topics. The course also includes the development of the additional topics required by the College Entrance Examination Board in its syllabus for AP Calculus BC. The use graphing technology will be fully integrated into instruction and students will be called upon to confirm and interpret results of problem situations that are solved using available technology. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Requirements**

Teacher recommendation

**Prerequisites**

Precalculus with Trigonometry for BC ***or*** AP Precalculus for BC

## AP Precalculus for AB

Taking AP Precalculus for AB prepares students for other college-level mathematics and science courses. During the course, students will explore everyday situations using mathematical tools and lenses. Students will also develop an understanding of modeling and functions, and examine scenarios through multiple representations. The course framework outlines content and skills needed for careers in mathematics, physics, biology, health sciences, social sciences, and data science. The content for AP Precalculus for AB will focus on three units: Polynomial and Rational Functions, Exponential and Logarithmic Functions, and Trigonometric and Polar Functions. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit. Students who successfully complete AP Precalculus with Trigonometry for AB are eligible to enroll in AP Calculus AB. Students intending to pursue AP Calculus BC should complete either AP Precalculus for BC or Precalculus with Trigonometry for BC as the prerequisite course in their sequence.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Patriot High School
Woodbridge High School

**Prerequisites**

Algebra 2

## AP Precalculus for BC

Taking AP Precalculus for BC prepares students for other college-level mathematics and science courses. During the course, students will explore everyday situations using mathematical tools and lenses. Students will also develop an understanding of modeling and functions, and examine scenarios through multiple representations. The course framework outlines content and skills needed for careers in mathematics, physics, biology, health sciences, social sciences, and data science. The content for AP Precalculus for BC is broken into four units: Polynomial and Rational Functions, Exponential and Logarithmic Functions, Trigonometric and Polar Functions, and Functions Involving Parameters, Vectors, and Matrices. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
Advanced Algebra 2 or Algebra 2 (with a B or better and teacher recommendation)

## AP Statistics

The Advanced Placement Statistics course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes: selecting methods for collecting or analyzing data, describing patterns, trends, associations, and relationships in data, using probability and simulation to describe probability distributions and define uncertainty in statistical inference, and using statistical reasoning to draw appropriate conclusions and justify claims. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit. Students who successfully complete the course and the AP Statistics examination may receive credit for a one semester introductory college statistics course.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Algebra 2

# Math - Cambridge Programme

## AICE Mathematics 1 (AS Level)

AICE Mathematics 1 is designed to provide accelerated students a strong foundation in Pre-Calculus and beginning calculus concepts. They will develop an understanding of Advanced mathematical principles and an appreciation of mathematics as a logical and coherent subject. The international curriculum includes essential Pre-Calculus topics and an introduction to differentiation and integration. Students will acquire the mathematical background necessary for further study at the AICE Mathematics 2 level. College credit is available at some universities for exemplary performance on associated exams.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)
**Schools**
Brentsville District High School
Potomac High School
**Requirements**
Teacher recommendation
**Prerequisites**
IGCSE Advanced Algebra 2 ***or*** Precalculus with Trigonometry for AB

## AICE Mathematics 2 (A Level)

AICE Mathematics 2 (A Level) extends the knowledge base built in AICE Mathematics 1. The course follows a rigorous, international curriculum to include Advanced Placement Calculus BC topics. Further concepts and skills in mathematics are taught including the study of concepts, techniques and applications of calculus. Students will increase their ability to analyze problems logically, identify and interpret relevant factors and, where necessary, select an appropriate mathematical method to solve a problem. They will be prepared to sit for the external examination leading to an Advanced International Certificate of Education Diploma. College credit is available at most universities for exemplary performance on Cambridge exams.

**Credits** 1
**Grades**
12
**Course Designation**
Advanced Level (A),
Cambridge,
Weighted (1.0W)
**Schools**
Brentsville District High School
Potomac High School
**Requirements**
Teacher recommendation
**Prerequisites**
AICE Mathematics 1 (AS Level)

## IGCSE Advanced Algebra 2

IGCSE Advanced Algebra 2 is an accelerated course that integrates select Pre-Calculus concepts to prepare students for AICE Mathematics 1. Students are expected to master Algebraic mechanics and understand the underlying theory and apply the concepts to real-world situations. The study of the trigonometric circular functions will continue from IGCSE Geometry and prepare students for further study of this topic in the Pre-Calculus course, AICE Mathematics 1. Assessment includes an external student examination and course work evaluations by the teacher. This course has an associated Standards of Learning (SOL) test. Students will participate in the SOL test only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements. Algebra 2 is required for the Advanced Studies Diploma.

**Credits** 1
**Grades**
10, 11
**Course Designation**
Cambridge,
Weighted (0.5W)
**Schools**
Brentsville District High School
Potomac High School
**Requirements**
Teacher recommendation
**Prerequisites**
Advanced Algebra 1
IGCSE Geometry

## IGCSE Geometry

IGCSE Geometry includes all objectives in the PWCS Geometry curriculum and the Virginia Standards of Learning with a strong relation to Algebraic concepts. Emphasis will be placed on recognizing, analyzing, and interpreting geometric terms, shapes, and properties. Additional topics in trigonometry, vectors, and transformations are included. Alternative activities such as projects, investigations, oral and written communication, and cooperative learning activities are a regular part of this course. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1
**Grades**
9, 10
**Course Designation**
Cambridge,
Weighted (0.5W)
**Schools**
Brentsville District High School
Potomac High School
**Prerequisites**
Algebra 1

# Math - Computer Electives

## AICE Computing (AS Level)

AICE Computing provides students with a thorough knowledge of computing and computer science. Following an international curriculum, students will learn the nature and principles of information processing and the broad range of its applications, together with an advanced understanding of how information-processing systems are designed to suit applications. They will develop their ability to use computing techniques to solve problems through structured, practical experiences. This course prepares students for an Advanced International Certificate of Education Diploma and the Computer Science A qualification.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Advanced Subsidiary Level (AS),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Requirements**
Teacher recommendation
**Prerequisites**
AP Computer Science A
Algebra 2

## Advanced Computer Mathematics

Advanced Computer Mathematics has a focus on proving students with a conceptual background in computer science. Students will implement the major stages of software development using a high-level language. This Advanced course covers all topics in the regular Computer Mathematics class as well as others.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Forest Park High School
Gar-Field High School
Patriot High School
Potomac High School
**Prerequisites**
Algebra 1
**Notes**
Advanced Computer Math may count as the third math course for graduation in addition to Algebra and Geometry, only if the student also completes a career and technical concentration.

## Advanced Computer Studies

This course is an introduction to high performance computational concepts utilizing telecommunication and informational technologies. This course will provide mechanisms for learner-centered, collaborative environments where the students and teacher will engage in dynamic modeling processes in a variety of areas ranging from the sciences to the humanities. The course emphasizes real-world problems, hands-on activities, and discovery learning that will facilitate an environment for constructive learning. The students will be expected to complete a year-long research project.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Battlefield High School
Forest Park High School
**Prerequisites**
Completed ***or*** concurrently enrolled in AP Computer Science A

## Data Structures and Algorithms

The course extends the topics of AP Computer Science A and provides a more formal and more in-depth study of algorithms, data structures, and data abstraction. Binary trees, recursive data structures and dynamically allocated structures are fundamental to the course.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Battlefield High School
Forest Park High School
**Prerequisites**
Algebra 2
AP Computer Science A

## IB Computer Science (HL)

IB Computer Science HL continues with the topics developed in IB Computer Science SL with the additional topics of computer mathematics and logic, abstract data structures and algorithms, further system fundamentals, and file organization. IB Computer Science HL is the third year of a three-year curriculum in Computer Science. Students will implement the major stages of software development using a high-level language. Students will develop a major software project from requirement specifications and take the IB Computer Science HL Exam.

**Credits** 1
**Grades**
12
**Course Designation**
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
Gar-Field High School
**Prerequisites**
IB Computer Science (SL) ***or*** teacher recommendation

## IB Computer Science (SL)

IB Computer Science (SL) continues with the topics developed in Advanced Computer Math such as computer architecture, data representation, operating systems, computing systems in society, and software development. IB Computer Science SL is the second year of a three-year curriculum in Computer Science. Students will implement the major stages of software development using a high-level language. The students will develop a major software project by developing the requirements specification, design documentation, pseudo code, testing documentation and the user documentation.

**Credits** 1
**Grades**
11, 12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Gar-Field High School
**Prerequisites**
Advanced Computer Mathematics ***or*** teacher recommendation

# Math - Dual Enrollment

## Calculus (DE)

Students will be presented with concepts of limits, derivatives, differentiation of various types of functions and uses of differentiation rules, application of differentiation, antiderivatives, integrals, and applications of integration. The purpose of this course is to prepare students for further study in calculus with analytical geometry by providing students with the necessary competencies in finding limits, differentiation, and integration. Successful completion of this course equates to MTH 263 Calculus I (4 credits) at NOVA.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Patriot High School
**Prerequisites**
Precalculus with Trigonometry for AB (DE)
**Notes**
To enroll in this course, students must meet all eligibility requirements established by NOVA.

## Multivariable Calculus (DE)

Multivariable Calculus (DE) focuses on extending the concepts of function, limit, continuity, derivative, integral and vector from the plane to the three-dimensional space. Topics will include vector functions, multivariate functions, partial derivatives, multiple integrals, and an introduction to vector calculus. The general purpose of this courses is to prepare students for further studies in mathematics, engineering, and science programs by providing the necessary competencies in calculus concepts in the three dimensional space. Successful completion of this course equates to MTH 265 Calculus III (4 credits) at NOVA.

**Credits** 1
**Grades**
12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Battlefield High School
Gainesville High School
Woodbridge High School
**Prerequisites**
A score of 4 or above in AP Calculus BC
**Notes**
To enroll in this course, students must meet all eligibility requirements established by NOVA.

## Precalculus with Trigonometry for AB (DE)

Students will complete MTH 161 Precalculus I in the Fall and MTH 162 Precalculus in the Spring. In MTH 161 students will be presented with topics in power, polynomial, rational, exponential, and logarithmic functions, and system of equations and inequalities. Students must pass MTH 161 with a grade of C or better to move on to MTH 162. In MTH 162 students are presented with trigonometry, trigonometric applications including the Law of Sines and Cosines, and an introduction to conics. The purpose of the two courses is to prepare students for the skills and level of rigor needed for successful study in calculus with analytic geometry. Successful completion of this course equates to MTH 161 Precalculus I (3 credits) and MTH 162 Precalculus II (3 credits) at NOVA. Students who successfully complete Precalculus with Trigonometry for AB (DE) are eligible to enroll in AP Calculus AB or Calculus (DE). Students intending to pursue AP Calculus BC should complete either AP Precalculus for BC or Precalculus with Trigonometry for BC as the prerequisite course in their sequence.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Patriot High School

**Prerequisites**

Advanced Algebra 2 ***or*** a grade of C or better in Algebra 2

**Notes**

To enroll in this course, students must meet all eligibility requirements established by NOVA.

# Math - Electives

## AP Computer Science A

The focus of this course is to provide students with a conceptual background in computer science. The major emphasis is on programming methodology, algorithms, and non-dynamic data structure in the JAVA language. This course prepares a student for advanced placement in computer science by means of the Advanced Placement Examination Level A in Computer Science of the College Entrance Board. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School

**Prerequisites**

Geometry

**Notes**

AP Computer Science A may be used for a math, science, or CTE standard credit to satisfy graduation. For a CTE standard credit, a student must (i) successfully complete a CTE program sequence in programming or related programming sequence and earn a score of three or higher on the AP Computer Science A examination.

## AP Computer Science Principles

The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and world. This course may not be used for a math credit. This course is equivalent to the Software Engineering (PLTW) course. Therefore, students who have taken the Software Engineering (PLTW) course should not enroll in this AP Computer Science course as additional credit will not be granted. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
**Prerequisites**
Algebra 1

## Data Science

The Data Science Standards of Learning provide an introduction to the learning principles associated with analyzing big data. Through the use of open source technology tools, students will identify and explore problems that involve the use of relational database concepts and data-intensive computing to find solutions and make generalizations. Students will engage in a data science problem-solving structure to interact with large data sets as a means to formulate problems, collect and clean data, visualize data, model using data, and communicate effectively about data formulated solutions.

**Credits** 1
**Grades**
10, 11, 12
**Schools**
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Hylton High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
Algebra, Functions, and Data Analysis ***or*** Algebra 2

## Discrete Mathematics

This elective, semester, mathematics course provides students with the opportunity to combine previously learned mathematics with selected concepts of recent mathematics to solve problems created by modern society. In this course, the main focus is problem solving in a discrete setting. Techniques that are not considered in the current traditional courses of algebra, geometry, and calculus will be utilized. As students solve problems, they will analyze and determine whether or not a solution exists (existence problems), investigate how many solutions exist (counting problems), and focus on finding the best solution (optimization problems).

**Credits** 0.5
**Grades**
11, 12
**Schools**
Forest Park High School
**Prerequisites**
Algebra 2

## Statistics

This full-year course is an introduction to statistics that emphasizes working with data, graphs, and statistical ideas. Students are expected to develop and present professional quality statistical analyses. Technology tools will be used when appropriate to support instruction, especially to allow students to explore graphical, numerical, and symbolic relationships.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Virtual Prince William (VPW)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
**Prerequisites**
Algebra 2

## Trigonometry

This elective semester course provides a thorough treatment of trigonometry through the study of trigonometric definitions, applications, graphing, and solving trigonometric equations and inequalities. Emphasis is placed on using connections between right triangle ratios, trigonometric functions, and circular functions. Applications and modeling are included throughout the course of study. Students enrolled in trigonometry are assumed to have mastered those concepts outlined in the Algebra 2 standards.
**Credits** 0.5
**Grades**
11, 12
**Schools**
Forest Park High School
**Prerequisites**
Algebra 2

# Math - IB Programme

## Advanced Middle Years Programme Algebra 1

International Baccalaureate Middle Years Programme (MYP) math courses promote both inquiry and application, helping students to develop problem-solving techniques that transcend the discipline and are useful in the world outside school. Success in Algebra 1 is widely considered to be a determining factor in success in upper-level mathematics coursework. The skills in Advanced Algebra 1 build on algebraic thinking which students have experienced in kindergarten through middle school. Algebra 1 content includes arithmetic concepts, proportional reasoning, and functions. Graphing technologies will be used to assist in teaching and learning. Advanced Algebra 1 provides instruction on all the Algebra 1 Standards and the following content from Algebra 2: absolute value equations and inequalities, simplifying and performing operations on radical expressions that include variables, and polynomial expressions with two variables. At the end of the year, students will take the Algebra 1 Standards of Learning test.
**Credits** 1
**Grades**
9
**Course Designation**
International Baccalaureate (IB),
Weighted (0.5W)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
$8^{th}$ grade Pre-Algebra

## Advanced Middle Years Programme Algebra 2

Adv-MYP Algebra 2 is the prerequisite for IB Math: Applications and Interpretations SL and IB Math: Analysis and Approaches 1 (SL). The course incorporates and expands the knowledge from both Adv-MYP Algebra and Adv-MYP Geometry. The course includes all objectives from the PWCS Algebra 2 curriculum, including the study of functions, equations, inequalities, systems of equations, polynomials, rational and radical equations, complex numbers, and curves of best fit, with emphasis on and completion of projects and internationalism. Graphing technology is used throughout the course. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements. Algebra 2 is required for Advanced Studies Diploma.

**Credits** 1

**Grades**

9, 10, 11

**Course Designation**

International Baccalaureate (IB),
Weighted (0.5W)

**Schools**

Unity Reed High School

**Prerequisites**

Advanced Middle Years Programme Geometry

## Advanced Middle Years Programme Algebra 2 - Extended

The course includes all objectives from the PWCS Algebra 2 curriculum, including the study of functions, equations, inequalities, systems of equations, polynomials, rational and radical equations, complex numbers, and curves of best fit. Advanced Middle Years Programme (Adv-MYP) Algebra 2 Extended is an accelerated course that integrates select Pre-Calculus concepts. Students are expected to master algebraic mechanics and understand the underlying theory and apply the concepts to real-world situations. The study of the trigonometric circular functions will continue from Adv-MYP Geometry and prepare students for further study of this topic. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements. Algebra 2 is required for the Advanced Studies Diploma.

**Credits** 1

**Grades**

10, 11

**Course Designation**

International Baccalaureate (IB),
Weighted (0.5W)

**Schools**

Gar-Field High School
Unity Reed High School

**Requirements**

Teacher recommendation

**Prerequisites**

Advanced Middle Years Programme Geometry

## Advanced Middle Years Programme Geometry

International Baccalaureate Middle Years Programme (MYP) math courses promote both inquiry and application, helping students to develop problem-solving techniques that transcend the discipline and are useful in the world outside school. This course includes emphasis on two- and three- dimensional reasoning skills, coordinate and transformational geometry, and the use of geometric models to solve problems. The intent of this course is to provide students with many opportunities to explore, conjecture, reason logically, formulate and solve problems, and communicate mathematically. Graphing utilities, computers, dynamic geometry software, and other appropriate technology tools will be used to assist in teaching and learning. In Advanced Geometry, students are provided instruction on all the Geometry Standards along with the following content: Truth Tables and Two-Column Proofs, The Unit Circle, and The Law of Sines and the Law of Cosines. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

9, 10

**Course Designation**

International Baccalaureate (IB),
Weighted (0.5W)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

Advanced Middle Years Programme Algebra 1, Advanced Algebra 1, ***or*** Algebra 1 (with teacher recommendation)

## IB Math: Analysis and Approaches 1 (HL)

IB Math: Analysis and Approaches is the first year in a two-year course that has a substantial mathematical element and is designed for students interested in extending their developing of mathematical arguments, problem solving, and exploring real and abstract applications, with and without technology. This course includes the content from Mathematics Analysis SL with additional content and at a faster pace.

**Credits** 1

**Grades**

11

**Course Designation**

Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)

**Schools**

Gar-Field High School
Unity Reed High School

**Requirements**

Teacher recommendation

**Prerequisites**

Advanced Middle Years Programme Algebra 2 - Extended

## IB Math: Analysis and Approaches 1 (SL)

IB Math: Analysis and Approaches 1 (SL) is the first year in a two-year mathematics course that fulfills the Group 5 requirement in the IB Diploma Programme. The course is designed for math students who are preparing for studies in subjects such as chemistry, economics, psychology and business administration. The goal is to provide students with a solid foundation in Pre-Calculus topics such as functions and trigonometry, further extend their studies in probability and statistics, and begin their studies in calculus by exploring derivatives and integrals. Students will use technology as a tool for learning and develop an awareness of global contributions to the field of mathematics sciences. Students wishing to study subjects such as physics, engineering and technology should take the Mathematics HL course.

**Credits** 1
**Grades**
10, 11
**Course Designation**
Standard Level (SL),
Weighted (1.0W),
International Baccalaureate (IB)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
Advanced Middle Years Programme Algebra 2 - Extended ***or*** Advanced Middle Years Programme Algebra 2 (with teacher recommendation)

## IB Math: Analysis and Approaches 2 (HL)

IB Mathematics: Analysis and Approaches 2 HL is the second year of the two-year sequence in mathematics that meets the requirements of the IB Diploma Programme. This course builds on and extends the knowledge base of IB Mathematics 1 HL. IB Mathematics 2 HL is the study of concepts, techniques, and applications of differential and integral calculus. Students in this course will complete one portfolio project and will take the Analysis & Approaches HL exams.

**Credits** 1
**Grades**
12
**Course Designation**
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Teacher recommendation
**Prerequisites**
IB Math: Analysis and Approaches 1 (HL)

## IB Math: Analysis and Approaches 2 (SL)

This course is the second year of the two-year sequence that meets the requirements of the IB Diploma Programme. This course builds on and extends the knowledge base of IB Math: Analysis and Approaches 1 (SL) to include topics in calculus. Students in this course will complete a portfolio project (mathematics exploration) and take the Analysis & Approaches SL exams.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Standard Level (SL),
Weighted (1.0W),
International Baccalaureate (IB)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Teacher recommendation
**Prerequisites**
IB Math: Analysis and Approaches 1 (SL)

## IB Math: Applications and Interpretations (SL)

This course is a one-year course designed for students with varied backgrounds and abilities who are interested in social sciences, humanities, certain economics, statistics and engineering courses, and the arts. The emphasis of this course is to make explicit the applications of the mathematics being taught using technology, solving practical problems and exploring mathematical models. Students will complete a portfolio project (math exploration) and take the IB Math: Applications and Interpretations SL Exam.

**Credits** 1
**Grades**
12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Teacher recommendation
**Prerequisites**
Advanced Middle Years Programme Algebra 2

# Math - Standard

## Algebra, Functions, and Data Analysis

This course is designed for students who have completed Algebra 1 but would benefit from time to further develop algebraic concepts prior to taking Algebra 2. Students will study functions and their behaviors, data analysis, probability, and experimental design. Data will be generated by practical applications arising from science, business, and finance.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Virtual Prince William (VPW)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Algebra 1
**Notes**
A student may not receive credit for this course after receiving credit for Algebra 2.

## Algebra 1

Success in Algebra 1 is widely considered to be a determining factor in success in upper-level mathematics coursework. The skills in Advanced Algebra 1 build on algebraic thinking which students have experienced in kindergarten through middle school. Algebra 1 content includes arithmetic concepts, proportional reasoning, and functions. Graphing utilities (calculators, computers, and other technology tools) will be used to assist in teaching and learning. At the end of the year, students will take the Algebra 1 Standards of Learning test.

**Credits** 1

**Grades**

9

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Math 7 Extended ***or*** Math 8 (Pre-Algebra)

## Algebra 1, Parts 1 and 2

Algebra 1, in two parts, is offered for students with significant needs requiring additional support in mathematics content knowledge. This course takes an interactive, hands-on approach to developing Algebra concepts. Using graphing technology, the data cycle, and real-world applications as a foundation, this two-part series emphasizes meaningful connections between Algebra and other mathematical domains, including arithmetic, geometry, and statistics. Algebra 1, Part 1 and Algebra 1, Part 2 are each year-long classes. Schools may double block the courses so that they meet every day for a full block of time over the school year. Schools may also allow students to take Part 1 in the 9th grade year and Part 2 in the 10th grade. The options available at each school are determined after student course selections and based on student needs. This course has an associated Standards of Learning (SOL) test to be taken at the conclusion of Algebra 1, Part 2.

**Credits** 1

Elective Credit for Part 1 and 1 Math Credit for Part 2 when student has passed both parts

**Grades**

9, 10

**Schools**

Battlefield High School
Brentsville District High School
Forest Park High School
Freedom High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Math 8 (Pre-Algebra)

**Notes**

Students with disabilities eligible for credit accommodations receive two math credits for completing both courses.

## Algebra 2

All students preparing for postsecondary and Advanced technical studies are expected to achieve the Algebra 2 standards. Emphasis will be placed on practical applications and modeling throughout the course of study. Technology tools will be used to assist in teaching and learning. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements. Algebra 2 is required for Advanced Studies Diploma.

**Credits** 1

**Grades**

9, 10, 11, 12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Algebra 1

## Algebra 3 with Trigonometry

Algebra 3 with Trigonometry extends both Algebra and Trigonometry topics. Emphasis is on functions and their inverses, equations and inequalities, graph theory, matrices, sequences and series, conic sections, and logarithms. Trigonometry topics include triangular and circular definitions of the trig functions, trig identities, and solutions of trig equations. This course does not meet the prerequisite for Calculus AB or BC.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School

**Prerequisites**

Algebra 2

## Geometry

This course includes emphasis on two- and three-dimensional reasoning skills, coordinate and transformational geometry, and the use of geometric models to solve problems. A variety of real-world applications and general problem-solving techniques, including Algebra skills, are used to implement these standards. Technology tools will be used. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

9, 10, 11

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Algebra 1 ***or*** Algebra 1, Parts 1 and 2

## Geometry, Parts 1 and 2

This course includes emphasis on two- and three-dimensional reasoning skills, coordinate and transformational geometry, and the use of geometric models to solve problems. A variety of real-world applications and general problem-solving techniques, including Algebra skills, are used to implement these standards. Graphing utilities, computers, dynamic geometry software, and other appropriate technology tools will be used. Geometry, in two parts, is offered for students who need additional time to complete the Geometry curriculum. Geometry, Part 1 and Geometry, Part 2 are each year-long classes. Schools may double block the courses so that they meet every day for a full block of time over a full year or offer them over two years. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

Elective Credit for Part 1 and 1 Math Credit for Part 2 when student has passed both parts

**Grades**

11, 12

**Schools**

High School Currently Unavailable

**Prerequisites**

Algebra 1 ***or*** Algebra 1, Parts 1 and 2

**Notes**

Students with disabilities eligible for credit accommodations may receive two math credits for completing both courses. If they have also taken Parts 1 and 2 of Algebra 1, they would receive three math credits and one elective credit for the four parts of the two courses.

# High School History and Social Science

## Advanced World History and Geography to 1500

This pre-collegiate course emphasizes basic historical research skills using primary and secondary sources to understand multiple causes and perspectives for significant historical events. The course prepares students for future AP history examinations. Course topics include those found in the standard World History and Geography to 1500 course but emphasis is placed on interregional studies, themes, and global historical patterns and processes. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

9

**Course Designation**

Weighted (0.5W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

None

**Notes**

This course is an integral component of the Biotechnology Center (BIOTECH), Center for Environmental and Natural Sciences (CENS), Center for the Fine and Performing Arts (CFPA), Center for International Studies and Languages (CISL), and Centers for Information Technology (IT). For additional information, refer to the description of these programs in the specialty program section.

# History and Social Science - Advanced Placement

## AP Government and Politics: Comparative

This college-level political science course includes topics such as: introduction to comparative politics; sovereignty, authority, and power; political institutions; citizens, society, and the State; political and economic change; and public policy. Case studies in the governments of Great Britain, China, Iran, Mexico, Russia, and Nigeria provide context for exploring the topics of the course. Analytical writing will be required, both in essays developed within the framework of the class and in papers developed as a result of research assignments. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Patriot High School
Woodbridge High School

**Prerequisites**

U.S. and Virginia History, AP U.S. History, ***or*** concurrent enrollment

## AP Government and Politics: U.S.

This college-level course in U.S. political science includes topics such as: Constitutional underpinnings of U.S. government, political beliefs and behaviors, political parties, interest groups, and mass media, institutions of national government, public policy, and civil rights and liberties. Analytical writing will be required, both in essays developed within the framework of the class and in papers developed as a result of research assignments. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School

**Prerequisites**

None

**Notes**

Prior completion of AP U.S. History or U.S. and Virginia History is recommended.

## AP Human Geography

This introductory college course in human geography introduces students to the systematic study of patterns, and processes that have shaped human understanding, use, and alteration of 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, including Geographic Information Systems. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

None

## AP U.S. History

AP U.S. History is a course designed for the student who accepts the challenge of an Advanced class in American History. Students will be expected to master all of the SOL objectives for Virginia and U.S. History. In addition, analytical writing will be required, both in essays developed within the framework of the class and in papers developed as a result of research assignments. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

11

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

None

**Notes**

Prior completion of AP World History is recommended.

## AP World History

This college-level course uses the College Board's AP syllabus to develop greater understanding of the evolution of global processes and contacts in different types of human societies. The course highlights the nature of changes in global frameworks and their causes and consequences, as well as comparisons among major societies. It emphasizes relevant factual knowledge, leading interpretive issues, and skills in analyzing types of historical evidence. The course is organized around five time periods. The first two are explored in detail in the Advanced World History and Geography to 1500 course and reviewed briefly in the beginning of this course. The last 500 years are the primary focus of this second year of the study. Specific themes provide further organization to the course, along with consistent attention to contacts among societies that form the core of world history as a field of study. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

10

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

None

**Notes**

Prior completion of World History and Geography to 1500 ***or*** Advanced World History and Geography to 1500 is recommended.

# History and Social Science - Cambridge Programme

## AICE Thinking Skills (AS/A Level)

AICE Thinking Skills is designed to develop general thinking processes and skills. Developing and improving these skills will strengthen the study of all subject areas, will help to ensure success in postsecondary studies, and will enhance job performance. Content includes applied arithmetic, evaluating evidence, evaluating and presenting an argument, elements of reasoning, and evaluation of reasoning. Successful completion of the end of course exam may be used toward an AICE certificate or an AICE diploma.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Advanced Level (A),
Cambridge,
Weighted (1.0W)
**Schools**
Brentsville District High School
Potomac High School
**Requirements**
Teacher recommendation
**Prerequisites**
At least one Cambridge course

## AICE U.S. History (AS Level)

This Advanced study of American history follows an international curriculum which focuses on key developments that transformed the United States from an isolated, agrarian society to the world's leading superpower. Students will demonstrate an understanding of the complexity of issues, will interpret source materials as historical evidence, and will demonstrate facility in their use. On external examinations, students will answer compulsory source-based questions and respond to a choice of essay questions. They will be prepared to qualify for the Advanced International Certificate of Education Diploma. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1
**Grades**
11
**Course Designation**
Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)
**Schools**
Potomac High School
**Prerequisites**
World History and Geography from 1500; Advanced Middle Years Programme - World History and Geography to 1500 ***or*** Pre-AICE World History and Geography to 1500; English 10 ***or*** IGCSE English 10

## AICE World History (AS Level)

This college-level course examines the nature and use of historical evidence, causes and consequences, continuity and change, and similarities and differences related to human activity of the past. Topics include: Discovery and Exploration, Rise of Nation-States, Reformation, Wars of Religion, Absolutism, The Scientific Revolution, the Enlightenment, The French Revolution, Development of Modern Nation States, Liberalism, Nationalism, Industrial Revolution, Imperialism and World War 1 and its aftermath, International Relations Since 1919, Russia: 1881-1939, the Rise of Fascism, Causes of World War 2 and the Final Peace Settlement, The Cold War, and World Issues. This course is required for those enrolled in the Cambridge Programme. Students will sit for AICE examinations. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

10

**Course Designation**

Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)

**Schools**

Brentsville District High School
Potomac High School

**Requirements**

Teacher recommendation

**Prerequisites**

Pre-AICE World History and Geography to 1500

**Notes**

A pass advance on the World History 1 SOL test is recommended.

## IGCSE History

This course offers the opportunity to study world history from 1500 with a focus on the 19th century to the beginning of the twenty-first century. It encourages learners to raise questions and to develop and deploy historical skills, knowledge and understanding in order to provide historical explanations. Learners will explore history from a diversity of perspectives, including social, economical, cultural and political, and are given the opportunity to: develop an interest in and enthusiasm for learning about and understanding the past; explore historical concepts such as cause and consequence, change and continuity, and similarity and difference; appreciate historical evidence and how to use it; gain a greater understanding of international issues and inter-relationships and; learn how to present clear, logical arguments.

**Credits** 1

**Grades**

10

**Course Designation**

Cambridge,
Weighted (0.5W)

**Schools**

High School Currently Unavailable

**Prerequisites**

None

## Pre-AICE World History and Geography to 1500

This pre-collegiate course explores the nature and use of historical evidence, causes and consequences, continuity and change, and similarities and differences related to human activity of the past. Topics include: Early Man through Rome, The Late Roman Empire, The Rise of Islam, Feudalism and the Early Middle Ages, Crusading and the Crusader States to 1204, Carolingians and Charlemagne, Early Religions and Trade Routes, The Rise of New Monarchies, The Ottoman Empire, European Social and Economic Development, and The Renaissance. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

9

**Course Designation**

Cambridge,
Weighted (0.5W)

**Schools**

Brentsville District High School
Potomac High School

**Prerequisites**

None

**Notes**

A pass advance on the Civics and Economics SOL test is recommended.

# History and Social Science - Dual Enrollment

## U.S./VA Government (DE)

U.S./VA Government (DE) teachers the political structure, processes, institutions, and a policymaking of the U.S. national government. Students will focus on the three branches of government, their interrelationships, and how they shape policy. The courses will address federalism; civil liberties and civil rights; political socialization and participation; public opinions and the media; interest groups; political parties; elections; and policymaking. Students will demonstrate well-rounded knowledge of American government and politics; demonstrate an understanding of how political scientists analyze and interpret the foundations, institutions, processes, and actors that constitute American government and politics; and demonstrate critical thought about American government and politics. Successful completion of the course equates to PLS 135 U.S. Government and Politics (3 credit) at NOVA.

**Credits** 1

**Grades**

12

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

U.S. and Virginia History

**Notes**

To enroll in this course, students must meet all eligibility requirements established by NOVA.

## U.S./VA History (DE)

U.S./VA History encompasses HIS 121 United States History to 1877 in the Fall and HIS 122 United States History Since 1865. In HIS 121, students will be introduced to the history of the United States from its origins to 1877. This includes European exploration; development of the American colonies and their institutions: the Revolution; major political, social, and economic developments; geographical expansion; the Civil War, and Reconstruction. In HIS 122 students will be introduced to the history of the United States from 1865 to present. This includes major political, social, and economic developments since 1865; overseas expansion, the two world wards; the Cold War, and the post-Cold War era. Students will reach a basic understanding of the historical development of the United States through a combination of educational methods including lecture, document analysis, and historical methodology. These changes will be considered from the perspective of the multiple and diverse historical groups of people driving them and effected by them. Successful completion of this course equates to HIS 121 United States History to 1877 and HIS 122 United States History since 1865.
**Credits** 1
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Hylton High School
Patriot High School
Woodbridge High School
**Prerequisites**
World History and Geography from 1500
**Notes**
Both HIS 121 and HIS 122 must be taken to earn credit for US/VA History.

To enroll in this course, students must meet all eligibility requirements established by NOVA.

# History and Social Science - Electives

## AICE Classical Studies

This course develops the idea that a multi-disciplinary approach of study combining classical literature, art history, history, science, archaeology, and others, leads to an understanding of the relationship between intellectual disciplines. Students are exposed to the course material, including original sources, in a variety of ways, and they gain practical experience in analyzing, interpreting, organizing, and presenting the connections they make in a broader context of the contemporary world.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (1.0W),
Cambridge
**Schools**
Brentsville District High School
**Prerequisites**
None

## AICE Economics (AS/A Level)

Cambridge International AS and A Level Economics will explain and analyze economic issues and arguments, evaluate economic information, and organize, present, and communicate ideas and judgments clearly. The course covers a range of basic economic ideas, including an introduction to the price system and government intervention, international trade and exchange rates, the measurement of employment and inflation, and the causes and consequences of inflation. Students also study the theory of the firm, market failure, macroeconomic theory and policy, and economic growth and development.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Advanced Level (A),
Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)
**Schools**
Potomac High School
**Prerequisites**
Algebra 1
**Notes**
This course fulfills the Economics and Personal Finance graduation requirement.

## AICE Global Perspectives

The focus of AICE Global Perspectives is on developing the ability to think, speak, and write critically about a range of global issues where there is always more than one point of view. Students will become aware of global themes and issues, viewed from personal, local, national and international perspectives, and of the connections between them. This cross-curricular program challenges students to work in groups, to present seminars, to create projects, and to publish essays. Students who sign up for AICE Global Perspectives must be self-motivated and have the ability to establish and meet deadlines. This course is recommended for juniors but is also available to seniors. The course culminates in an external assessment that provides the possibility of college credit.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Cambridge,
Weighted (1.0W)
**Schools**
Brentsville District High School
Potomac High School
**Prerequisites**
None

## AICE International History 1945-1991

AICE International History, 1871-1991, will help students to develop an interest in the past and an awareness of historical concepts. By studying diverse historical sources, methods, and interpretations of particular historical issues, students will learn to think independently and make informed judgments. Through examination of six major themes, students will gain knowledge and understanding of the key developments that shaped the international order after 1871. Content/ themes include: Imperialism, World War 1, the rise of Fascist powers and American neutrality before 1939, World War 2, the Cold War conflict; globalization of the Cold War; the Nuclear Arms Race; crisis of Communism and the end of the Cold War; the international economy; and the Third World. Successful completion of the end of course exam will result in an AICE certificate or an AICE Diploma.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Cambridge,
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Requirements**
Teacher recommendation
**Prerequisites**
A grade of B or better in U.S. and Virginia History ***or*** AICE U.S. History (AS); English 11 ***or*** AICE English Language and Composition (AS)

## AICE Psychology

This college-level course is designed to help students develop an appreciation of the various fields of psychology including: cognitive, social, physiological, and developmental psychology as well as the psychology of individual differences. The course also investigates the relationship of psychology to education, health, organizations, the environment and abnormality. This elective course of study prepares students for the Cambridge examination in Psychology and counts toward the Advanced International Certificate of Education (AICE) Diploma. The course culminates in an external assessment that provides the possibility of college credit.

**Credits** 1
**Grades**
12
**Course Designation**
Weighted (1.0W),
Cambridge
**Schools**
Brentsville District High School
Potomac High School
**Prerequisites**
None

## AICE Sociology

In a rapidly changing world, Cambridge International Sociology offers students the opportunity to not only explore the processes that are shaping current trends, but also to develop an understanding of the complexity and diversity of human societies and their continuities with the past. The study of Sociology should stimulate awareness of contemporary social, cultural and political issues, and focus attention on the importance of examining these issues in a rigorous, reasoned and analytical way. The course culminates in an external assessment that provides the possibility of college credit.

**Credits** 1
**Grades**
12
**Course Designation**
Cambridge,
Weighted (1.0W)
**Schools**
Brentsville District High School
**Prerequisites**
Student must have previously taken any AICE course.

## AP African American Studies

AP African American Studies is an interdisciplinary course that examines the diversity of African American experiences through direct encounters with authentic and 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. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1
**Grades**
12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
U.S. and Virginia History

## AP Economics

Advanced Placement Economics will provide students a thorough understanding of basic economic concepts; the nature and functions of product and factor markets. Students will study the role of the government, as well as the concepts of efficiency and equity. Topics also include: measures of economic performance; national income and price determination; economic growth; international finance, exchange rates and balance of payments. Students are expected to take one of both of the accompanying AP Exams, which may qualify them for advanced standing in college and/or college credit. This course includes both AP Micro and AP Macro Economics. Students enrolled in this course must complete the EverFi personal finance modules to satisfy the Economics and Personal Finance graduation requirement.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Requirements**

Teacher recommendation

**Prerequisites**

None

**Notes**

This course fulfills the Economics and Personal Finance graduation requirement.

## AP European History

The study of European history since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which they live. In addition to providing a basic narrative of events and movements, the goals of the AP program in European History are to develop: an understanding of some of the principal themes in modern European History; an ability to analyze historical evidence and historical interpretation; and an ability to express historical understanding in writing. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Freedom High School
Osbourn Park High School
Woodbridge High School

**Prerequisites**

World History and Geography from 1500

## AP Psychology

The AP Psychology course is designed to introduce 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 the major subfields within psychology. Students will also learn about the ethics and methods psychologists use in their science and practice. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Requirements**

Teacher recommendation

**Notes**

Check with your counselor to see if this course is offered in grade 11 at your school.

## African American History

The African American History course is designed to provide students with a broad overview of the African American experience and explore ancient Africa moving through modern times. The course, supported by a local division curriculum and five online modules, address the introduction of Africans to the Americas and the African American experience between 1619 and the present. In addition, the course will highlight the social, cultural and political contributions of African Americans to American society.

**Credits** 1

**Grades**

11, 12

**Schools**

Colgan High School
Forest Park High School
Gar-Field High School
Hylton High School
Potomac High School

**Prerequisites**

World History and Geography from 1500

## Hands on History: Discovering Prince William County's Past

This course teaches stewardship and preservation of local cultural resources; develops applied skills in historical analysis such as archival research, artifact interpretation and oral history interview techniques; enables students to share research findings with the community; and encourages community service and active citizenship. Local objects, primary sources, architectural remains, landscapes and citizens are explored. Publications from the Prince William Historic Commission will be available, as well as opportunities to interact with the county government's and citizen groups' preservation and education efforts. Topics include: regional prehistory to native contact with Europeans; colonial times through the 1750s; early agricultural, industrial and commercial developments; the Revolutionary War's effects; the diverse antebellum population; the Civil War and the impact of Reconstruction on the area; debate over formation of magisterial districts and the shifts in the location of the county seat; the county at the turn of the century, World War 1, Quantico and World War 2; and desegregation of local schools.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

High School Currently Unavailable

**Prerequisites**

None

## IGCSE Global Perspectives

Cambridge IGCSE Global Perspectives provides opportunities for inquiry into, and reflection on, key global issues from a personal, local/national, and global perspective. Young people globally face unprecedented challenges in an interconnected and information-heavy world, not least in how they will gain a sense of their own active place in the world and cope with changes that will impact on their life chances and life choices. Students will have opportunities to acquire and apply a range of skills, including: gathering, synthesizing, and communicating information; collaborating with others to achieve a common outcome; analyzing and evaluating planning, processes and outcomes; and developing and justifying a line of reasoning. Students will explore stimulating topics that have global significance. Students will assess information critically and explore lines of reasoning. Students will learn to collaborate with others from another culture, community, or country, directing much of their own learning and developing an independence of thought.

**Credits** 1
**Grades**
10
**Course Designation**
Cambridge,
Weighted (0.5W)
**Schools**
Brentsville District High School
**Prerequisites**
None

## Introduction to Law: Law in Action

This Introduction to Law course is designed to offer students a practical and real world exposure to many legal issues in our society. This is a fast-paced and comprehensive course. Students will encounter many topics and materials that law school students learn about in their first year of law school. Students will read about famous Supreme Court cases and analyze contemporary trials to understand the nature of how the United States justice system works. The course provides practical information and problem-solving opportunities regarding the law. Students will develop knowledge of the law and skills necessary for survival in our law-based society. There will be opportunities to explore the definition of law, citizen rights and responsibilities under the law, learn methods of dispute resolution as well as identify and analyze public issues.

**Credits** 1
**Grades**
12
**Schools**
Freedom High School
Patriot High School
Woodbridge High School
**Prerequisites**
U.S. and Virginia History

## Psychology 1

Psychology will introduce the students to the study of individual human behavior. Students explore subjects studied by behavioral scientists and apply psychological concepts to everyday human problems and life. Topics will include the scientific methods used in psychology, human growth and development, the study of personality, and mental health and behavioral disorders.

**Credits** 1
**Grades**
12
**Schools**
Battlefield High School
Forest Park High School
Hylton High School
Independence Nontraditional High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
None

## Sociology

Problems and issues about social behavior, organizations, and institutions of people are examined. The study includes an examination of the structure and the function of groups, the variations in the social order and the dynamics of change in a social environment. There is focus upon the development of skills for participating more effectively in contemporary society by examining issues and seeking solutions to problems involving the interactions of people.
**Credits** 1
**Grades**
12
**Course Designation**
Virtual Prince William (VPW)
**Schools**
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
None

## Twentieth Century History

The role of the United States in the modern world is explored. Emphasis is placed on the national and international issues of the 20th century. Students will have an opportunity to engage in problem-solving and decision-making activities using a format based on research, and written and oral expression. Opportunities will be provided to develop possible resolutions to current issues confronting the nation.
**Credits** 1
**Grades**
11, 12
**Schools**
Brentsville District High School
Colgan High School
Patriot High School
**Prerequisites**
None

## World Geography

The focus of this course is the study of the world's peoples, places, and environments, with an emphasis on world regions. The knowledge, skills, and perspectives of the course are centered on the world's population and cultural characteristics, landforms and climates, economic development, and migration and settlement patterns. Spatial concepts of geography will be used as a framework for studying interactions between humans and their environments. Using geographic resources, students will employ inquiry, research, and technology skills to ask and answer geographic questions. Particular emphasis is placed on students' understanding and applying geographic concepts and skills to their daily lives. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.
**Credits** 1
**Grades**
10
**Schools**
Colgan High School
**Prerequisites**
None

# History and Social Science - IB Programme

## Advanced Middle Years Programme - AP Government and Politics: Comparative

This college-level course includes topics such as: sovereignty, authority, and power; political institutions; citizens, society, and the State; political and economic change; and public policy. Case studies in the governments of Great Britain, China, Iran, Mexico, Russia, and Nigeria provide context for exploring the topics of the course. Analytical writing is required. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit. Students pursuing the IB Diploma take this course as sophomores. IB History certificate candidates take this course during their sophomore or junior year.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
International Baccalaureate (IB),
Weighted (1.0W)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

Advanced Middle Years Programme English 9
Advanced Middle Years Programme - World History and Geography from 1500

## Advanced Middle Years Programme - World History and Geography from 1500

Advanced Middle Years Programme World History and Geography from 1500 is a survey of world history from 1500 to present with a concentration on modern developments in western civilization and includes: the Reformation, the Age of Discovery, Absolutism, the Scientific and Industrial Revolutions, the Enlightenment, the development of nation states, nationalism, and the Age of Imperialism, 20th Century conflicts and independence movements, world religions and the contemporary world. Students are trained in historical analysis by discussion, research, and oral and written presentation. Students analyze documents for their origin, purpose, value and limitations. These skills are the foundation for the four-year IB sequence and are a critical component of IB assessments. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

9

**Course Designation**

International Baccalaureate (IB),
Weighted (0.5W)

**Schools**

Unity Reed High School

**Prerequisites**

None

## Advanced Middle Years Programme - World History and Geography to 1500

This pre-collegiate course emphasizes basic historical research skills using primary and secondary sources to understand multiple causes and perspectives for significant historical events. The course prepares students for future AP history examinations. Course topics include those found in the standard World History and Geography to 1500 course, but emphasis is placed on interregional studies, themes, and global historical patterns and processes. Students are trained in historical analysis by discussion, research, and oral and written presentation. Students analyze documents for their origin, purpose, value and limitations. These skills are the foundation for the four-year IB sequence and are a critical component of IB assessments. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1
**Grades**
9
**Course Designation**
International Baccalaureate (IB),
Weighted (0.5W)
**Schools**
Gar-Field High School
**Prerequisites**
None

## IB Economics (SL)

This academically rigorous course focuses on the choices that must constantly be made by individuals, firms, and governments, which affect both their own economic well being and that of society as a whole. The questions of "What?" "How?" and "For whom?" are central to the field of economics. Topics will be approached from an international perspective. The course emphasizes the study of economic development as a part of the solution to contemporary real world problems. The course culminates in an external assessment that provides the possibility of college credit. Students enrolled in this course must complete the EverFi personal finance modules to satisfy the Economics and Personal Finance graduation requirement

**Credits** 1
**Grades**
12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
Algebra 2

*And one of the following:*
Advanced Middle Years Programme - AP Government and Politics: Comparative, AP Government and Politics: Comparative, ***or*** AP Government and Politics: U.S.
**Notes**
This course fulfills the Economics and Personal Finance graduation requirement.

## IB Geography (SL)

In this college-level course, students will develop a global perspective and a sense of world interdependence by understanding the relationship between people, place, and environment. Additional topics include: environmental quality; planning and management of resources for present and future generations; the relevance of geography in analyzing contemporary world issues; issues of social justice, equality and respect for others and an appreciation of diversity. Students will explore a wide range of geographical methodologies and apply appropriate techniques of inquiry including Geographic Information Systems technologies to develop solutions to geographic related issues and problems. The course culminates in an external assessment that provides the possibility of college credit. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Standard Level (SL),
Weighted (1.0W),
International Baccalaureate (IB)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

Advanced Middle Years Programme - World History and Geography from 1500
U.S. and Virginia History

## IB Global Politics (SL)

This course explores fundamental political concepts such as power, rights, liberty and equality, in a range of contexts and at a variety of levels. It allows students to develop an understanding of the local, national, international, and global dimensions of political activity, as well as allowing them the opportunity to explore political issues affecting their own lives. The course helps students to understand abstract political concepts by grounding them in real world examples and case studies. This course will be an excellent addition and supplement to the courses the students are already taking in the IB History program, building on the foundations established in AP Comparative Government and supporting their studies in 20th Century History. This course provides further study of Comparative Government and prepares students for the IB History course sequence.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Standard Level (SL),
Weighted (1.0W),
International Baccalaureate (IB)

**Schools**

High School Currently Unavailable

**Prerequisites**

None

## IB History 1: History of the Americas (HL)

This is a survey course of U.S., Canadian, and Latin American history from early European contacts with American Indians and the people of the First Nation through the 20th century including analysis of the U.S. Civil War, industrialization, expansion, and the Latin American dictatorships. The course focuses on the American region's historical experience, and political, economic, and social systems. Students will demonstrate historical analysis by discussion, presentation, and written work including the IB History Internal Assessment. This is the first course in a required two-year sequence of IB diploma level history culminating with a series of external examinations including a full examination on this regional study and may provide college-level credit at many colleges and universities This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

Advanced Middle Years Programme - World History and Geography from 1500

*And one of the following:*

Advanced Middle Years Programme - AP Government and Politics: Comparative, AP Government and Politics: Comparative, ***or*** AP Government and Politics: U.S.

## IB History 2: Topics in Twentieth Century History (HL)

This survey course of 20th century world history includes topics such as: causes, practices, and effects of war; the rise and rule of single-party states; East-West relations after 1945; nationalists and independence movements; decolonization; and the emergence and problems of new nations. This course will continue to stress political, economic, and social systems as well as require students to further develop their skills of interpretation and analysis through historiography. The course culminates in a series of external assessments that include document-based questions, short essay response and research papers which provide the possibility of college credit. This is the second in a two-course sequence for the IB history certificate and is required for the IB diploma.

**Credits** 1

**Grades**

12

**Course Designation**

Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

IB History 1: History of the Americas (HL)

## IB Psychology

This college-level course investigates three psychological perspectives including: biological, cognitive, and learning. Students will also explore an optional subject area and undertake two studies: research and experimental. This elective course of study prepares students for the standard level examination in Psychology and counts toward the IB Diploma. The course culminates in an external assessment that provides the possibility of college credit.

**Credits** 1

**Grades**

12

**Course Designation**

International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)

**Schools**

Unity Reed High School

**Prerequisites**

None

## IB Social and Cultural Anthropology (SL)

IB Social and Cultural Anthropology is a college-level comparative study of human societies and culture. It explores both the universal principles of social and cultural life and characteristics of specific societies and cultures. Topics include small groups, as well as kinship relations, symbolism, exchange, political organizations, social control and gender. The course examines society from the small scale to the complex industrial scale, as well as modern nation states. The course culminates in an external assessment that provides the possibility of college credit.

**Credits** 1
**Grades**
11, 12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Unity Reed High School
**Prerequisites**
None

# History and Social Science - Standard

## U.S. and Virginia Government

The American system of national, state, and local government, including the role of the United States in global affairs, is analyzed. Basic constitutional principles, rights and responsibilities of citizenship, political beliefs and ideologies, as well as free market economic principles, and the organization and operation of our political institutions are studied. Democratic beliefs and the importance of participation in the democratic process are emphasized.

**Credits** 1
**Grades**
12
**Course Designation**
Virtual Prince William (VPW)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## U.S. and Virginia History

The study of the nation's history provides the intellectual foundations for responsible citizenship. The origins of American ideals and institutions are examined. A study of major events, issues, and personalities of the past provides a perspective for understanding contemporary issues and problems. The role of Virginia in the development of the United States is included. Topics included for study: Exploration and Colonization, European Economic Influences and Slavery in the Americas, the American Revolution, the Constitution and Early National Period, Civil War and Reconstruction, the Progressive Era, U.S. as Emerging World Power, World War 2, the Cold War, Civil Rights Movement, and the Contemporary U.S. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

11

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

## World History and Geography from 1500

This is a survey of world history from 1500 to the present with a concentration on modern developments in western civilization. Course topics include: the Reformation, the Age of Discovery, Absolutism, the Scientific and Industrial Revolutions, the Enlightenment, the development of nation-states, nationalism, and the Age of Imperialism, 20th Century conflicts, independence movements, world religions, and the contemporary world. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

10

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

## World History and Geography to 1500

This is a survey of world history to 1500 with a concentration on developing historical thinking skills and geographical analysis. Course topics include: early development of humankind from the Paleolithic Era to the agricultural revolution, ancient river valley civilizations, early civilizations in Persia, India, and China, influence of Greece and Rome in the development of Western civilization, the Byzantine Empire and Russia, early Islamic civilization, Western Europe in the Middle Ages, Empires of the Eastern Hemisphere, major civilizations of the Western Hemisphere (Mayan, Aztec, Incan), late medieval developments, and the Renaissance in Europe. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

9

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

# Science - Advanced Placement

## AP Biology

AP Biology is designed to be the equivalent of a first-year introduction college biology course. AP Biology is designed for students who have successfully completed foundation courses in biology and chemistry. This course aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

Biology 1 **or** Advanced Biology 1

Chemistry 1 **or** Advanced Chemistry 1

Successful completion of at least two laboratory sciences

**Corequisites**

Algebra 2
**or** Advanced Algebra 2

## AP Chemistry

AP Chemistry is intended to provide a second level of chemistry comparable to the general chemistry course usually taken during the first year of college. Topics include atomic structure and theory, chemical bonding, states of matter, chemical reactions, stoichiometry, equilibrium, kinetics, thermodynamics, and descriptive chemistry. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Students enrolled in this course are encouraged to pursue an Advanced mathematics sequence. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Woodbridge High School

**Prerequisites**

Chemistry 1
**or** Advanced Chemistry 1

**Corequisites**

Algebra 2
**or** Advanced Algebra 2

## AP Environmental Science

AP Environmental Science utilizes students' mathematics and scientific skills in a systems approach to the environment. Major systems include aquatic and terrestrial ecosystems, the atmosphere, and resource allocation/distribution. In addition to laboratory work, some fieldwork is required. Students will take the Earth Science I Standards of Learning (SOL) assessment at the end of this course only if they have not yet earned a verified science credit for graduation. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

Biology 1
**or** Advanced Biology 1

AND Chemistry I or Advanced Chemistry I

**Corequisites**

Algebra 2 **or** Advanced Algebra 2

## AP Physics 1

AP Physics is an algebra-based course that is representative of topics covered in similar college physics courses, as determined by periodic surveys. This course could be taken by students with no previous high school experience in physics but who possess strong study skills required for college-level classes. The course covers the following general areas: Newtonian mechanics; fluids, work, energy, and power; mechanical waves, and sound. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Students who have taken this course may enroll in either AP Physics 2 or AP Physics C: Mechanics. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

Geometry

**Corequisites**

Algebra 2 **or** Advanced Algebra 2

## AP Physics 2

AP Physics 2 is an algebra-based course that is representative of topics covered in similar college physics courses, as determined by periodic surveys. The course covers the following areas: thermodynamics; electricity and magnetism; waves; optics; atomic and nuclear physics. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Schools could offer this course as a single or a double block class, with extended time for lab inquiry activities. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Forest Park High School
Osbourn Park High School

**Prerequisites**

Physics 1, AP Physics 1, ***or*** AP Physics C: Mechanics

## AP Physics C: Mechanics

AP Physics C: Mechanics is a calculus-based course that forms the first part of a college sequence and serves as the foundation in physics for students interested in the physical sciences or engineering. Strong emphasis is placed on solving a variety of challenging problems, requiring some calculus that is presented to students during instruction. At least 25% of instructional time is dedicated to hands-on laboratory investigations. Schools could offer this course as a single or a double block class, with extended time for lab inquiry activities. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

Calculus (DE)
(or concurrent enrollment in Calculus)

# Science - Cambridge Programme

## AICE Biology (A Level)

This course is a second year of the AICE Level Biology curriculum that incorporates lab experience as an integral component of its study. The curriculum involves a detailed examination of major biological themes, along with one of four optional units: mammalian physiology; microbiology and biotechnology; growth, development, and reproduction; and applications of genetics in a more comprehensive manner. Students will sit for external exams that contribute to the Advanced International Certificate of Education Diploma and present a possibility for students to receive college credit for an introductory biology course.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Advanced Level (A),
Cambridge,
Weighted (1.0W)
**Schools**
Potomac High School
**Prerequisites**
AICE Biology (AS Level)
**Notes**
This course may utilize animal dissection techniques as an instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

## AICE Biology (AS Level)

AICE Biology is an accelerated and rigorous course that follows an international, Advanced level curriculum. This course is lab-oriented, with a curriculum designed to give students a foundation in biological concepts as well as the opportunity to utilize principles of experimental design in laboratory inquiry and on a required independent student project. The course covers major biological topics. Students will be prepared to sit for a practical test and external examinations leading to Advanced International Certificate of Education Diploma and an Advanced Placement qualification.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)
**Schools**
Brentsville District High School
**Prerequisites**
Biology 1 **or** IGCSE Biology

Chemistry 1 **or** IGCSE Chemistry

**Corequisites**
Advanced Biology Laboratory

Algebra 2 **or** IGCSE Advanced Algebra 2 **or** IGCSE Geometry
**Notes**
This course may utilize animal dissection techniques as an instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

## AICE Chemistry (AS Level)

AICE Chemistry is an accelerated and rigorous course that encompasses the AP Chemistry curriculum and enriched AICE topics. This course is lab-oriented, with a curriculum designed to give students a foundation in chemistry concepts as well as the opportunity to utilize principles of experimental design in laboratory inquiry and on a required independent student project. The expanded curriculum enables students to pursue Advanced studies of analytic separation techniques, biochemistry, and spectroscopy. Students will be prepared to sit for external examinations in theory and practical assessments leading to an Advanced International Certificate of Education Diploma and an AP qualification.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)

**Schools**

Brentsville District High School
Potomac High School

**Prerequisites**

Chemistry 1 **or** IGCSE Chemistry

Algebra 2 **or** IGCSE Advanced Algebra 2

## AICE Environmental Management (AS Level)

This accelerated Cambridge course has a strong human dimension and is concerned with both local and global issues. The curriculum encompasses the four traditional subdivisions of the global environment, including the lithosphere, hydrosphere, biosphere, and atmosphere. The course develops in students a strong understanding of the Earth's natural systems and the effects of human activity on these systems. Students are challenged to think about important environmental issues and to look to themselves for possible solutions. An important component of the practical assessment is an Individual Research Report based on issues for the course of studies. Students will take the Earth Science 1 Standards of Learning assessment only if they have not yet earned credit for graduation. Students will be prepared to sit for an external examination leading to the AICE Diploma and an Advanced Placement qualification.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)

**Schools**

Brentsville District High School
Potomac High School

**Prerequisites**

Biology 1 **or** IGCSE Biology

Chemistry 1 **or** IGCSE Chemistry

Algebra 2 **or** IGCSE Advanced Algebra 2

## AICE Physics (AS Level)

AICE Physics is an accelerated and rigorous course that encompasses the AP Physics curriculum and enriched AICE program topics. This course focuses on the Advanced study of topics in general physics, Newtonian mechanics, matter, oscillations and waves, electricity and magnetism, and modern physics. The inquiry-based approach emphasizing principles of experimental design, scientific problem solving, and research skills requires students to use principles and concepts that are taught and to apply them in a logical, reasoned, and deductive manner to their work. Independent research is a required part of the program. Students will be prepared to sit for external examinations in theory and practical applications leading to an Advanced International Certificate of Education Diploma and an AP qualification.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)

**Schools**

Brentsville District High School
Potomac High School

**Prerequisites**

IGCSE Physics ***or*** Physics 1

IGCSE Chemistry ***or*** Chemistry 1

## IGCSE Biology

This laboratory-based course includes a curriculum designed to give students a foundation in biological concepts as well as the opportunity to utilize principles of experimental design in laboratory inquiry and on a required independent student project. IGCSE Biology includes, but is not limited to, characteristics and classification of living organisms; organization and maintenance of organisms; reproduction, inheritance, and the continuity of life; and the relationships of organisms to one another and to their environment. This course has an associated Standards of Learning (SOL) test. Students will participate in this test to satisfy federal testing requirements.

**Credits** 1

**Grades**

9, 10

**Course Designation**

Cambridge,
Weighted (0.5W)

**Schools**

Brentsville District High School
Potomac High School

**Prerequisites**

None

**Notes**

This course may utilize animal dissection techniques as an instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

## IGCSE Chemistry

This course is lab-oriented, with a curriculum designed to give students a foundation in chemistry concepts as well as the opportunity to utilize principles of experimental design in laboratory inquiry and on a required independent student project. The course will include the major principles of chemistry: structure of matter, chemical and physical properties, periodic trends, molar and stoichiometric relationships, chemical reactions and equilibria, chemical kinetics, electrochemistry, thermodynamics, acid-base theory, and organic and environmental chemistry. Assessment will include an external examination and coursework evaluations by the teacher. This course has an associated Standards of Learning (SOL) test. Students will participate in this test only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

10, 11

**Course Designation**

Cambridge,
Weighted (0.5W)

**Schools**

Brentsville District High School

**Prerequisites**

Biology 1 ***or*** IGCSE Biology

Algebra 1 ***or*** IGCSE Algebra 1

## IGCSE Physics

This course offers a combination of theoretical and practical studies such as mechanics that analyze motions and forces; study of energy with applications to work and power; thermodynamics; properties of waves (light and sound); electricity and magnetism; and atomic physics leading to an understanding of the basic principles of physics. Investigations will be student designed and tested emphasizing principles of experimental design, inquiry-based discovery, and scientific problem solving. Independent research is a required part of the program. IGCSE Algebra 2 must have been successfully completed or the student must take IGSCE Advanced Algebra 2 concurrently. Assessment measures will include external student examination and course evaluations by the teacher.

**Credits** 1

**Grades**

10, 11

**Course Designation**

Cambridge,
Weighted (0.5W)

**Schools**

Brentsville District High School
Potomac High School

**Prerequisites**

IGCSE Geometry **or** Geometry

**Corequisites**

Algebra 2 **or** IGSCE Advanced Algebra 2

# Science - Dual Enrollment

## Biology 2: Survey of Advanced Topics in Biology (DE)

Biology 2: Survey of Advanced Topics in Biology (DE) is an academically rigorous, in-depth, second-year study of selected areas of biology that allows highly motivated students to delve more deeply into life systems and processes. Students will focus on biological processes with a chemical foundation, including macromolecules, cellular structure, metabolism, and genetics in an evolutionary context. They will explore the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformation of energy and matter; and systems biology. They will emphasize the process of science, interdisciplinary approach, and relevance of biology to society. Successful completion of this course equates to BIO 101 General Biology I (4 credits) at NOVA.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School

**Prerequisites**

Biology 1 **or** Advanced Biology 1

Chemistry 1 **or** Advanced Chemistry 1

**Notes**

This course utilizes animal dissection techniques as a major instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

To enroll in this course, students must meet all eligibility requirements established by NOVA.

## Chemistry 2: Introduction to College Chemistry (DE)

Chemistry 2: Introduction to College Chemistry is a rigorous second-year chemistry course that explores the fundamental laws, theories, and mathematical concepts of chemistry. Students will cover topics including matter, measurements, atomic structure, moles, nomenclature, chemical reactions, stoichiometry, electronic structures of the atom, chemical bonding, thermochemistry, and gasses. Advanced laboratory skills will be developed as part of this course. Students may only take either AP Chemistry or Chemistry 2: Introduction to College Chemistry (DE) for credit. Successful completion of this course equates to CHM 111 General Chemistry 1 (4 credits) at NOVA.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Dual Enrollment (DE),
Weighted (1.0W)

**Schools**

Battlefield High School
Freedom High School
Patriot High School

**Prerequisites**

Algebra 2
Chemistry 1
**or** Advanced Chemistry 1

**Notes**

To enroll in this course, students must meet all eligibility requirements established by NOVA.

## Environmental Science (DE)

Students taking Environmental Science (DE) will complete ENV 121 Foundations of Environmental Science in the Fall and ENV 122 Applications of Environmental Science in the Spring. In ENV 121 students will focus on basic physical, chemical, and biological provincials with an emphasis on the interactions of humans and the environment. In ENV 122 students will apply the basic concepts of environmental science to human interactions with the environment. They will examine environmental science in the context of the societal implications with a focus on sustainability. The purpose of this courses is to provide students with an introduction to the scientific principals in environmental science with an emphasis on the interactions between humans and the environment, and to apply concepts of environmental science to sustainability. Successful completion of this course equates to ENV 121 Foundations in Environmental Sciences (4 credits) and ENV 122 Applications in Environmental Science (4 credits) at NOVA.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Colgan High School
Forest Park High School
Freedom High School
**Prerequisites**
Biology 1
**or** Advanced Biology 1

Chemistry 1 **or** Advanced Chemistry 1
**Corequisites**
Algebra 2
**Notes**
To enroll in this course, students must meet all eligibility requirements established by NOVA.

## IB Biology 1 (HL) (DE)

IB Biology 1 (HL) (DE) is an academically rigorous, in-depth study of selected areas of biology that allows highly motivated students to delve more deeply into life systems and processes. Students will focus on biological processes with a chemical foundation, including macromolecules, cellular structure, metabolism, and genetics in an evolutionary context. They will explore the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformation of energy and matter; and systems biology. They will emphasize the process of science, interdisciplinary approach, and relevance of biology to society. Successful completion of this course equates to BIO 101 General Biology 1 (4 credits) at NOVA.

**Credits** 1
**Grades**
11
**Course Designation**
Dual Enrollment (DE),
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
Gar-Field High School
**Prerequisites**
Advanced Middle Years Programme Biology 1
IB Chemistry 1 (SL)
**Notes**
This course may utilize animal dissection techniques as an instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

To enroll in this course, students must meet all eligibility requirements established by NOVA.

## IB Biology 2 (HL) (DE)

IB Biology 2 (HL) (DE) is part two of a two-sequence course. The course continues the focus on biological processes with a chemical foundation, including macromolecules, cellular structure, metabolism, and genetics in an evolutionary context. Students will explore the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformation of energy and matter; and systems biology. The students will emphasis the process of science, interdisciplinary approach, and relevance of biology to society. Successful completion of this course equates to BIO 102 General Biology 2 (4 credits) at NOVA.

**Credits** 1

**Grades**

12

**Course Designation**

Dual Enrollment (DE),
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)

**Schools**

Gar-Field High School

**Prerequisites**

IB Biology 1 (HL) (DE)

Students must complete BIO 101 General Biology with a C or better to enroll in this course.

**Notes**

This course may utilize animal dissection techniques as an instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

To enroll in this course, students must meet all eligibility requirements established by NOVA.

# Science - Electives Biotech Program

## Biology 2: Introduction to DNA Science and Biotechnology

This is a second-year study of biological and chemical principles related to molecular biology and biotechnology. The course is designed for students with interests in the health sciences, animal science, and plant biology. A variety of topics, issues, and techniques will be addressed, including cellular structure and function; enzyme activity; classical and molecular genetics; DNA science (gene regulation, mutation, transfer; karyotyping; and DNA sequencing and decoding), genetic engineering applications; and various biotechnology techniques. Ethical, social, and legal implications associated with biotechnology will be explored through case studies, student research, discussion, debate, and examination of current events. Laboratory experiences will include chromatography, electrophoresis, immunology, enzyme studies, DNA extraction, PCR simulation, and plant cloning.

**Credits** 1

**Grades**

11, 12

**Schools**

Osbourn Park High School

**Prerequisites**

Biology 1
**or** Advanced Biology 1

Chemistry 1 **or** Advanced Chemistry 1

Algebra 1

**Notes**

This is a local elective course. It is not approved as a "laboratory science" credit toward graduation requirements by the Virginia Board of Education.

## Biology 2: Survey of Microbiology and Forensics

The Microbiology portion of this course familiarizes students with the microbial world. Students explore the clinical and environmental aspects of microbes, and principles of structure, metabolism, growth, and genetics of prokaryotes. Opportunities are provided to develop an understanding of microbial anatomy and physiology, and to develop safe techniques for the handling and cultivating of microorganisms. The Forensic portion of this course provides students with fundamental learning in forensic laboratory analysis and crime scene investigation, with academic emphasis in criminal justice. Appropriate laboratory experiences are provided to develop further understanding and use of scientific inquiry skills.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Hylton High School
Osbourn Park High School

**Prerequisites**

Biology 1
**or** Advanced Biology 1

**Corequisites**

Chemistry 1
**or** Advanced Chemistry 1

**Notes**

This is a local elective course. It is not approved as a "laboratory science" credit toward graduation requirements by the Virginia Board of Education.

## Chemistry 2: Organic Chemistry

This second level course provides a fundamental overview of organic chemistry. Upon successful completion, students will understand the relationship between structure and function of molecules, the major classes of reactions, reaction energetics and mechanisms, synthesis of organic compounds, and how to determine structure via various spectroscopic techniques. Students will be challenged to consider how these concepts relate to the broader applications of science, especially in the laboratory setting.

**Credits** 1

**Grades**

11, 12

**Schools**

Freedom High School
Osbourn Park High School

**Prerequisites**

Chemistry 1
**or** Advanced Chemistry 1

**Notes**

This is a local elective course. It is not approved as a "laboratory science" credit toward graduation requirements by the Virginia Board of Education.

# Science - Electives

## Advanced Biology 1

Advanced Biology 1 is designed to give students a foundation in biological concepts as well as the opportunity to apply principles of experimental design in laboratory settings and on a required student project. Advanced Biology includes the same major areas of study as Biology 1 but with enrichments and extensions to each curriculum objective and associated specialty program.

This course has an associated Standards of Learning (SOL) test. Students will participate in this test to satisfy federal testing requirements.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
None
**Notes**
This course may utilize animal dissection techniques as an instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

## Advanced Chemistry 1

Advanced Chemistry 1 is designed to give students a foundation in chemical concepts as well as the opportunity to apply principles of experimental design in laboratory settings and on a required student project. Advanced Chemistry includes the same major areas of study as Chemistry 1, but with enrichment and extensions to each curriculum objective.

This course has an associated Standards of Learning (SOL) test. Students will participate in this test only if they have not yet earned a verified science credit for graduation.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
Algebra 1
**or** Advanced Algebra 1

One laboratory science

## Advanced Earth Science 1

Advanced Earth Science 1 is a lab-based course designed to give students a foundation in earth science concepts and as well as the opportunity to apply principles of experimental design in laboratory settings and on a required student project. Advanced Earth Science includes the same major areas of study as Earth Science 1 but with enrichment and extensions to each curriculum objective. This course has an associated Standards of Learning (SOL) test. Students will participate in this test only when they have not yet earned a verified credit for graduation.

**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Hylton High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
None

## Biology 2: Anatomy and Physiology

Biology 2: Anatomy and Physiology is an academically rigorous second-level laboratory biology course. While suitable for any high school student, it is designed specifically for those who are interested in pursuing careers in biological studies and medical fields. Participants will investigate and understand cell histology and cellular processes, the purpose and the organization of various body systems, the biochemical processes essential for life, and common human health issues.

**Credits** 1
**Grades**
11, 12
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Osbourn Park High School
Patriot High School
**Prerequisites**
Biology 1 **or** Advanced Biology 1
**Notes**
Course work in Chemistry 1 or Advanced Chemistry 1 is recommended.

This course utilizes animal dissection techniques as a major instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

## Biology 2: Ecology

Ecology is an academically rigorous, in-depth, second-year study of biological and ecological principles governing higher levels of organization (populations, communities, ecosystems). Concepts that will be covered include adaptation and natural selection; the physical environment and climate; population ecology, growth models, and life history patterns; communities, competition, parasitism, mutualism, and human interactions; ecosystem productivity, energy flow, nutrient cycling, and biogeochemical cycles; and biogeography, biodiversity, and global environmental change. The science of ecology is dedicated to an understanding of the relationships between organisms and their environment and is often at the center of public policy disputes related to the environment; therefore, students will learn how ecological research is becoming increasingly important and prominent throughout the world. Student participation in outdoor field activities is expected.

**Credits** 1

**Grades**

11, 12

**Schools**

Freedom High School
Gar-Field High School
Osbourn Park High School
Potomac High School
Unity Reed High School

**Prerequisites**

Biology 1 **or** Advanced Biology 1

Earth Science 1 ***or*** Chemistry 1

## Biology 2: Genetics

This course builds on the foundational principles of genetics and introduces students to important modern topics including genome sequencing, predictive medicine, epigenetics, bioinformatics, etc. Students will develop understanding of analytical approaches now being used across the spectrum of the biological disciplines (e.g., markers, genetic dissection, genetic engineering, etc.). In addition, the course will address perilous misconceptions that have been documented by researchers as common among the current U.S. population.

**Credits** 1

**Grades**

11, 12

**Schools**

Freedom High School
Osbourn Park High School

**Prerequisites**

Biology 1 **or** Advanced Biology 1

## Biology 2: Survey of Advanced Topics in Biology

Biology 2: Survey of Advanced Topics in Biology is an academically rigorous, in-depth, second-year study of selected areas of biology that allows highly motivated students to delve more deeply into life systems and processes. Extensive laboratory work is part of this course. Emphasis is placed on research skills and techniques.

**Credits** 1

**Grades**

11, 12

**Schools**

Colgan High School
Gainesville High School
Gar-Field High School
Woodbridge High School

**Prerequisites**

Biology 1 **or** Advanced Biology 1

**Notes**

Course work in Chemistry 1 or Advanced Chemistry 1 is recommended.

This course utilizes animal dissection techniques as a major instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

## Chemistry 2: Forensic Sciences and Chemical Analysis

Chemistry 2: Forensic Sciences and Chemical Analysis course includes central concepts concerning the history of forensic sciences, the chemical analysis of forensic evidence, and crime scene management. Students will apply the Locard's Principle in the observation, acquisition, and analysis of forensic evidence. Major focus is placed upon the understanding of science as an active process including the application of instrumental methods of analysis such as ultraviolet, visible, infrared and fluorescence spectrophotometry, gas chromatography, and thin layer chromatography to the classification of physical evidence. In addition, techniques of analytical chemistry are utilized to investigate the chemical composition of blood, latent fingerprints, hair and fiber evidence, toxicology, soil samples, questioned documents, and other types of trace evidence.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Hylton High School
Patriot High School
Unity Reed High School

**Prerequisites**

Biology 1
**or** Advanced Biology 1

Chemistry 1 **or** Advanced Chemistry 1

**Notes**

This is a local elective course. It is not approved as a "laboratory science" credit toward graduation requirements by the Virginia Board of Education.

## Earth Science 2: Astronomy

Astronomy is a second level Earth Science course designed to be a more in-depth, mathematical treatment of the astronomical concepts presented in the introductory Earth Science 1 course. Topics such as the universe, universal laws, galaxies, stellar evolution, the solar system and its motion, and the exploration of space will be discussed.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Environmental Science ***or*** Earth Science 1

**Notes**

Course work in Chemistry 1 or Advanced Chemistry 1 is recommended.

## Earth Science 2: Oceanography

Oceanography is a second level Earth Science course designed to be a more in-depth treatment of the oceanography concepts presented in the introductory Earth Science 1 course. It is a broad survey course dealing mainly with physical oceanography and covering such topics as the geology and geography of ocean basins; physical properties of sea water; marine chemistry; salinity and density; circulation of the oceans, waves and tides; and oceanographic instruments, tools, and methods. Emphasis is also placed on ocean policy and ocean ecology.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Environmental Science ***or*** Earth Science 1 or Advanced Earth Science 1

Biology 1 **or** Advanced Biology 1

**Notes**

Course work in Chemistry 1 or Advanced Chemistry 1 is recommended.

## Earth Science 2: Physical Geology

Physical Geology is a second level earth science course designed to be a more in-depth treatment of the geology concepts presented in the introductory Earth Science 1 course. Topics of study include but are not limited to plate tectonics theory; interrelationships between humans and the geological environment that affect ground water resources; runoff and erosion; waste disposal; energy resources and food production; time/space relationships in the earth record; and geomorphology.

**Credits** 1

**Grades**

11, 12

**Schools**

Osbourn Park High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Environmental Science ***or*** Earth Science 1

**Notes**

Course work in Chemistry 1 or Advanced Chemistry 1 is recommended.

## Methods in Scientific Inquiry

This elective course immerses students in the practices of scientific inquiry and engineering design through hands-on, student-driven, interdisciplinary research. Students will be encouraged to present their learning at the PWCS Regional Science Fair and the Virginia Junior Academy of Sciences. Students will learn to ask testable questions, define problems, and design-controlled investigations using modern technology tools and techniques. Emphasis is placed on planning and conducting experiments ethically and safely, analyzing and interpreting data using statistical methods, and constructing evidence-based explanations. Students will develop and use models, evaluate competing hypotheses, and communicate findings through lab reports, presentations, and peer-reviewed formats. The course fosters critical thinking, collaboration, and scientific literacy, preparing students for advanced study and careers in STEM fields.

**Credits** 1

**Grades**

10, 11

**Schools**

Osbourn Park High School
Woodbridge High School

**Prerequisites**

Biology 1
**or** Advanced Biology 1

**Corequisites**

Chemistry 1
**or** Advanced Chemistry 1

**Notes**

This is a local elective course. It is not approved as a "laboratory science" credit toward graduation requirements by the Virginia Board of Education.

# Science - IB Programme

## Advanced Middle Years Programme Biology 1

Advanced Middle Years Programme Biology is a survey of the animal, plant, and protist kingdoms, including consideration of the classification, distribution, and life processes of the major groups of each kingdom. Students will use scientific research methods to investigate scientific principles. Extensive laboratory work will be a part of the course, and students are required to submit written lab reports. Students will explore the skills used by practicing biologists and how biology can help solve environmental problems. This course has an associated Standards of Learning (SOL) test. Students will participate in this test to satisfy federal testing requirements.

**Credits** 1

**Grades**

9, 10, 11, 12

**Course Designation**

International Baccalaureate (IB),
Weighted (0.5W)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

None

**Notes**

The Virginia Standards of Learning (SOL) for Biology 1 do not require animal dissections. If a teacher uses this technique as an instructional strategy, students who object to these exercises will be provided with comparable alternative learning experiences.

## Advanced Middle Years Programme Earth Science

Advanced Middle Years Programme Earth Science is designed for IB students who wish to concentrate on rigorous earth science principles and processes that will lead to more qualitative sciences. Students will investigate the natural sciences of astronomy, oceanography, meteorology, and geology. The IB internal assessment will serve as a guide as students apply the scientific method. This course has an associated Standards of Learning (SOL) test. Students will participate in this test only if they have not yet earned a verified credit for graduation.

**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
International Baccalaureate (IB),
Weighted (0.5W)
**Schools**
Gar-Field High School
Unity Reed High School
**Requirements**
Enrollment in the IB Programme
**Prerequisites**
None

## IB Biology 1 (HL)

IB Biology is the first year of an overview of the major principles and processes in the areas of molecular and cellular biology, genetics, ecology, and organisms. Laboratory work is an integral part of this course and students are required to submit written laboratory reports. Key points of the course are structure and function, universality versus diversity, and equilibrium within systems.

**Credits** 1
**Grades**
11
**Course Designation**
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
IB Chemistry 1 (SL)
Advanced Middle Years Programme Biology 1
**Notes**
This course may utilize animal dissection techniques as an instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

## IB Biology 2 (HL)

IB Biology 2 is an introduction to Advanced anatomy and physiology and plant biology. A review of IB Biology 1 principles and processes in the areas of molecular and cellular biology, genetics, ecology, and organisms is included. Students are required to take the IB examination at the end of the course. Laboratory work is an integral part of this course and students are required to submit written laboratory reports.

**Credits** 1
**Grades**
12
**Course Designation**
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
IB Biology 1 (HL)
**Notes**
This course may utilize animal dissection techniques as an instructional strategy. Students who conscientiously object to these exercises will participate in division-approved activities that provide comparable learning experiences.

## IB Chemistry 1 (SL)

This course provides a general introduction to chemistry. The topics of study include atomic structure, ionic and covalent compounds, chemical equations, stoichiometry, gases, solutions, organic chemistry, and acids and bases. Students develop experimental design skills to collect and analyze data using graphical and statistical methods. Students will design and conduct experimental research projects and will have an emphasis on qualitative and quantitative study of substances and the changes they undergo. Laboratory investigations form a major component of the course as well as mathematical applications of stoichiometry in problem solving. All students must maintain a portfolio of laboratory work that is submitted to the IB examiners. IB Chemistry 1 meets the course requirements of Chemistry 1. This course has an associated Standards of Learning (SOL) test. Students will participate in this test only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

Algebra 1
**or** Advanced Algebra 1

One year of laboratory science

## IB Chemistry 2 (SL)

This second-level course provides students with a comprehensive hands-on study of major chemical principles emphasizing laboratory experiences and research. Students study research techniques, Advanced problem solving, and synthesis of prior knowledge to investigate IB option topics. Participation in an interdisciplinary science research (Group 4) project is required. Laboratory investigations form a major component of the course, and all students must maintain a portfolio of laboratory work that is presented to the IB examiners. With a satisfactory IB exam score, students may receive credit for introductory college chemistry. Students are required to take the IB Chemistry Standard Level Exam and complete the required hours and assignments tied to the SL Chemistry Internal Assessment.

**Credits** 1

**Grades**

11, 12

**Course Designation**

International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

IB Chemistry 1 (SL)

## IB Environmental Systems and Societies (SL)

This one-year course provides students with a perspective on the interrelationships between ecosystems and societies. Students will emerge from the class with an understanding of complex environmental issues in which the interaction between ecosystems and societies is central. Sustainability is the integrative theme of this course. Students will develop the capability to formulate an informed personal response to both local and global issues. Students will take the Earth Science 1 Standards of Learning assessment only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements. Environmental Systems and Societies can serve as a requirement for either a Group 3 (Individuals and Societies) course or a Group 4 (Experimental Science) course within the IB diploma program. 40 hours of lab work and participation in the Group 4 Project are required by the IBO.
**Credits** 1
**Grades**
11, 12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
Advanced Middle Years Programme Biology 1

## IB Physics (SL)

IB Physics is an extremely fast-paced, rigorous course following the IB Standard Level curriculum. Building on their background from Advanced Middle Years Programme Physics, students will study mechanics, heat, electromagnetism, light, sound, and modern physics in greater depth. Students will design and implement their own laboratory investigations and will be graded using IB assessment criteria. They will participate in the interdisciplinary "Group 4 Project" and will sit for the Standard Level examination at the end of the course.
**Credits** 1
**Grades**
11, 12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Advanced Middle Years Programme Algebra 2 - Extended

# Science - Standard

## Biology 1

Biology 1 is a laboratory-based course that includes the study of ecology, taxonomy, cellular chemistry, genetics, microbiology, and physiology. These areas are developed within a framework of principal biological theories with an emphasis on critical thinking. This course has an associated Standards of Learning test. Students will participate in this test to satisfy federal testing requirements.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Virtual Prince William (VPW)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None
**Notes**
The Virginia Standards of Learning (SOL) for Biology 1 do not require animal dissections. If a teacher uses this technique as an instructional strategy, students who object to these exercises will be provided with comparable alternative learning experiences.

## Chemistry 1

Chemistry 1 emphasizes the qualitative and quantitative study of substances and the changes that occur in them. Students will investigate using various lab techniques and develop mathematical and problem-solving skills. A survey of concepts includes atomic structure, chemical bonding, formulas and equations, stoichiometry and other nomenclature based on molar relationships, phases of matter and the kinetic molecular theory, and the acid-base theory through Science and Engineering Practices (SEP). This course is intended for college preparatory and general education purposes. This course has an associated Standards of Learning (SOL) test. Students will participate in this test only if they have not yet earned a verified science credit for graduation.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Algebra 1
**or** Advanced Algebra 1

One year of laboratory science

## Earth Science 1

Earth Science 1 is a laboratory-based course that provides students with an opportunity to explore the various physical phenomena that affect the earth. This course helps students become more aware of their surroundings through the study of astronomy, meteorology, oceanography, physical geology, and environmental resources. This course has an associated Standards of Learning (SOL) test. Students will participate in this test only if they have not yet earned a verified science credit for graduation.

**Credits** 1

**Grades**

9, 10, 11, 12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School
Brentsville District High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

## Environmental Science

This course is a laboratory-based course that provides students with an opportunity to build knowledge in Earth Science and Biology through the lens of environmental literacy and citizenship. This course develops skills through Scientific and Engineering Practices while addressing socio-scientific issues related to humans' impact on the environment, resource conservation, and legal and civic responsibility. This course may be counted toward high school graduation as either an Earth Science 1, Biology 1, or an elective science discipline credit. The Environmental Science course does not have an associated Standards of Learning (SOL) test.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

## Physics 1

Physics 1 is a standard first-year course that covers all topics required by the Virginia Standards of Learning (SOL) for physics. This course is lab-based. Students will engage with Scientific and Engineering Practices (SEP) to investigate Newtonian mechanics; wave phenomena; electricity and magnetism; thermodynamics; optical systems; and selected topics in modern physics. Students who desire to continue their study of physics upon completion of this course could enroll in AP Physics 1, AP Physics 2, or AP Physics C: Mechanics.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Geometry
**or** Advanced Geometry

**Corequisites**

Algebra 2 or higher

# Visual and Performing Arts

Dance, Music, Theatre, and Visual Arts

## Functional Art & Craft Design

Functional Art & Craft Design focuses on the long tradition of the design and ornamentation of everyday objects and the contemporary marketing and commercial aspects of this work. This will prepare students to attend university programs for commercial crafts like fibers, fashion design, jewelry design, glass design, furniture design, and ceramics design.
**Credits** 1
**Length**
Year
**Grades**
9, 10, 11, 12
**Schools**
Osbourn Park High School
Woodbridge High School
**Prerequisites**
None

# Art - Dual Enrollment

## Photography 1 DE

Student must provide a 35mm SLR film camera (for schools with darkrooms) or a digital camera. A fee may be charged for consumable materials needed to complement provided materials.

Students will be introduced to the fundamental techniques of photography, including digital camera operation. This will include technical and conceptual exercises, individual project development, and group critiques. Students will explore photography as a fine art and a means of communication. Students will be required to shoot outdoors and complete associated lab work. Successful completion of this course equates to PHT 101 Photography 1 (3 credits) at NOVA.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Studio Art 1
**Notes**
To enroll in this course, students must meet all eligibility requirements established by NOVA.

## Theatre Arts 3 DE: Dramatic Literature and Theatrical Design

Students will survey the principles of drama, the development of theatre production, and selected play to acquaint the student with the various types of theatrical presentations. Students will receive an overview of the elements of theatre, from the creation of the play or scenario to production. Successful completion of this course equates to CST 130 Introduction to Theatre.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Dual Enrollment (DE),
Weighted (1.0W)
**Schools**
Colgan High School
**Prerequisites**
Theatre Arts 2: An Exploration of Performance in Theatre
**Notes**
To enroll in this course, students must meet all eligibility requirements established by NOVA.

# Band

## Accelerated Band

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Forest Park High School
Gainesville High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Accelerated Brass

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Osbourn Park High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Accelerated Percussion

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Brentsville District High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Accelerated Woodwind

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Osbourn Park High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Advanced Band

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. Advanced Band will require extensive practice, rehearsal, and performance outside of school. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Brentsville District High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Beginning Band

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Brentsville District High School
Freedom High School
Independence Nontraditional High School
Patriot High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Beginning Brass

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
None

## Beginning Percussion

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Patriot High School
Potomac High School
**Prerequisites**
None

## Beginning Woodwind

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
None

## Concert Band

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Gar-Field High School
Osbourn Park High School
Potomac High School
Unity Reed High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Intermediate Band

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Forest Park High School
Freedom High School
Gar-Field High School
Hylton High School
Patriot High School
Potomac High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Intermediate Brass

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.

**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Gainesville High School
Potomac High School
Unity Reed High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Intermediate Percussion

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.

**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Forest Park High School
Gainesville High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Intermediate Woodwind

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. This course may be taken more than once for credit.

**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Gainesville High School
Potomac High School
Unity Reed High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Jazz Band

The high school band program offers various courses to develop the student's musical skills. Students learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. Jazz Band will require some after-school rehearsals and performances that are an integral part of this curriculum. This course may be taken more than once for credit.

**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Osbourn Park High School
Patriot High School
**Requirements**
Audition or permission of the instructor.
**Notes**
36 weeks - 1 credit
18 weeks - 0.5 credit

## Marching Band

Marching band is offered at all schools as part of the high school band program and is an offering for students who are also enrolled in another band class offering. After-school rehearsals and performances are required of all students as an integral part of this course. Marching Band will require extensive practice, rehearsal, and performance outside of school. This course may be taken more than once for credit.
**Credits** 0.5
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

# Choir

## Accelerated Bass Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Brentsville District High School
Forest Park High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Accelerated Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Brentsville District High School
Gainesville High School
Hylton High School
Potomac High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Accelerated Treble Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Unity Reed High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Advanced Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. Advanced Choir will require extensive practice, rehearsal, and performance outside of school. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Course Designation**

Weighted (0.5W)

**Schools**

Battlefield High School
Brentsville District High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Audition ***or*** permission of the instructor

**Prerequisites**

None

## Beginning Bass Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Osbourn Park High School
Patriot High School
Potomac High School

**Requirements**

Audition ***or*** permission of the instructor

**Prerequisites**

None

## Beginning Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Freedom High School
Potomac High School
Woodbridge High School

**Prerequisites**

None

## Beginning Treble Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Forest Park High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Class Voice 1

Students enrolled in Class Voice 1 will be taught fundamentals of singing technique. The class will emphasize posture, breathing technique, tone quality, diction, legato singing, and auditioning techniques. Students will be required to learn and sing solos from a variety of vocal literature appropriate to their skill level. All students will learn the skills necessary for solo performance. An emphasis will be placed on preparation for auditions including county, district and state events. Students will be required to purchase songbooks and/or music for class study. This is not an ensemble class.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
None

## Class Voice 2

Students enrolled in Class Voice 2 will be taught fundamentals of singing technique. The class will emphasize posture, breathing technique, tone quality, diction, legato singing, and auditioning techniques. Students will be required to learn and sing solos from a variety of vocal literature appropriate to their skill level. All students will learn the skills necessary for solo performance. An emphasis will be placed on preparation for auditions including county, district and state events. Students will be required to purchase songbooks and/or music for class study. This is not an ensemble class.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
Class Voice 1

## Class Voice 3

Students enrolled in Class Voice 3 will be taught fundamentals of singing technique. The class will emphasize posture, breathing technique, tone quality, diction, legato singing, and auditioning techniques. Students will be required to learn and sing solos from a variety of vocal literature appropriate to their skill level. All students will learn the skills necessary for solo performance. An emphasis will be placed on preparation for auditions including county, district and state events. Students will be required to purchase songbooks and/or music for class study. This is not an ensemble class.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
Class Voice 2

## Concert Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Forest Park High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Audition ***or*** permission of the instructor

**Prerequisites**

None

## Intermediate Bass Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Gainesville High School
Hylton High School
Patriot High School
Unity Reed High School
Woodbridge High School

**Requirements**

Audition ***or*** permission of the instructor

**Prerequisites**

None

## Intermediate Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Freedom High School
Hylton High School
Potomac High School
Woodbridge High School

**Requirements**

Audition ***or*** permission of the instructor

**Prerequisites**

None

## Intermediate Treble Choir

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Students learn a variety of vocal skills through the study of related choral literature. Students in this class develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of this course. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Gainesville High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Audition ***or*** permission of the instructor

**Prerequisites**

None

# Dance

## Dance 1 Fundamentals of Dance, Jazz Dance, Modern Dance

Fundamentals of Dance offers students an introduction to dance techniques and styles; creative process; critical thinking and communication including analyzation, evaluation, and reflection; dance history, culture, and citizenship; and innovation in dance arts. Students will develop the technical and artistic skills necessary for expressive dance performance and for the safe training and care of the body as an instrument. They will demonstrate an understanding of dance within the contexts of history, culture, and other art forms, and of the role of dance as a vehicle for human expression. Students will develop observation and critical-thinking skills for the evaluation of dance works, including their impact on society, and nurture a lifelong appreciation for dance as an integral component of an educated, cultured society. This course can be repeated twice for credit with a different emphasis.

**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Woodbridge High School
**Prerequisites**
None

## Dance 2 Dance and the Creative Process

Dance and the Creative Process offers dance students the opportunity to integrate and expand upon the concepts learned and skills acquired in Dance 1 or other equivalent prior training. Students develop additional performance and production skills while increasing their range of physical skills through disciplined study of dance technique. Dance improvisation and composition studies expand students' creativity and choreographic craftsmanship.

**Credits** 1
**Grades**
10, 11, 12
**Schools**
Woodbridge High School
**Requirements**
Teacher approval
**Prerequisites**
Dance 1 Fundamentals of Dance, Jazz Dance, Modern Dance

## Dance 3 Intermediate Dance Studies

Dance 3 offers third year dance students the opportunity to expand upon their technical and performance skills, apply choreographic concepts, and understand dance as an art form through self-evaluation and reflective-thinking processes. Students develop leadership skills by assuming greater responsibility for defined roles in production preparations.

**Credits** 1
**Grades**
11, 12
**Schools**
Woodbridge High School
**Requirements**
Teacher approval
**Prerequisites**
Dance 2 Dance and the Creative Process
**Notes**
Supplies and class fee: Appropriate dance attire must be purchased by student as directed by instructor. Class fee of $8 will help to cover costume costs.

## Dance 4 Advanced Dance Leadership

Dance 4 helps students to develop independent thinking, personal responsibility, and leadership while continuing to refine dance skills in performance and choreography. Students synthesize technique and composition skills in the creation of movement sequences. Advanced level composition and production skills are applied.

**Credits** 1
**Grades**
12
**Schools**
Woodbridge High School
**Requirements**
Teacher approval
**Prerequisites**
Dance 3 Intermediate Dance Studies
**Notes**
Supplies and class fee: Appropriate dance attire must be purchased by student as directed by instructor. Class fee of $8 will help to cover costume costs.

# Dance, Music, and Theatre Arts -Center for Fine and Performing Arts

## Advanced Music Technology

The Advanced Music Technology course will build upon the knowledge and skills acquired in Music Technology and refine the student's ability to arrange and compose original music and scores for film, using a variety of hardware and software tools. A final portfolio demonstrating the student's music development throughout the year will be required. This course may be taken for more than one credit.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
**Prerequisites**
Music Technology or permission of the instructor

## CFPA Bass Varsity Choir, CFPA Concert Choir, CFPA Treble Camerata, CFPA Chamber Ensemble

The high school choral program offers various courses to develop a student's musical skills based on their level of ability. Classes in varsity choir, concert choir, men's choir, treble choir, or vocal ensemble allow students to learn a variety of vocal skills through the study of related choral literature. Students in these classes develop technical facility and proficient musicianship through a variety of performance experiences. Through group performances, solos, and ensembles, the student is exposed to standard choral repertoire encompassing various styles and periods of music. Some after-school rehearsals and performances are required of all students as a part of these courses. These courses may be taken more than once for credit.
**Credits** 1
Only CFPA Chamber Ensemble is Weighted (0.5W)
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
**Requirements**
Audition required for all choirs except Varsity and Bass Choir.

## CFPA Concert Orchestra, CFPA Chamber Strings, CFPA Orchestra Ensemble, CFPA Philharmonic Orchestra

Students who enroll in the high school orchestra develop technical and ensemble skills through the study of orchestral literature. Students receive fundamental training in the proper playing of a stringed instrument and performance and study literature commensurate with their level of ability. Members of this class form the representative string performing group for the school. Some after-school rehearsals and performances are required of all students as a part of these courses. These courses may be taken more than once for credit.
**Credits** 1
Only CFPA Philharmonic Orchestra is Weighted (0.5W)
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
**Requirements**
Audition or permission of the instructor.

## CFPA Dance 1 Company

The content of "Company" is designed to provide students with a survey of the dance arts. Students will be studying ballet, modern dance, and jazz dance technique. Students will be introduced to dance vocabulary, choreographic concepts, and dance history. Students will also develop performance skills, conduct critique and analysis and begin to develop their dance portfolios.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Colgan High School
**Requirements**
Acceptance to the CFPA or recommendation from the Program Coordinator

## CFPA Dance 2 Corps

The content of "Corps" is designed to integrate and build upon concepts and skills from Company level class. Students increase their range of physical skills through the disciplined study of dance technique. Students also develop performance and production skills. Students continue to expand their appreciation of the dance arts by further study of dance history and its contribution to society. Students are introduced to the diversity that exists within the art form and their personal aesthetic. Students continue to develop their dance portfolios.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Colgan High School
**Requirements**
Recommendation from the Program Coordinator

## CFPA Dance 3 Ensemble

The content of "Ensemble" is designed to further refine physical alignment and technical execution of dance patterns specific to each dance style studied. Students will develop rudimentary understanding of concepts necessary for dance composition. Students will also begin to examine anatomical and kinetic components of dance, injury prevention and nutrition. This course will also familiarize students with the various aspects of dance production, lighting, sound, and other technical skills. Students continue to develop their portfolios.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Colgan High School
**Requirements**
Recommendation from the Program Coordinator

## CFPA Dance 4 Artist

The content of "Artist" is to develop mastery of physical alignment and technical execution designed of dance patterns specific to each style. Students will further explore and implement concepts used in dance composition and continue to develop knowledge and understanding of anatomical and kinetic aspects of dance. Students will continue their study of dance history and will explore its impact and relevance to dance in the 21st century.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
**Requirements**
Recommendation from the Program Coordinator

## CFPA Dance Composition and Repertory

Students will be introduced to the process of movement invention while developing the skills for creating and communicating a series of planned movement phrases. Students will also explore different choreographic styles as they produce original choreographed projects for the class.
**Credits** 1
**Grades**
11, 12
**Schools**
Colgan High School
**Requirements**
Audition required.

## CFPA Piano

Students will be taught the necessary music fundamentals required to successfully play these instruments. Scales, music vocabulary, dynamics, technique, rhythmic skills and improvisation will be emphasized. All students will learn the beginning level technical and ensemble skills necessary for performance. Piano students will be required to furnish their own textbook and headphones. Some limited performance opportunities may be provided in these classes. These courses may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
**Prerequisites**
None

## CFPA Symphonic Band, CFPA Concert Band, CFPA Percussion Ensemble, CFPA Wind Symphony

The high school band program offers various courses to develop the student's musical skills. Classes in 9th grade band, intermediate band, Advanced band, marching band or jazz band allow students to learn technical and ensemble skills through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. These courses may be taken more than once for credit. Students must provide their own instruments or make arrangements with the teacher to rent school-owned equipment.
**Credits** 1
Only CFPA Wind Symphony is weighted (0.5W)
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
**Requirements**
Audition required or permission of the instructor.

## Directing for the Stage and Screen

The student learns how to create a vision for a production and how to communicate that vision with the actors and the design teams who bring it to the stage or screen. The student selects plays and analyzes and edits the script. The student learns to develop calendars, scene designs, ground plans, story boards, and shooting techniques. The student will learn the technical vocabulary, direct for various theatrical stages, as well as for the camera, and develop techniques for optimal uses of performance space. The student studies differing types of theatre and the techniques and styles of important screen and stage directors.

**Credits** 1
**Grades**
12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
**Prerequisites**
Performance Theatre

## Musical Theatre

Students study the collaborative efforts involved in creating the stage musical. In the process they fuse three areas of the arts: singing, dancing and acting.

**Credits** 1
**Grades**
11, 12
**Schools**
Colgan High School
**Requirements**
Enrollment as a 3rd year student in the CFPA Vocal Music, Dance or Theatre programs

## Performance Theatre

Students explore advanced acting techniques, and extensively examine and analyze dramatic literature and theatre of the 20th century. Students will also be introduced to scenic design, costume design, script analysis and performance as it applies to the directorial processes and investigate basic directing techniques.

**Credits** 1
**Grades**
10, 11
**Schools**
Colgan High School
**Requirements**
Enrollment as a 3rd year student in the CFPA Theatre program.

# High School Music

## Class Piano

Students will be taught the necessary music fundamentals required to successfully play these instruments. Music technique and application including, scales, music literacy, dynamics, rhythmic skills and improvisation will be emphasized. All students will learn the beginning level technical and ensemble skills necessary for performance. Piano students will be required to furnish their own textbook and headphones. Some limited performance opportunities may be provided in these classes. This course may be taken more than once for credit.

**Credits** 1
Year course 1.0 credit, Semester course 0.5 credit
**Grades**
9, 10, 11, 12
**Schools**
Colgan High School
Gar-Field High School
Hylton High School
Woodbridge High School
**Prerequisites**
None

## Guitar 1

Students will be taught the necessary music fundamentals required to successfully play these instruments. Music technique and application including, scales, music literacy, dynamics, rhythmic skills and improvisation will be emphasized. All students will learn the beginning level technical and ensemble skills necessary for performance. Students enrolling in the guitar class will be required to furnish their own textbook and acoustic (non-electric) guitar. Some limited performance opportunities may be provided in these classes. This course may be taken more than once for credit.

**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Freedom High School
Gar-Field High School
Osbourn Park High School
Potomac High School
Woodbridge High School
**Prerequisites**
None

## Guitar 2

Students will be taught the necessary music fundamentals required to successfully play these instruments. Music technique and application including, scales, music literacy, dynamics, rhythmic skills and improvisation will be emphasized. All students will learn the beginning level technical and ensemble skills necessary for performance. Students enrolling in the guitar class will be required to furnish their own textbook and acoustic (non-electric) guitar. Some limited performance opportunities may be provided in these classes. This course may be taken more than once for credit.

**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Freedom High School
Osbourn Park High School
Potomac High School
Woodbridge High School
**Prerequisites**
Guitar 1
or permission of the instructor.

## Music History

Music History is designed to provide an overview of the development of music as an art form through a variety of time periods. Students will study today's music and how and why it has evolved to its current state. To the extent possible, a multicultural approach to music history will be emphasized. This class may only be taken one time for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
None

## Music Technology

This course will offer students the opportunity to develop an understanding of music composition through the use of music notation software and hardware. Students will also develop skills that will assist them with creative and technical expression. A portfolio of compositions, arrangements and recordings representing a variety of styles and compositional situations will be developed throughout the course. This course may be taken for more than one credit.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Colgan High School
**Requirements**
One high school music course, or permission of the instructor

## Music Theory 1

Music Theory is a course designed for the student interested in an in-depth study of the fundamentals of music. Part writing, keyboard harmony, melodic and rhythmic dictation, and other ear-training skills will be developed in this class. Students will develop related skills in music composition, transposition, improvisation, and arranging. Each student will be encouraged to pursue independent study related to individual musical interests.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Freedom High School
Hylton High School
Woodbridge High School
**Prerequisites**
Possess music literacy skills

## Music Theory 2

Music Theory is a course designed for the student interested in an in-depth study of the fundamentals of music. Part writing, keyboard harmony, melodic and rhythmic dictation, and other ear-training skills will be developed in this class. Students will develop related skills in music composition, transposition, improvisation, and arranging. Each student will be encouraged to pursue independent study related to individual musical interests.

**Credits** 1
**Grades**
10, 11, 12
**Schools**
Freedom High School
Hylton High School
Woodbridge High School
**Prerequisites**
Music Theory 1

## Ukulele

Students will be taught the necessary music fundamentals required to successfully play these instruments. Music technique and application including, scales, music literacy, dynamics, rhythmic skills and improvisation will be emphasized. All students will learn the beginning level technical and ensemble skills necessary for performance. Some limited performance opportunities may be provided in these classes. This course may be taken more than once for credit.

**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
High School Currently Unavailable
**Prerequisites**
None

# Music - Advanced Placement

## AP Music Theory

AP Music Theory provides students the learning experience equivalent to a college introductory course in music theory. Major areas of study include compositional procedures, listening skills (particularly those involving recognition and comprehension of melodic and rhythmic patterns), harmonic functions, compositional techniques, music textures, music terminology, notation skills, sight-singing, and score analysis. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1
**Grades**
11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Patriot High School
**Prerequisites**
Music Theory 1 or one year of a high school music performing ensemble

# Music - Cambridge Programme

## AICE Music (AS/A Level)

AS/A Level Music students develop an appreciation of, and informed critical response to, music of the Western tradition from at least two genres and periods. Students learn how to listen attentively and responsively to better understand the musical processes at work: they also learn how to communicate this understanding, supporting their judgments through evidence-based argument. Students develop their own creative and interpretive skills through the disciplines of composing and performing in Western and/or non-Western traditions. AS Level year concentrates on listening, performing, or composing. A-Level builds on AS Level and concentrates on composing an original piece, investigating and reporting, and performing on a musical instrument or voice. Cambridge students are required to take the Cambridge International Examination (CIE) exam in June.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Advanced Level (A),
Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Requirements**
Successful completion of IGCSE Music Studies and/or teacher recommendation, advanced music ensemble or private instruction.

## IGCSE Music Studies

IGCSE Music Studies will provide students with a basis for an informed appreciation of music and a foundation for further study at an Advanced level. Students will develop a perceptive, critical response to the main historical periods and styles of Western music. Students will also recognize and understand the music from a variety of non-Western traditions, thus forming an appreciation of similarities and differences among cultures. Students will acquire basic musical skills, knowledge, and understanding of world music through listening, performing, and composing activities. Successful completion of the end of course exam will result in an IGCSE or an International Certificate in Education (ICE) certificate.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Cambridge,
Weighted (0.5W)
**Schools**
Potomac High School
**Prerequisites**
One year of music studies at the high school level, advanced music ensemble ***or*** private instruction

# Music - IB Programme

## IB Music 1 (SL)

IB Music 1 is part one of a two-year program resulting in an IB Certificate or Diploma. The course develops an in-depth understanding of music theory. Study will include intervals, choral development, transposition, composition, analysis, ear training, sight-singing, and basic piano skills. Students will be required to participate in performance ensembles and take private lessons during the course.
**Credits** 1
**Grades**
11
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Requirements**
Two years of high school music

## IB Music 2 (HL)

IB Music 2 is part two of a two-year program resulting in an IB Certificate or Diploma. The course is a continuation of IB Music 1, with emphasis on music history. Students will explore all time frames of music history. Topics covered will include Gregorian chant, Baroque music, Classical music, 20th Century music, and score reading. Students will be required to keep a composition portfolio and perform a lecture-recital. Depending on their skill and experience, students may prepare for either higher level or standard level examinations. Students will prepare for the IB Music HL exam.
**Credits** 1
**Grades**
12
**Course Designation**
Higher Level (HL) ,
Weighted (1.0W),
International Baccalaureate (IB)
**Schools**
High School Currently Unavailable
**Prerequisites**
IB Music 1 (SL)

# Orchestra

## Accelerated Orchestra

Students who enroll in the high school orchestra develop technical and ensemble skills through the study of orchestral literature. Students receive fundamental training in the proper playing of an orchestral instrument, and perform and study literature commensurate with their level of ability. Members of this class form the representative string performing group for the school. Some after-school rehearsals and performances are required of all students as a part of these courses. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Gainesville High School
Hylton High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Advanced Orchestra

Students who enroll in the high school orchestra develop technical and ensemble skills through the study of orchestral literature. Students receive fundamental training in the proper playing of an orchestral instrument, and perform and study literature commensurate with their level of ability. Members of this class form the representative string performing group for the school. Some after-school rehearsals and performances are required of all students as a part of these courses. Advanced Orchestra will require extensive practice, rehearsal, and performance outside of school. This course may be taken more than once for credit.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Brentsville District High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Requirements**
Audition ***or*** permission of the instructor
**Prerequisites**
None

## Beginning Orchestra

Students who enroll in the high school orchestra develop technical and ensemble skills through the study of orchestral literature. Students receive fundamental training in the proper playing of an orchestral instrument, and perform and study literature commensurate with their level of ability. Members of this class form the representative string performing group for the school. Some after-school rehearsals and performances are required of all students as a part of these courses. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Freedom High School
Gar-Field High School
Hylton High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

## Concert Orchestra

Students who enroll in the high school orchestra develop technical and ensemble skills through the study of orchestral literature. Students receive fundamental training in the proper playing of an orchestral instrument, and perform and study literature commensurate with their level of ability. Members of this class form the representative string performing group for the school. Some after-school rehearsals and performances are required of all students as a part of these courses. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Audition ***or*** permission of the instructor

**Prerequisites**

None

## Intermediate Orchestra

Students who enroll in the high school orchestra develop technical and ensemble skills through the study of orchestral literature. Students receive fundamental training in the proper playing of an orchestral instrument, and perform and study literature commensurate with their level of ability. Members of this class form the representative string performing group for the school. Some after-school rehearsals and performances are required of all students as a part of these courses. This course may be taken more than once for credit.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Requirements**

Audition ***or*** permission of the instructor

**Prerequisites**

None

# High School Theatre Arts

## Advanced Technical Theatre Productions

This course is designed to extend and deepen the knowledge developed in the Technical Theatre Productions course. Working alongside each main stage production, students will hone their previously learned skills of design by leading in different production areas. A focus will be placed on industry-standard applications of design, such as technical drawing, Vector Works, lighting plots and rigging, and sound mixing and design. Through collaboration with multiple departments, students will also develop and utilize their leadership and communication skills through the different roles in the theatre. They will have opportunities to lead design and manage different productions not only in the theatre department, but also in collaboration with the other performing arts concentrations and ceremonies within the school. This course will follow Project Based Learning and Inquiry-Based Learning guidelines. Each student will be assessed through their leadership roles, collaborative projects, and self-evaluations.
**Credits** 1
**Length**
Year
**Grades**
10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Colgan High School
Osbourn Park High School
Patriot High School
**Prerequisites**
Technical Theatre Production
Interview or permission of the instructor

## Film Studies

This yearlong course seeks to encourage an enjoyment and deeper understanding of different types of film (narrative cinema, documentary, and abstract film) through a critical understanding of how films work artistically, technically, and socially. Through film theory and film production, students will apply a range of critical approaches as well as receiving instruction in video and film production.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Colgan High School
Forest Park High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Technical Theatre Production

Students study the design, scenery, lighting, makeup, sound, costumes, and public relations necessary to ensure successful theatre productions. This course may be taken more than once for credit.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
None

## Theatre Arts 1: Introduction to Theatre

In this course, students survey the theatre arts. They will have opportunities to experience and appreciate dramatic literature and to participate in the creative processes of performance and production with emphasis in skill development and theatrical opportunities. Students will be encouraged to determine and investigate personal areas of interest in theatre arts.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Theatre Arts 2: An Exploration of Performance in Theatre

Students have Advanced opportunities for reinforcement, refinement and expansion of the acting skills learned in Theatre 1: Introduction to Theatre
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Forest Park High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Theatre Arts 1: Introduction to Theatre

## Theatre Arts 3: Dramatic Literature and Theatrical Design

Students extensively examine dramatic literature, stage and scene design, costume design, theatre history, and performance.
**Credits** 1
**Grades**
11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Gainesville High School
Gar-Field High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Theatre Arts 2: An Exploration of Performance in Theatre

## Theatre Arts 4: Advanced Theatre

Students refine the concepts learned and skills acquired in Theatre 3 and apply them to writing, performing, and directing while showcasing their collaborative and analytical skills.
**Credits** 1
**Grades**
12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Brentsville District High School
Gainesville High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
Theatre Arts 3: Dramatic Literature and Theatrical Design

# Theatre Arts - IB Programme

## IB Film (SL)

IB Film enables students to explore the various contexts of film and make links between films, filmmakers, and filmmaking techniques. Students acquire and apply skills as discerning interpreters and creators of film, working both individually and collaboratively. Students develop evaluative and critical perspectives on their own film work and the work of others.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Requirements**
Film Studies or permission of the instructor

## IB Theatre Arts (SL)

IB Theatre Arts students study performance skills (ensemble work, mime/movement, voice, role play, and acting techniques/characterization), theatre studies (historical and theoretical developments), play analysis and interpretation, and theatre production. Students are required to contribute to and participate in theatre productions. Completion of the course's IB examination is also required.
**Credits** 1
**Grades**
11, 12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Theatre Arts 1: Introduction to Theatre

# Visual Arts - Advanced Placement

## AP Art History

The Advanced Placement Program in the Art History is designed to provide the same benefits to secondary students as are provided by an introductory college course: an understanding and enjoyment of architecture, sculpture, painting, and other art forms within a historical and cultural context. In this course students learn to look at works of art with intelligence and sensitivity, examining the major forms of artistic expression of the past and of distant cultures as well as those of our own time and environment, in preparation for the Advanced placement test. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Gainesville High School
Osbourn Park High School
Woodbridge High School
**Prerequisites**
Students are encouraged to take Art History prior to AP Art History when available.

## AP Studio Art 2D Design

The Advanced Placement studio courses are intended for the highly motivated students committed to serious study in art. To enroll, students must have completed Studio Art 1 and 2. The AP 2D Design Portfolio addresses a broad range of media, skills, and techniques and is comprised of two sections: Sustained Investigation (15 digital images) and Selected Works (5 digital images of 5 original artworks). The digital images are submitted for AP Examination review and the student may qualify for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School

**Prerequisites**

Studio Art 2

**Notes**

Recommend completion of Portfolio Prep prior to AP Art

## AP Studio Art 3D Design

The Advanced Placement studio courses are intended for highly motivated students committed to serious study in art. To enroll, students must have completed Studio Art 1 and 2. The Studio Art 3D Design course addresses a broad range of sculptural media, skills, and techniques and is comprised of two sections: Sustained Investigation (15 digital images) and Selected Works (Images of 5 works, 2 views each, for a total of 10 images). The digital images are submitted for AP Examination review and the student may qualify for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Colgan High School
Gainesville High School
Hylton High School
Osbourn Park High School
Potomac High School

**Prerequisites**

Studio Art 2

**Notes**

Recommend completion of Portfolio Prep prior to AP Art

## AP Studio Art Drawing

The Advanced Placement studio courses are intended for the highly motivated students committed to serious study in art. To enroll, students must have completed Art 1 and 2. The Studio Art Drawing Portfolio addresses a broad range of drawing media, skills, and techniques and is comprised of two sections: Sustained Investigation (15 digital images) and Selected Works (5 digital images of 5 original artworks). The digital images are submitted for AP Examination review and the student may qualify for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Potomac High School
Woodbridge High School

**Prerequisites**

Studio Art 2

**Notes**

Recommend completion of Portfolio Prep prior to AP Art

# Visual Arts - Cambridge Programme

## AICE Art and Design (AS/A Level)

AICE Art and Design encompasses a broad range of activities to allow students to pursue personal interests and challenges in the field of visual communication. The course is designed to develop a student's ability to record from direct observation and personal experience, to communicate their observations and experiences through disciplined approaches, and to use experimentation and imagination in creative ways. The student will demonstrate an ability to identify, research, evaluate and solve problems of design and visual communication. The student will learn to use relevant vocabulary to make critical judgments of the subject matter and to demonstrate an appreciation for various cultural influences in the field of Art & Design. Successful completion of this course will result in an AS or A-Level certificate and can contribute toward an AICE Diploma.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Advanced Level (A),
Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)

**Schools**

Brentsville District High School

**Prerequisites**

Art 2 ***or*** IGCSE Art and Design

## IGCSE Art and Design

IGCSE Art and Design stimulates and develops a student's observational skills, imagination, conceptual thinking, and analytical ability. It increases the student's awareness of artistic contributions of a variety of cultures and their understanding of the role of visual arts in history. The course enriches the student's own appreciation of the many visual forms of personal expression and encourages their efforts to visually represent the world that they observe. Course content includes drawing, painting, graphics, photography, textiles, and 3D studies. Successful completion of the end of course exam will result in an IGCSE or an ICE certificate.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Cambridge,
Weighted (0.5W)
**Schools**
Brentsville District High School
Potomac High School
**Prerequisites**
Studio Art 1

# Visual Arts - Center for Fine and Performing Arts

## CFPA Ceramics/Sculpture

CFPA Ceramics/Sculpture is an exploration of sculpture and ceramics with an emphasis on the individual's study of three-dimensional form, expanding upon the student's current knowledge of media. Students will experiment with a wide variety of media, tools, and techniques in their work. They will also explore the work of professional sculptors and ceramicists. Students will select three-dimensional works of art created in this class to diversify their existing portfolios.
**Credits** 1
**Grades**
11, 12
**Schools**
Colgan High School
**Prerequisites**
CFPA Art 2 ***or*** Art 2 with approval of the CFPA faculty

## CFPA Painting/Printmaking

In this course, students will participate in an in-depth exploration of processes in drawing, painting, printmaking, collage, and mixed-media. Students will experiment with various tools and techniques. Students will also explore the works of professional two-dimensional artists. Upon completion of this course, students will select two-dimensional works of art created in this class to diversify their existing portfolio.
**Credits** 1
**Grades**
11, 12
**Schools**
Colgan High School
**Prerequisites**
CFPA Art 2, Art 2, ***or*** approval by the CFPA faculty

## CFPA Studio Art 1

This course is designed for the first-year CFPA student. The areas of concentration include basic foundations, principles of design, elements of design, visual literacy, two and three-dimensional design. This course will serve as the prerequisite for all Advanced CFPA studio classes and prepare the student in a specific medium. Each student will be required to present an exit portfolio of the work prepared in the class.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Colgan High School
**Prerequisites**
None

## CFPA Studio Art 2

This course is designed for the second-year CFPA student and includes a more in-depth study of basic foundations, media and stylizations. The student will be encouraged to develop a particular medium. Each student will be required to present an exit portfolio of the work prepared in the class.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Colgan High School
**Requirements**
A grade of 2.5 or better in CFPA Studio Art 1
**Prerequisites**
CFPA Studio Art 1

# Visual Arts - Electives

## 3D Sculpture 1

3D Sculpture 1 is a hands-on course that allows students to develop technique and knowledge of three-dimensional processes along with creative problem-solving skills. Through the study of the elements of art and principles of design, students will learn to use and arrange three-dimensional media in an expressive way. Students will explore the history of sculpture from representational to non-objective styles.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Gainesville High School
Hylton High School
Osbourn Park High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Art History

Art History will provide a comprehensive program of study that includes architecture, painting, sculpture and other visual art forms in relation to history and cultures. Students will study medieval times through modern art trends. Two visits to Washington's art galleries are included to evaluate different works of art. This course may be of interest to CISL students. Students are encouraged to take this course prior to AP Art History. This course will complement classes in the humanities, providing multicultural and interdisciplinary connections. Students will be expected to pursue their own artistic talents outside the classroom.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Freedom High School
Osbourn Park High School
Woodbridge High School
**Prerequisites**
None

## Art Portfolio Preparation

The Art Portfolio Preparation studio is intended for students committed to serious study in visual art. The studio component focuses on the student's individual artistic talents. The portfolio, compiled by the student, will demonstrate a variety of experiences in formal, technical, and expressive means. This course is highly recommended for juniors considering AP Studio Art their senior year.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
Studio Art 2

## Digital Art 1

This course places emphasis on the production of artistic digital imagery, rather than commercial/web graphics. Students will use photographic software to examine and alter images for computer graphic and fine art applications. The study of aesthetics and the history of art will be included in the course. Students will use a variety of media within this course such as natural art media, scanned images and digital photography. Students will be required to produce digital portfolios.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Brentsville District High School
Freedom High School
Gainesville High School
Gar-Field High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
Studio Art 1

## Photography 1

Student must provide a 35mm SLR film camera (for schools with darkrooms) or a digital camera. A fee may be charged for consumable materials needed to complement the provided materials.

The course is an introduction to photography as an art medium. Light, design, lens, camera, film, and darkroom techniques are explored. The history of photography and related career opportunities provide a broad overview of the continually growing technical and artistic field of photography. Student self-expression as a means of creative communication is emphasized throughout the course. A student portfolio is maintained for assessment and exhibition.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Studio Art 1

## Photography 2

Student must provide a 35mm SLR film camera (for schools with darkrooms) or a digital camera. A fee may be charged for consumable materials needed to complement the provided materials.

Students will expand on their photography skills through the use of 35mm cameras. Emphasis will be placed on the study of personal expression and development of creativity. Advanced camera skills and darkroom techniques will be studied through a variety of assignments. The history of photography will be offered through the study of major photographers, photographic imagery, the use of photography for artistic communication, and the major themes used by photographers. Ethical issues concerning photographic imagery will be explored. Students will produce a portfolio containing both 35mm and digital photographs reflecting a series of works organized around a compelling visual concept or concentration.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Photography 1

## Scientific Illustration

Scientific Illustration is an alternative class to the Studio Art 1 elective and will meet the SOL's for Studio Art 1 while using scientific material as a subject and source of inspiration. The basic elements of art and the principles of design will be studied. This course will specifically meet the needs of specialty program students and other students who indicate an interest in studying art through the lens of science. The course focuses on the development of artistic skills, understanding of creative techniques, aesthetics awareness, and historical and cultural knowledge. A cumulative portfolio of selected works of art will demonstrate the students' individual growth and reflect a broad range of techniques, media, and styles that reflect ethical practices.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Osbourn Park High School

**Prerequisites**

None

## Studio Art 1

First-year art students are enrolled in this introductory course. Studio Art 1 includes both 2D and 3D art production as well as visual literacy experiences. The course content focuses on the elements of art and an introduction to the principles of design. Students will use creative processes to communicate ideas and personal life experiences.

**Credits** 1

**Grades**

9, 10

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

**Notes**

IB is at Gar-Field High School and Unity Reed High School.

## Studio Art 2

Students will focus on the principles of design with reinforcement of the elements of art. In this course, students examine the importance of process, content, concepts, and skills involved in the development of original works of art and design. Students will demonstrate proficiency and craftsmanship in a variety of media.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Studio Art 1
**or** 3D Sculpture 1

## Studio Art 3

Studio Art 3 emphasizes critical thinking skills that enable students to organize, investigate, and analyze visual arts content and concepts. Students increasingly focus on historical and cultural studies, critical evaluation, and creative problem solving through art production. Students will provide evidence of original ideas while demonstrating accomplished skill and technique with a variety of traditional and contemporary tools and media.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Potomac High School
Woodbridge High School

**Prerequisites**

Studio Art 2

## Studio Art 4

Students will investigate, interpret, and analyze artworks while reflecting on their success and growth as an artist. Students will demonstrate advanced skills and techniques in art making. Students will also demonstrate mastery through a culminating portfolio that exhibits personal direction, quality, concentration, breadth of experience, and technical skills.
**Credits** 1
**Grades**
12
**Schools**
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Potomac High School
Woodbridge High School
**Prerequisites**
Studio Art 3

## Studio Art 5

Students will focus on art production reinforcing the learning of the elements of art and the principles of design. Students will continue to maintain and expand on the development of a process art portfolio that demonstrates independent research and mastery of skills and art processes. Students will refine their artistic vision and demonstrate innovative skills and craftsmanship with both two and three-dimensional media. These courses are sequentially designed to extend and further develop personal expressive abilities. Artistic expression is explored through discipline-based art education (art production, art history, art aesthetics, and art criticism).
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Colgan High School
Freedom High School
Gainesville High School
Osbourn Park High School
Potomac High School
Woodbridge High School
**Prerequisites**
Studio Art 4
**Notes**
Recommended that Art 5 be taken concurrently with AP Studio Art

# Visual Arts - IB Programme

## IBMYP Studio Art 1

First-year art students are enrolled in this introductory course. Studio Art 1 includes both 2D and 3D art production as well as visual literacy experiences. The course content focuses on the elements of art and an introduction to the principles of design. Students will use creative processes to communicate ideas and personal life experiences. The curriculum for IBMYP Studio Art 1 will incorporate MYP global contexts, strategies, and assessment criteria.
**Credits** 1
**Length**
Year
**Grades**
9, 10
**Course Designation**
International Baccalaureate (IB)
**Schools**
Unity Reed High School

## IBMYP Studio Art 2

Students will focus on the principles of design with reinforcement of the elements of art. In this course, students examine the importance of process, content, concepts, and skills involved in the development of original works of art and design. Students will demonstrate proficiency and craftsmanship in a variety of media. The curriculum for IBMYP Studio Art 2 will incorporate MYP global contexts, strategies, and assessment criteria.
**Credits** 1
**Length**
Year
**Grades**
10
**Course Designation**
International Baccalaureate (IB)
**Schools**
Unity Reed High School
**Prerequisites**
IBMYP Studio Art 1

## IB Visual Arts (SL)

IB Visual Arts (Standard Level) is a one-year program resulting in an IB Certificate or Diploma. The course is intended for students committed to serious study in art. Students will combine persistent research with regular studio work, training, visual, perceptual, and critical awareness of the arts of various cultures, as well as developing creativity, technical skills, and a feeling for the fundamentals of design. Students are required to take part in an IB assessment process.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Standard Level (SL),
Weighted (1.0W),
International Baccalaureate (IB)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
One year of high school art

## IB Visual Arts 1 (HL)

IB Visual Arts 1 is the first year of a two-year program resulting in an IB Certificate or Diploma. The course is intended for students committed to serious study in art. The aim of this course is to provide opportunities to develop the aesthetic, imaginative, and creative faculties as well as to train visual, perceptual, and critical awareness of arts of various cultures. The portfolio, compiled by the student, will demonstrate intensive concentration in studio work and/or research in preparation for the required IB assessment at the end of the second year. Credit will be awarded upon the completion of the two-year program.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Higher Level (HL) ,
Weighted (1.0W),
International Baccalaureate (IB)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
Two years of high school art

## IB Visual Arts 2 (HL)

IB Visual Arts 2 is the second year of a two-year program resulting in an IB Certificate or Diploma. The course is intended for students committed to serious study in art. Students will combine research with studio work, developing appreciation, creativity, technical skills, and an understanding of the fundamentals of design. Students are required to take part in the IB assessment process. Credit will be awarded upon the completion of the two-year program.
**Credits** 1
**Grades**
12
**Course Designation**
Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)
**Schools**
Unity Reed High School
**Prerequisites**
IB Visual Arts 1 (HL)

# Visual Arts - Instructional Technology (IT)

## IT Computer Graphics 1

This course prepares students for upper-level computer graphics and multimedia as well as entry-level career opportunities in the computer graphics industry. The course of study includes learning the foundations of computer graphics, photo design, and production as well as taking images from concept to completion in print and on the web. Tools such as digital cameras and scanners are used to import art and graphics into electronic formats. The students' artistic abilities will be enhanced as they master Adobe Photoshop software to complete the design and production process.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Forest Park High School
**Prerequisites**
IT Graphic Design

## IT Computer Graphics 2

IT Computer Graphics 2 is a continuation of IT Computer Graphics 1. The course of study will include applications for image creation and manipulation. The emphasis will be on the study of aesthetics and on the production of original computer imagery. This course will enable modeling for print reproduction rather than web production. Students will work on individual as well as team projects. Students will be required to produce professional portfolios.
**Credits** 1
**Grades**
11, 12
**Schools**
Battlefield High School
Forest Park High School
**Prerequisites**
IT Computer Graphics 1

## IT Graphic Design

IT Graphic Design is designed to train students to become visual communicators. Students will apply the knowledge and understanding of the elements and principles of art through various media, techniques, and processes to solve problems in visual communications. A variety of 2D and 3D media will be used. Students will explore technical aspects of layout, typography, illustration, design, and color psychology using traditional graphic tools. Students will learn about the ethical issues in the commercial field, management of time to meet deadlines, working in a team, and expressing and defending their ideas. Also, students will study the history and cultural impact of visual communications. Works generated will be the basis for beginning a Graphics Art Portfolio.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Forest Park High School
**Requirements**
Acceptance into the IT Program

## IT Multimedia Software Design and Development 1

Multimedia prepares students for the challenging world of information design, multimedia development, web-based development and learning management. The processes and tools that address these aims will be explored. Computer-based multimedia combines all the facets of communication into an interactive product. The ethical issues of copyright laws and fair use issues will be emphasized.
**Credits** 1
**Grades**
11, 12
**Schools**
Battlefield High School
Forest Park High School
**Prerequisites**
IT Computer Graphics 1

## IT Multimedia Software Design and Development 2

Multimedia 2 continues the student's study of the challenging world of information design, multimedia web-based development and learning management. Students will use informational design and multimedia software to study Advanced applications in this field. Video and computer-based multimedia will be combined into an interactive product. The ethical issues of copyright laws and fair use issues will be reviewed. Students will work individually and in teams to complete projects. Students will produce a digital portfolio.
**Credits** 1
**Grades**
12
**Schools**
Forest Park High School
**Prerequisites**
IT Multimedia Software Design and Development 1

## IT Photography

Students must provide a 35mm SLR camera.

The study of 35mm print photography focusing on darkroom development will be introduced. Advanced studies of digital photography using cameras, scanners, and photo editing software will be explored. Through the camera lens, students will examine how the elements of art and principles of design contribute to effective compositions that communicate a clear message. Students will compare/contrast the history of photography and digital photography. Ethical issues concerning photographic imagery will be explored. Students will produce a portfolio containing both 35mm and digital photographs to be used in multimedia classes. This course is designed for interactive media students seeking an Advanced IT certificate.
**Credits** 1
**Grades**
11, 12
**Schools**
Forest Park High School
**Prerequisites**
IT Computer Graphics 1

# English Learner (EL)

Scheduling Guidance

- The ESOL case manager and counselor should work collaboratively to determine an EL student's area(s) of greatest need. Then, together with the family and student the appropriate elective credit EL support course(s) and the corresponding credit-bearing course can be selected based on the area of greatest need. Students should not be co-enrolled in more than two of these EL support courses at one time.
- EL students should only take these EL support courses **once** within their high school years.
- While EL students have additional time to graduate, they should be scheduled with the goal of completing high school within four years, as stated in the division's Strategic Plan.
- EL students may continue to be educated until they turn 22 years of age. If they turn 22 during the school year, they may complete that school year.
- Parents must be informed of the graduation requirements and the goal for EL students to stay in their cohort.
- Additional supports should be provided to help ensure academic success in all courses.

## English Language Development: Foundations of Language

This is an English Language Development course designed to provide direct, explicit, and intensive language and literacy instruction to English learners (ELs) and is designed for Students with Limited or Interrupted Formal Education (SLIFE). This course focuses on language acquisition, WIDA standards, and essential literacy components to equip students for success in core classes.
**Credits** 1
**Length**
Year
**Grades**
9, 10, 11, 12
**Schools**
Freedom High School
Gar-Field High School
Osbourn Park High School
Unity Reed High School
Woodbridge High School
**Requirements**
- SLIFE Designation in the Hub
- ELP Level 1
- Literacy Screener with results below 4th grade

## English Language Development for International Newcomers

This English Language Development course is designed to support students who are new to U.S. schools with an English language proficiency (ELP) level one. It aims to acclimate students to U.S. schools, accelerate language acquisition in listening, speaking, reading, and writing while building content knowledge and skills. Students use English for purposeful reading, writing, speaking, and listening tasks essential to foundational academic and social purposes.
**Credits** 1
**Length**
Year
**Grades**
9, 10, 11, 12
**Schools**
Freedom High School
Gar-Field High School
Osbourn Park High School
Unity Reed High School
Woodbridge High School
**Requirements**
- ELP Level 1
- Less than 12 months in U.S. schools

# English Language Development and EL Support

## Algebra Readiness

This course is designed for English Learners at English proficiency level 1 and 2 who require support with the development of content and academic language in mathematics. The WIDA ELD Standard for the language of mathematics supports the VA Standards of Learning for mathematics. Students will focus on number, number sense, computation, estimation, patterns, functions, and algebraic concepts. Students enrolled in this course must be concurrently enrolled in Algebra 1. An elective credit is earned for successful completion. The course may not be taken more than one time during high school.

**Credits** 1
**Grades**
9
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Potomac High School
Unity Reed High School
**Prerequisites**
None

## English Language Development for English 9

This course is designed for English Learners (ELs) at English Language Proficiency (ELP) levels 1–4 and aligns with the WIDA English Language Development Standards and Virginia Standards of Learning. The curriculum accelerates English language development by strengthening both expressive (writing, speaking, representing) and interpretive (listening, reading, viewing) communication skills. Students will engage in performance-based tasks, explore diverse literary genres, and analyze multimedia texts to build the language needed for academic success and social interaction. Instruction emphasizes meaningful use of language to understand and convey ideas, concepts, and information across content areas.

Enrollment in this course requires concurrent enrollment in English 9. Successful completion earns one world language elective credit. This course may not be repeated for credit.

**Credits** 1
**Grades**
9, 10
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
**Prerequisites**
None

## English Language Development for English 10

This course is designed for English Learners (ELs) at English Language Proficiency (ELP) levels 1–4 and aligns with the WIDA English Language Development Standards and Virginia Standards of Learning. The curriculum accelerates English language development by strengthening both expressive (writing, speaking, representing) and interpretive (listening, reading, viewing) communication skills. Students will engage in performance-based tasks, explore diverse literary genres, and analyze multimedia texts to build the language needed for academic success and social interaction. Instruction emphasizes meaningful use of language to understand and convey ideas, concepts, and information across content areas.

Enrollment in this course requires concurrent enrollment in English 10. Successful completion earns one world language elective credit. This course may not be repeated for credit.

**Credits** 1

**Grades**

9, 10, 11

**Schools**

Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School

**Prerequisites**

None

## English Language Development for English 11

This course is designed for English Learners (ELs) at English Language Proficiency (ELP) levels 1–4 and aligns with the WIDA English Language Development Standards and Virginia Standards of Learning. The curriculum accelerates English language development by strengthening both expressive (writing, speaking, representing) and interpretive (listening, reading, viewing) communication skills. Students will engage in performance-based tasks, explore diverse literary genres, and analyze multimedia texts to build the language needed for academic success and social interaction. Instruction emphasizes meaningful use of language to understand and convey ideas, concepts, and information across content areas.

Enrollment in this course requires concurrent enrollment in English 11. Successful completion earns one world language elective credit. This course may not be repeated for credit.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School

**Requirements**

Concurrent enrollment in English 11

**Prerequisites**

None

## English Language Development for English 12

This course is designed for English Learners (ELs) at English Language Proficiency (ELP) levels 1–4 and aligns with the WIDA English Language Development Standards and Virginia Standards of Learning. The curriculum accelerates English language development by strengthening both expressive (writing, speaking, representing) and interpretive (listening, reading, viewing) communication skills. Students will engage in performance-based tasks, explore diverse literary genres, and analyze multimedia texts to build the language needed for academic success and social interaction. Instruction emphasizes meaningful use of language to understand and convey ideas, concepts, and information across content areas.

Enrollment in this course requires concurrent enrollment in English 12. Successful completion earns one world language elective credit. This course may not be repeated for credit

**Credits** 1
**Grades**
12
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gar-Field High School
Hylton High School
Patriot High School
Potomac High School
Unity Reed High School
**Prerequisites**
None

## General Science

This course is designed for English Learners at English language proficiency level 1 and 2 who require support with the content and the development of academic literacy in the sciences. One semester of study is devoted to Earth Science topics and one semester is devoted to Biology topics. The WIDA ELD Standard for the language of science is aligned to the VA Standards of Learning for the sciences. The course includes nonfiction reading and scientific writing. Students enrolled in this course must be concurrently enrolled in Environmental Science, Biology, or Earth Science. An elective credit is earned for successful completion. This course may not be taken more than one time during high school.

**Credits** 1
**Grades**
9
**Schools**
Brentsville District High School
Forest Park High School
**Prerequisites**
None

## Survey of World History

This course is designed for English Learners at English language proficiency level 1 and 2 who require support with the development of content and academic literacy in world history. The WIDA ELD Standard for the language of social studies supports the VA Standards of Learning for history and social sciences. Students read authentic non-fiction texts and share understandings both orally and in written form. Students enrolled in this course must be concurrently enrolled in World History and Geography to 1500. An elective credit is earned for successful completion. This course may not be taken more than one time during high school.

**Credits** 1
**Grades**
9
**Schools**
Brentsville District High School
Forest Park High School
Potomac High School
**Prerequisites**
None

# Gifted Education

## Gifted Seminar: Philosophy (0.5 credit)

This multi-disciplinary seminar course may replace the seminar program for identified gifted students in grades 11 or 12. Students will develop their conceptual, creative, critical, collaborative, and communication skills by exploring topics such as philosophy, metaphysics, and ethics. The class will also examine the epistemological structures of each academic discipline and employ critical thinking skills to evaluate the reliability and nature of knowledge.
**Credits** 0.5
**Grades**
11, 12
**Schools**
Gainesville High School
Osbourn Park High School
**Requirements**
Placement in the Prince William County Public Schools Gifted Education Program and concurrent enrollment in an AP course
**Prerequisites**
None

## Gifted Seminar: Philosophy (1 credit)

The multi-disciplinary seminar course may replace the seminar program for identified gifted students in grade twelve. Students will develop their conceptual, creative, critical, collaborative, and communication skills by exploring topics such as philosophy, metaphysics, and ethics. The class will also examine the epistemological structures of each academic discipline and employ critical thinking skills to evaluate the reliability and nature of knowledge. The course includes a research component.
**Credits** 1
**Grades**
11, 12
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Freedom High School
Patriot High School
Woodbridge High School
**Requirements**
Placement in the Prince William County Public Schools Gifted Education Program.
**Prerequisites**
None
**Notes**
Gifted Seminar: Philosophy and Gifted Seminar: Power and Progress can count as sequential electives for graduation when both classes are taken as full-credit courses.

## Gifted Seminar: Power and Progress (0.5 credit)

This multi-disciplinary seminar course may replace the seminar program for identified gifted students in grade 11 or 12. In this class students develop critical thinking skills through an exploration of the concepts of power and progress in self, society, and science. In discussions, students use communication and collaboration to tackle issues ranging from the source of identity to the ethical issues in artificial intelligence.
**Credits** 0.5
**Grades**
11, 12
**Schools**
Gainesville High School
Osbourn Park High School
**Requirements**
Placement in the Prince William County Public Schools Gifted Education Program.
**Prerequisites**
None

## Gifted Seminar: Power and Progress (1 credit)

This multi-disciplinary seminar course may replace the seminar program for identified gifted students in grade 11 or 12. In this class students develop critical thinking skills through an exploration of the concepts of power and progress in self, society, and science. In discussions, students use communication and collaboration to tackle issues ranging from the source of identity to the ethical issues in artificial intelligence.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Hylton High School
Patriot High School
Woodbridge High School

**Requirements**

Placement in the Prince William County Public Schools Gifted Education Program.

**Prerequisites**

None

**Notes**

Gifted Seminar: Philosophy and Gifted Seminar: Power and Progress can count as sequential electives for graduation when both classes are taken as full-credit courses.

# World Languages

## Advanced French Language 3

Advanced Language 3 is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master all the objectives of the Level 3 course in a more rigorous and accelerated manner. This course seeks to develop all skills emphasizing language for communication using authentic materials in preparation for further AP study.

**Credits** 1

**Grades**

9, 10, 11, 12

**Course Designation**

Weighted (0.5W)

**Schools**

Battlefield High School
Colgan High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

French 2

## Advanced French Language 4

Advanced Language 4 is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master all the objectives of the Level 4 course in a more rigorous and accelerated manner. This course seeks to develop all skills emphasizing language for communication using authentic materials in preparation for further Advanced Placement study.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Weighted (0.5W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

Advanced French Language 3 **or** French 3

## Advanced German Language 3

Advanced Language 3 is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master all the objectives of the Level 3 course in a more rigorous and accelerated manner. This course seeks to develop all skills emphasizing language for communication using authentic materials in preparation for further AP study.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
High School Currently Unavailable
**Prerequisites**
German 2

## Advanced German Language 4

Advanced Language 4 is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master all the objectives of the Level 4 course in a more rigorous and accelerated manner. This course seeks to develop all skills emphasizing language for communication using authentic materials in preparation for further Advanced Placement study.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Forest Park High School
**Prerequisites**
Advanced German Language 3 **or** German 3

## Advanced Russian Language 3

Advanced Language 3 is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master all the objectives of the Level 3 course in a more rigorous and accelerated manner. This course seeks to develop all skills emphasizing language for communication using authentic materials in preparation for further AP study.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Russian 2

## Advanced Spanish Language 3

Advanced Language 3 is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master all the objectives of the Level 3 course in a more rigorous and accelerated manner. This course seeks to develop all skills emphasizing language for communication using authentic materials in preparation for further AP study.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
Spanish 2

## Advanced Spanish Language 4

Advanced Language 4 is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master all the objectives of the Level 4 course in a more rigorous and accelerated manner. This course seeks to develop all skills emphasizing language for communication using authentic materials in preparation for further Advanced Placement study.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (0.5W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
Advanced Spanish Language 3
Advanced Spanish Language 3 **or** Spanish 3

# World Languages - Advanced Placement

## AP French Language

AP Language is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master the Advanced curriculum course objectives in a more rigorous and accelerated manner. The course is comparable to the fifth and sixth semester or third-year college or university language course and emphasizes language for communication using authentic materials in preparation for the AP Language Exam. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School
**Prerequisites**
Advanced French Language 4, French 4, ***or*** French 5

## AP German Language

AP Language is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master the Advanced curriculum course objectives in a more rigorous and accelerated manner. The course is comparable to the fifth and sixth semester or third-year college or university language course and emphasizes language for communication using authentic materials in preparation for the AP Language Exam. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
Forest Park High School
**Prerequisites**
Advanced German Language 3, Advanced German Language 4, ***or*** German 3

## AP Italian Language

AP Language is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master the Advanced curriculum course objectives in a more rigorous and accelerated manner. The course is comparable to the fifth and sixth semester or third-year college or university language course and emphasizes language for communication using authentic materials in preparation for the AP Language Exam. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Advanced Placement (AP),
Weighted (1.0W)
**Schools**
High School Currently Unavailable
**Prerequisites**
Italian 3

## AP Spanish Language

AP Language is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master the Advanced curriculum course objectives in a more rigorous and accelerated manner. The course is comparable to the fifth and sixth semester or third-year college or university language course and emphasizes language for communication using authentic materials in preparation for the AP Language Exam. Students are expected to take the accompanying AP Exam which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Battlefield High School
Colgan High School
Forest Park High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Woodbridge High School

**Prerequisites**

Advanced Spanish Language 4, Spanish 4, Spanish 5, or Spanish for Fluent Speakers 3

## AP Spanish Literature

The AP Spanish Literature course is designed to be comparable to a third-year college/university course on Peninsular and Hispanic literature. The course will guide students to acquire sufficient proficiency in Spanish language to read, understand, and discuss selected works from both Peninsular and Hispanic literature. Throughout the course students will do close readings from all genres, including poetry, that they will analyze orally and in writing. They will also compose expository essays on related topics. The critical reading of literature develops an understanding not only of linguistic complexity and cultural identity, but also of certain universal human truths. The student will learn and use some practical and necessary strategies to include expressing his/her ideas through timed writings, identifying the key features and elements of a text, detecting themes, comparing and contrasting, composing one's thoughts, writing an outline, brainstorming in small groups, and fine-tuning language skills. These skills of critical thinking and writing in Spanish will serve the students not only in their college years, but also in their chosen careers. Students are expected to take the accompanying AP Exam, which may qualify them for advanced standing in college and/or college credit.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Advanced Placement (AP),
Weighted (1.0W)

**Schools**

Freedom High School
Hylton High School
Woodbridge High School

**Prerequisites**

Advanced Spanish Language 4, Spanish 4, Spanish 5, ***or*** AP Spanish Language

# World Languages - Visual Language

## American Sign Language 1

By the end of this course, the students should be able to exchange personal information about themselves in ASL at a novice-low to novice-mid level, using the correct vocabulary and grammar. Students are given instruction in basic ASL vocabulary and grammar, fundamentals about Deaf Culture and what it means to be deaf, the history of American Deaf Culture, which is also the history of Deaf Education, and basic rules of social interaction within Deaf Culture.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Freedom High School
Gainesville High School
Patriot High School
Woodbridge High School
**Prerequisites**
None

## American Sign Language 2

By the end of this course, students should be able to carry on a basic conversation in ASL on a wide variety of topics at a novice-high level. Students continue to deepen their understanding of Deaf Culture as well as receive more in-depth instruction in ASL vocabulary and grammar. The students continue to develop their receptive skills, and now begin to focus more on their expressive abilities in ASL. Role playing and video-recording are an integral part of the course. Students also study hearing loss, assistive devices, and the Americans with Disabilities Act (ADA).
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Freedom High School
Gainesville High School
Patriot High School
Woodbridge High School
**Prerequisites**
American Sign Language 1

## American Sign Language 3

By the end of this course, students should be able to carry on a moderately complex conversation in ASL on a wide variety of topics at the intermediate-low to intermediate-mid level. Students will continue to deepen their understanding of Deaf Culture as well as receive more in-depth instruction in ASL vocabulary and grammar. The students continue to develop their receptive skills, and now begin to focus more on their expressive abilities in ASL. Interactions with the Deaf culture will increase. Role playing and video-recording are an integral part of the course. Students also study hearing loss, assistive devices, and the Americans with Disabilities Act (ADA).
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Gainesville High School
Patriot High School
Woodbridge High School
**Prerequisites**
American Sign Language 2

## American Sign Language 4

By the end of this course, students should be able to carry on a more complex conversation in ASL on a wide variety of topics at the Intermediate-mid level. Students will continue to deepen their understanding of Deaf Culture as well as receive more in-depth instruction in ASL vocabulary and grammar. The students continue to refine their receptive skills, and further develop their expressive abilities in ASL. Interactions with the Deaf culture will increase. Role playing and video-recording are an integral part of the course. Students also study hearing loss, assistive devices, and the Americans with Disabilities Act (ADA).
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Patriot High School
Woodbridge High School
**Prerequisites**
American Sign Language 3

# World Languages - Cambridge Programme

## AICE French 4 (AS Level), AICE Spanish 4 (AS Level)

The objectives of this course are based on an accelerated, international curriculum. Students will communicate confidently and clearly in the target language and will be able to exchange views and opinions during sustained conversations. Also, they will demonstrate a capacity to draw on the target language source material to produce a piece of composition in the target language presenting ideas in a coherent sequence. Through external examinations in speaking, listening, reading and writing students can qualify for an Advanced International Certificate of Education Diploma (AICE) and Advanced Placement credit in Language.
**Credits** 1
**Grades**
11
**Course Designation**
Advanced Subsidiary Level (AS),
Cambridge,
Weighted (1.0W)
**Schools**
Brentsville District High School
Potomac High School
**Prerequisites**
IGCSE French 3 for AICE French 4 (AS); IGCSE Spanish 3 for AICE Spanish 3 (AS)

## AICE French 5 Literature (A Level), AICE Spanish 5 Literature (A Level)

The objectives of this course are based on an accelerated, international curriculum. The A-Level course builds on the language skills gained at IGCSE or AS Level, and is the ideal foundation for the university-level study or to improve career prospects. Students will learn how to use the language in a variety of situations. They will be expected to handle texts and other source materials, extracting information to respond to specific tasks. Through their studies, students can expect to achieve greater fluency, accuracy, and confidence in the target language. Through external examinations in speaking, reading, essay writing, and direct writing using the target language texts, students can earn an A-level credit towards the Advanced International Certificate of Education (AICE) Diploma and Advanced Placement credit.
**Credits** 1
**Grades**
12
**Course Designation**
Advanced Level (A),
Cambridge,
Weighted (1.0W)
**Schools**
Brentsville District High School
Potomac High School
**Prerequisites**
AICE French 4 (AS Level), AICE Spanish 4 (AS Level)

## IGCSE French 3

Students continue to develop proficiency in listening, speaking, reading, and writing with increased emphasis on consistent and sustained language using more complex grammatical structures. Reading skills continue development using more challenging authentic materials. Students increase awareness and appreciation of the culture and civilization of the countries where each language is spoken. Assessment of the four skills will include an external student examination and course work evaluations by the instructor.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Cambridge,
Weighted (0.5W)
**Schools**
Brentsville District High School
Potomac High School
**Prerequisites**
French 2 ***or*** equivalency test

## IGCSE Spanish 3

Students continue to develop proficiency in listening, speaking, reading, and writing with increased emphasis on consistent and sustained language using more complex grammatical structures. Reading skills continue development using more challenging authentic materials. Students increase awareness and appreciation of the culture and civilization of the countries where each language is spoken. Assessment of the four skills will include an external student examination and course work evaluations by the instructor.

**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Cambridge,
Weighted (0.5W)
**Schools**
Brentsville District High School
Potomac High School
**Prerequisites**
Spanish 2 ***or*** equivalency test

# World Languages - IB Programme

## Advanced Middle Years Programme French 3, Advanced Middle Years Programme Spanish 3

This course is part of the IB sequence to prepare students for completion of the IB Programme and the external exam in level 5. Students will be able to use French or Spanish effectively as a means of practical communication; gain insight into the life and civilization of the communities where the language is spoken, and into the local and standard aspects of language; have positive attitudes towards speakers of other languages and an appreciation of, and empathy for, other cultures; and have a basis of communication skills necessary for future study in the IB World Language strand of courses. The global contexts and Assessment Criteria will be used as a means of broadening student experience on knowledge and skills. This course will prepare students for the IB French or Spanish 4 course.

**Credits** 1
**Grades**
9, 10
**Course Designation**
International Baccalaureate (IB),
Weighted (0.5W)
**Schools**
Unity Reed High School
**Prerequisites**
French 2 for Advanced Middle Years Programme French 3; Spanish 2 for Advanced Middle Years Programme Spanish 3

## IB AB Initio French 1, IB AB Initio Spanish 1

Students demonstrate, using authentic materials, the skills of listening, speaking, reading, and writing in everyday situations in preparation for an IB exam at the end of AB Initio 2. Students will be expected to master all the objectives of the Level 1 and 2 curriculum in a rigorous and accelerated manner.

**Credits** 1
**Grades**
11
**Course Designation**
International Baccalaureate (IB)
**Schools**
High School Currently Unavailable
**Requirements**
Student must have two or three years of another world language not offered at the school

## IB AB Initio French 2, IB AB Initio Spanish 2

The emphasis for study continues on all four skills of communication: listening, speaking, reading, and writing. Students continue to master the essential elements and the development of Advanced vocabulary to use language proficiently in everyday situations. This Advanced course is designed to strengthen fluency and proficiency in oral and written French and Spanish and to prepare those students who will be taking the IB AB Initio Exam.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (0.5W),
International Baccalaureate (IB)
**Schools**
High School Currently Unavailable
**Prerequisites**
IB AB Initio French 1, IB AB Initio Spanish 1

## IB French 4 (SL), IB Spanish 4 (SL)

IB World Language 4 is designed to develop proficiency in highly motivated language students. Students will be expected to master all the objectives of the Level 4 curriculum in a more rigorous and accelerated manner. The course seeks to develop all skills emphasizing language for communication, using authentic materials in preparation for the IB Language B Exam. An introduction to the IB Language B Program will be an integral part of this class.
**Credits** 1
**Grades**
11, 12
**Course Designation**
International Baccalaureate (IB),
Standard Level (SL),
Weighted (1.0W)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
Advanced Middle Years Programme French 3 for IB French 4 (SL); Advanced Middle Years Programme Spanish 3 for IB Spanish 4 (SL)
**Notes**
Students may take this course in grade 10 if they started the appropriate language sequence in middle school.

## IB French 5 (HL)

IB French 5 (HL) is the second segment of a two-year series that prepares students to take the IB French or Exam. The development of all language skills-listening, speaking, reading, writing-continues, with emphasis on using the language in realistic contexts with authentic materials, to include films, recordings, newspapers, and magazines. Selected literary works are included. Examples and questions from past IB exams are used as learning tools at appropriate times throughout the course. Students are required to take the higher-level examination.
**Credits** 1
**Grades**
12
**Course Designation**
Higher Level (HL) ,
Weighted (1.0W),
International Baccalaureate (IB)
**Schools**
Gar-Field High School
**Prerequisites**
Four years of French ***or*** equivalency test. IB French 4 (HL) is preferred immediately prior to this course.

## IB French 5 (SL), IB Spanish 5 (SL)

This is an Advanced level course designed to strengthen fluency and proficiency in both oral and written world languages and to prepare students for the IB Language B Exam. The student will be able to speak the language with sufficient accuracy to participate in formal and informal conversations with ease. The student will be able to appreciate, discuss and comment (orally and in writing) on various literary forms. The in-depth study of literary works, contemporary articles and the review of complex linguistic structures will substantiate the course. Compositions will be on literary and issue-oriented themes. Self-expression will be encouraged through individual and group activities, oral presentations, and writing assignments.
**Credits** 1
**Grades**
12
**Course Designation**
Standard Level (SL),
Weighted (1.0W),
International Baccalaureate (IB)
**Schools**
Gar-Field High School
Unity Reed High School
**Prerequisites**
IB French 4 (SL) for IB French 5 (SL); IB Spanish 4 (SL) for IB Spanish 5 (SL)

## IB Middle Years Programme French 2, IB Middle Years Programme Spanish 2

This course is part of the IB sequence to prepare students for completion of the IB Programme and the external exam in level 5. Students will be able to: use French or Spanish effectively as a means of practical communication; gain insight into the life and civilization of the communities where the language is spoken, and into the local and standard aspects of language; have positive attitudes towards speakers of other languages and an appreciation of, and empathy for, other cultures; and have a basis of communication skills necessary for future study in the IB World Language strand of courses. The integration of the Advanced Middle Years Programme (Adv-MYP) Global Concepts and Assessment Criteria will be used as a means of broadening student experience and helping students to develop attitudes and values based on knowledge and skills. This course will prepare students for the Adv-MYP French or Spanish 3 course.

**Credits** 1

**Grades**

9, 10

**Course Designation**

International Baccalaureate (IB)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

French 1 for Middle Years Programme French 2; Spanish 1 for Middle Years Programme Spanish 2

## IB Spanish 4 (HL)

IB Spanish 4 (HL) is the first segment of a two-year series that prepares students to take the IB Spanish Exam. The development of all language skills-listening, speaking, reading, writing-continues, with emphasis on using the language in realistic contexts with authentic materials, to include films, recordings, newspapers, and magazines. Selected literary works are included. Examples and questions from past IB exams are used as learning tools at appropriate times throughout the course. Students are required to take the higher-level examination.

**Credits** 1

**Grades**

11

**Course Designation**

Higher Level (HL) ,
International Baccalaureate (IB),
Weighted (1.0W)

**Schools**

Unity Reed High School

**Prerequisites**

Three years of Spanish ***or*** equivalency test. Advanced Middle Years Programme Spanish 3 is preferred immediately prior to this course.

## IB Spanish 5 (HL)

IB Spanish 5 (HL) is the second segment of a two-year series that prepares students to take the IB Spanish Exam. The development of all language skills-listening, speaking, reading, writing-continues, with emphasis on using the language in realistic contexts with authentic materials, to include films, recordings, newspapers, and magazines. Selected literary works are included. Examples and questions from past IB exams are used as learning tools at appropriate times throughout the course. Students are required to take the higher-level examination.

**Credits** 1

**Grades**

12

**Course Designation**

Higher Level (HL) ,
Weighted (1.0W),
International Baccalaureate (IB)

**Schools**

Gar-Field High School
Unity Reed High School

**Prerequisites**

Four years of Spanish ***or*** equivalency test. IB Spanish 4 (HL) is preferred immediately prior to this course.

## IB Spanish A1 (HL) Language and Literature

The IB Spanish for Fluent Speakers (HL) course is a two-year course of study which meets the requirements of the IB Programme. Students focus on the study of language and literature according to the prescribed IB guidelines. At the same time students further develop their creative and critical thinking abilities, increasing skills and knowledge necessary for them to be contributing world citizens and lifelong learners. This course prepares students for the required Higher Level IB examination to be taken at the end of the senior year. Successful completion of this course and an additional Language A course qualifies the student for the Bilingual IB Diploma.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Higher Level (HL) ,
Weighted (1.0W),
International Baccalaureate (IB)
**Schools**
Gar-Field High School
**Prerequisites**
IB Spanish A1 (SL) Language and Literature

## IB Spanish A1 (SL) Language and Literature

This course is designed for native/heritage Spanish-speaking students at the high school level in the IB Programme. It recognizes the natural skill of native/heritage speakers and emphasizes expansion and not replacement of the student's existing language. Students will use the language for purposes and situations involving sophisticated discussion, argument, and debate. The course will tap the natural potential of native/heritage speakers to focus on the enhancement of skill acquisition, enhance natural oral and aural skills, instill pride in a rich heritage, and allow students to succeed to their full potential. The course is based on the study of both language and literature.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Standard Level (SL),
Weighted (1.0W),
International Baccalaureate (IB)
**Schools**
Gar-Field High School
**Prerequisites**
Spanish for Fluent Speakers 3 - Advanced Level

# World Languages - Modern: Non-Roman Alphabet

## Arabic 1

Arabic 1 students will examine the Arabic alphabet, the essential elements of pronunciation and the basic structure of the written form of standard modern Arabic. Students will use the language authentically, communicating in real life situations from the beginning of the course. All basic skills of the language are learned: speaking, listening, reading, and writing. Emphasis is on communication for interpersonal situations. Culture is an integral strand and goal of the entire course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Hylton High School
Patriot High School
Potomac High School
**Prerequisites**
None

## Arabic 2

Arabic 2 students will continue to study the essential elements of the basic structure of the written form of standard modern Arabic. Students will continue the use of language authentically, communicating in real life situations from the beginning of the course. All fundamental skills of the language are learned: speaking, listening, reading, and writing. Emphasis is on communication for interpersonal situations in more complex situations and in various modes. Culture is an integral strand and goal of the entire course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Hylton High School
Potomac High School
**Prerequisites**
Arabic 1 ***or*** teacher recommendation based on existing language proficiency

## Arabic 3

Arabic 3 focuses on strengthening the basic language skills of reading, writing, listening, and speaking, all in cultural context. It reinforces grammar and vocabulary in an intermediate language level through constant review and expands to challenge students as their skills develop.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Hylton High School
Potomac High School
**Prerequisites**
Arabic 2 ***or*** teacher recommendation based on existing language proficiency

## Arabic 4

Arabic 4 focuses on expanding on the language skills of reading, writing, listening, and speaking, all in cultural context. It reinforces grammar and vocabulary in an intermediate-high language level through constant review and expands to challenge students as their skills develop to be able to read some literature and cultural readings. Students in this course take the American Councils' NEWL exam that produces AP®-style score reports, which can be used to apply for college credit and/or replacement.
**Credits** 1
**Grades**
11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Hylton High School
**Prerequisites**
Arabic 3 ***or*** teacher recommendation based on existing language proficiency

## Korean 1

Korean 1 students will examine the Korean alphabet, Hangul, the essential elements of pronunciation and the basic structure of the written form of standard Korean. Students will use the language authentically, communicating in real life situations from the beginning of the course. All basic skills of the language are learned: speaking, listening, reading, and writing. Emphasis is on communication for interpersonal situations. Culture is an integral strand and goal of the entire course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Hylton High School
**Prerequisites**
None

## Korean 2

Korean 2 students will continue to develop basic reading and writing skills using the Korean alphabet and Hangul form of written Korean to communicate basic information in writing and speaking and understand basic conversations and readings in meaningful contexts. Students will continue to develop all four skills of the language: listening, speaking, reading, and writing to communicate in daily situations and present, interpersonally exchange familiar information and to interpret this information in reading and listening. Cultural elements will be integrated to include the perspectives, products, and practices of Koreans.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Hylton High School
**Prerequisites**
Korean 1 ***or*** teacher recommendation based on existing language proficiency

## Korean 3

Korean 3 students will continue to develop their skills in understanding and speaking Korean, but especially progress in their literacy skills. Students will read, discuss, and write about various authentic types of written texts to include short literary texts and excerpts. Cultural products, practices and perspectives of Korean culture will continue to be integrated into all discussions.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Hylton High School
**Prerequisites**
Korean 2
**or** teacher recommendation based on existing language proficiency

## Korean 4

Korean 4 students will continue to develop their skills in understanding and speaking Korean, but especially progress in their literacy skills. Students will read, discuss, and write about various authentic types of written texts to include short literary texts and excerpts. Cultural products, practices and perspectives of Korean culture will continue to be integrated into all discussions. Students in this course take the American Councils' NEWL exam that produces AP®-style score reports, which can be used to apply for college credit and/or replacement.
**Credits** 1
**Grades**
10, 11, 12
**Course Designation**
Weighted (1.0W)
**Schools**
Hylton High School
**Prerequisites**
Korean 3
**or** teacher recommendation based on existing language proficiency.

## Russian 1

Russian 1 students will examine the Cyrillic alphabet and essential elements of pronunciation. Speaking and listening skills will be developed through personal interaction and access to authentic material. Basic grammar and vocabulary are introduced. The course will be infused with the culture and customs of the Russian people.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Forest Park High School
**Prerequisites**
None

## Russian 2

Russian 2 will provide students additional tools to improve conversational skills, listening comprehension, and proficiency in reading and writing. Emphasis will be placed on the acquisition of more complex grammatical structures. Exposure to authentic materials and situations will increase. The study of culture will enhance students' understanding of the language.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Forest Park High School
**Prerequisites**
Russian 1

## Russian 3

Russian 3 will continue to provide students additional tools to improve conversational skills, listening comprehension, and proficiency in reading and writing. Emphasis will be placed on the acquisition of more complex grammatical structures as found in extended reading passages and writing prompts. Exposure to authentic materials such as video series and situations will increase. The study of culture will enhance students' understanding of the language and help dispel stereotypes of the Russian people.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Forest Park High School
**Prerequisites**
Russian 2
**or** teacher recommendation based on existing language proficiency.

## Russian 4

Russian 4 focuses on expanding on the language skills of reading, writing, listening, and speaking, all in cultural context. It reinforces grammar and vocabulary in an intermediate-high language level through constant review and expands to challenge students as their skills develop to be able to read some literature and cultural readings. Students in this course take the American Councils' NEWL exam that produces AP®-style score reports, which can be used to apply for college credit and/or placement.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Weighted (1.0W)

**Schools**

Forest Park High School

**Prerequisites**

Russian 3

**or** teacher recommendation based on existing language proficiency.

# World Languages - Modern: Roman Alphabet

## French 1

Students use the language authentically, communicating in real-life situations from the beginning of the course. They learn the sound system and basic grammar and vocabulary, primarily through use of the language in meaningful contexts. All basic skills of the language are learned: understanding, speaking, reading, and writing. Emphasis is on communication in interpersonal situations. Culture is an integral part of the course.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

None

## French 2

Students continue to learn the language through its use in realistic contexts with more complex grammatical structures. Additional listening, speaking, writing, and reading skills are acquired through practice with authentic materials and in real-life situations. The study of customs and culture is an integral part of the course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
French 1
**or** teacher recommendation based on existing language proficiency.

## French 3

The emphasis for study continues all four skills of communication: listening, speaking, reading, and writing. Students continue to work toward the mastery of the essential elements of grammar and the development of a sufficient vocabulary to use the language proficiently in most situations. Reading skills continue development through use of more challenging authentic materials. Students' writing skills are expected to be increasingly complex and sophisticated. Students continue to develop a global awareness.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
French 2
**or** teacher recommendation based on existing language proficiency.

## French 4

Oral communication is practiced through conversation, group discussion, skits, dialogues, reports, and reading selections. Reading for comprehension of ideas rather than for individual word or sentence meaning is developed. Course syntax focuses on Advanced grammatical structures. Controlled writing decreases and skills for practicing free composition are developed. Vocabulary building encompasses extensive practice with idioms, synonyms, and antonyms. Students broaden their appreciation of the target language culture through the study of current and historical events and literature.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Brentsville District High School
Freedom High School
Gar-Field High School
Hylton High School
Potomac High School
Woodbridge High School
**Prerequisites**
French 3 ***or*** Advanced French Language 3

## French 5

Speaking and listening skills are practiced primarily through classroom discussion of reading materials. Analysis of the various literary forms becomes a significant part of the reading program. Both required and independent reading takes place. Writing skills are further developed through directed writing and free composition. A variety of major literary works are read and discussed in detail to include excerpts from novels, essays, poetry, short stories, and plays.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Brentsville District High School
Freedom High School
Gar-Field High School
Hylton High School
Potomac High School
**Prerequisites**
French 4 ***or*** Advanced French Language 4

## German 1

Students use the language authentically, communicating in real-life situations from the beginning of the course. They learn the sound system and basic grammar and vocabulary, primarily through use of the language in meaningful contexts. All basic skills of the language are learned: understanding, speaking, reading, and writing. Emphasis is on communication in interpersonal situations. Culture is an integral part of the course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Forest Park High School
Woodbridge High School
**Prerequisites**
None

## German 2

Students continue to learn the language through its use in realistic contexts with more complex grammatical structures. Additional listening, speaking, writing, and reading skills are acquired through practice with authentic materials and in real-life situations. The study of customs and culture is an integral part of the course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Forest Park High School
Woodbridge High School
**Prerequisites**
German 1
**or** teacher recommendation based on existing language proficiency.

## German 3

The emphasis for study continues all four skills of communication: listening, speaking, reading, and writing. Students continue to work toward the mastery of the essential elements of grammar and the development of a sufficient vocabulary to use the language proficiently in most situations. Reading skills continue development through use of more challenging authentic materials. Students' writing skills are expected to be increasingly complex and sophisticated. Students continue to develop a global awareness.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Forest Park High School
Woodbridge High School
**Prerequisites**
German 2
**or** teacher recommendation based on existing language proficiency.

## Italian 1

Students use the language authentically, communicating in real-life situations from the beginning of the course. They learn the sound system and basic grammar and vocabulary, primarily through use of the language in meaningful contexts. All basic skills of the language are learned: understanding, speaking, reading, and writing. Emphasis is on communication in interpersonal situations. Culture is an integral part of the course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Hylton High School
**Prerequisites**
None

## Italian 2

Students continue to learn the language through its use in realistic contexts with more complex grammatical structures. Additional listening, speaking, writing, and reading skills are acquired through practice with authentic materials and in real-life situations. The study of customs and culture is an integral part of the course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Hylton High School
**Prerequisites**
Italian 1
**or** teacher recommendation based on existing language proficiency.

## Italian 3

The emphasis for study continues all four skills of communication: listening, speaking, reading, and writing. Students continue to work toward the mastery of the essential elements of grammar and the development of a sufficient vocabulary to use the language proficiently in most situations. Reading skills continue development through use of more challenging authentic materials. Students' writing skills are expected to be increasingly complex and sophisticated. Students continue to develop a global awareness.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Hylton High School
**Prerequisites**
Italian 2
**or** teacher recommendation based on existing language proficiency.

## Italian 4

Oral communication is practiced through conversation, group discussion, skits, dialogues, reports, and reading selections. Reading for comprehension of ideas rather than for individual word or sentence meaning is developed. Course syntax focuses on Advanced grammatical structures. Controlled writing decreases and skills for practicing free composition are developed. Vocabulary building encompasses extensive practice with idioms, synonyms, and antonyms. Students broaden their appreciation of the target language culture through the study of current and historical events and literature.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Hylton High School
**Prerequisites**
Italian 3

## Spanish 1

Students use the language authentically, communicating in real-life situations from the beginning of the course. They learn the sound system and basic grammar and vocabulary, primarily through use of the language in meaningful contexts. All basic skills of the language are learned: understanding, speaking, reading, and writing. Emphasis is on communication in interpersonal situations. Culture is an integral part of the course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Virtual Prince William (VPW)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
**Prerequisites**
None

## Spanish 2

Students continue to learn the language through its use in realistic contexts with more complex grammatical structures. Additional listening, speaking, writing, and reading skills are acquired through practice with authentic materials and in real-life situations. The study of customs and culture is an integral part of the course.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Virtual Prince William (VPW)
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
Spanish 1

## Spanish 3

The emphasis for study continues all four skills of communication: listening, speaking, reading, and writing. Students continue to work toward the mastery of the essential elements of grammar and the development of a sufficient vocabulary to use the language proficiently in most situations. Reading skills continue development through use of more challenging authentic materials. Students' writing skills are expected to be increasingly complex and sophisticated. Students continue to develop a global awareness.
**Credits** 1
**Grades**
9, 10, 11, 12
**Course Designation**
Virtual Prince William (VPW)
**Schools**
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Independence Nontraditional High School
Osbourn Park High School
Patriot High School
Potomac High School
Woodbridge High School
**Prerequisites**
Spanish 2

## Spanish 4

Oral communication is practiced through conversation, group discussion, skits, dialogues, reports, and reading selections. Reading for comprehension of ideas rather than for individual word or sentence meaning is developed. Course syntax focuses on Advanced grammatical structures. Controlled writing decreases and skills for practicing free composition are developed. Vocabulary building encompasses extensive practice with idioms, synonyms, and antonyms. Students broaden their appreciation of the target language culture through the study of current and historical events and literature.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Brentsville District High School
Freedom High School
Gar-Field High School
Hylton High School
Potomac High School
**Prerequisites**
Spanish 3, Advanced Spanish Language 3, ***or*** Spanish for Fluent Speakers 3 - Advanced Level

## Spanish 5

Speaking and listening skills are practiced primarily through classroom discussion of reading materials. Analysis of the various literary forms becomes a significant part of the reading program. Both required and independent reading takes place. Writing skills are further developed through directed writing and free composition. A variety of major literary works are read and discussed in detail to include excerpts from novels, essays, poetry, short stories, and plays.
**Credits** 1
**Grades**
10, 11, 12
**Schools**
Brentsville District High School
Freedom High School
Gar-Field High School
Hylton High School
Potomac High School
**Prerequisites**
Spanish 4, Advanced Spanish Language 4, ***or*** Spanish for Fluent Speakers 3 - Advanced Level

# World Languages - Heritage Language

Spanish for Fluent Speakers (SFS) Courses allow native or heritage speakers of Spanish to continue to develop all skills of Spanish in an accelerated manner commensurate with their skills in reading, writing, speaking, and listening. It recognizes the natural skill of both native/heritage speakers who were born in the U.S. and never had formal education in a Spanish-speaking country, or students who may have come from a Spanish-speaking country and due to many circumstances may not have had the opportunity to receive formal education, or who had interrupted formal education, yet are proficient in their understanding and speaking of Spanish for interpersonal purposes. Specific written identification procedures ensure appropriate identification of native/heritage speakers based on objective criteria such as a student's Home Language Survey, transcript analysis, and/or a common student interview/questionnaire as is applicable. A PWCS pre-assessment allows teachers to determine each student's skill level and appropriate placement, or a Placement Test should be administered to all students prior to being put into a course. Students entering the fluent speakers sequence having started the traditional Spanish courses for non-native/heritage speakers, should also be assessed prior to placement. Even if a student were in regular/traditional Spanish 1 and 2, it is recommended to place them in SFS 1.

Students may earn a world language credit for this course as allowed by the Virginia Department of Education. The goal is for both native/heritage and non-native speakers of Spanish to learn together in the Advanced courses beyond Level 3 in high school. Research studies show a direct correlation with the higher skills in a student's first language and their facility to learn English faster and to a higher level. Traditional language courses are created for non-native/heritage speakers of the language.

## Spanish for Fluent Speakers 1 - Beginning Level

This course is designed for Spanish-speaking students at the high school level. It recognizes the natural skill of native/heritage speakers who were born in the U.S. and never had formal education in a Spanish-speaking country, or students who may have come from a Spanish-speaking country and due to many circumstances may not have had the opportunity to receive formal education, yet are proficient in their understanding and speaking of Spanish for interpersonal purposes. The course will build on these existing listening and speaking skills, and develop basic reading and writing skills, with an emphasis on grammatical concepts. The course will try to tap the natural potential of native/heritage speakers to focus on enhancement of skill acquisition in general, especially emerging literacy, instill pride in a rich heritage, and allow students to succeed to their full potential.
**Credits** 1
**Grades**
9, 10, 11, 12
**Schools**
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Unity Reed High School
Woodbridge High School
**Requirements**
Native or heritage speaker of Spanish with teacher recommendation based on assessment of student's skills
**Prerequisites**
None

## Spanish for Fluent Speakers 2 - Intermediate Level

This course is designed for Spanish-speaking students at the high school level. This level is for Spanish-speaking native/heritage speakers who have some proficiency in all skills, to include listening, speaking, reading, and writing, but at a level commensurate with students who have had interrupted or limited formal schooling in a Spanish-speaking school. It also recognizes the natural skill of native/heritage speakers and emphasizes expansion and not replacement of the student's existing language skills. The course will continue to tap the natural potential of native/heritage speakers to focus on enhancement of skill acquisition, instill pride in a rich heritage, and allow students to succeed to their full potential. The course will also continue to build on existing listening and speaking skills, and especially continue to develop reading and writing skills.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Spanish for Fluent Speakers 1 ***or*** Native or heritage speaker of Spanish (with teacher recommendation based on assessment of student's skills)

## Spanish for Fluent Speakers 3 - Advanced Level

This course is designed for Spanish-speaking students at the high school level who have had formal study of Spanish in a school setting in their native countries or have an Advanced level of literacy. The course continues to recognize the natural skill of native/heritage speakers and emphasizes expansion and not replacement of the student's existing language. The course will continue to tap the natural potential of native/heritage speakers to focus on enhancement of skill acquisition, instill pride in a rich heritage, and allow students to succeed to their full potential. The course will build on existing reading and writing skills and expand authentic readings by authors of the Spanish-speaking world and require Advanced compositions and projects.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Weighted (0.5W)

**Schools**

Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Unity Reed High School
Woodbridge High School

**Prerequisites**

Spanish for Fluent Speakers 2 ***or*** Native or heritage speaker of Spanish (with teacher recommendation based on assessment of student's skills)