Dear High School Student:

Prince William County Public Schools (PWCS) are committed to your high school success and transition to a meaningful post-secondary choice for future study and employment. With a clear focus on your learning, we provide you with rich and engaging experiences upon which to make these decisions. Many new courses have been developed to provide you with opportunities to explore a variety of career areas. Options are also available to earn college credits through increased advanced placement, International Baccalaureate, Cambridge, and dual enrollment 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.

The “2016-17 High School Course Catalog” provides you with information about available courses and support services, and serves as a resource to you throughout the school year. A quick reference guide that lists courses by grade level and indicates the page numbers to go to in the “Catalog” for details is included. If you prefer, the “Catalog” can also be accessed on the Division’s website at pwcs.edu. Please take the time to carefully review the “Catalog” with your family. This will begin the process of selecting courses for the next school year that are meaningful to you and will help you meet your personal goals.

Our PWCS counselors, teachers, and administrators will work with you to ensure your continued success in meeting graduation requirements and to be certain that your 2016-17 academic program meets your interests and needs.

Sincerely,

Steven L. Walts
Superintendent of Schools
Acknowledgements

**Department of Student Learning and Accountability**

Rita E. Goss – Associate Superintendent

**Student Learning**

Kenneth Bassett, Director

Ed Stephenson, Ph.D., Supervisor – Art, Music, Theatre, and Dance

Douglas Wright, Supervisor – Career and Technical Education

Fred Milbert, Supervisor – Health, PE, Driver Education, JROTC, and Athletics

Jeff Girvan, Supervisor – History and Social Science

Roberta Apostolakis, Ed.D., Supervisor – Language Arts

Schenell Agee, Supervisor – Library Media Programs and Research

Amy Hickey, Supervisor – Mathematics

Jason Calhoun, Ph.D., Supervisor – Science and Family Life Education

Carol Bass, Supervisor – World (Foreign) Languages

Jim Mudd, Ph.D., Supervisor – Gifted Education and Special Programs

**Student Services**

Carolyn Custard, Director

Rebekah Schlatter, Supervisor – Secondary Counseling and Student Support Services

**Student Management and Alternative Programs**

Renee Lacey, Ed.D., Director

Gina Jones, Coordinator – Virtual High School

**Special Education**

Jane Lawson, Ed.D., Director

**ESOL**

Janine Sadki, Director

---

*The full content of this guide is available online at pwcs.edu by selecting Students – High School Course Catalog.*
# Table of Contents

**Introduction**
Grade Placement ......................................... 7
Ways to Earn Credit ....................................... 8

**General Information**
Grade-Point Values .................................... 10
Omitting a Grade for a High School Credit Course
  Taken in Middle School ............................... 10
Schedule Changes ......................................... 10
Graduation Requirements and Diploma Options .... 10
Graduation Requirements ............................... 11
Transfer Students ........................................ 15
Diploma Warranty ........................................ 16
Diploma Seals ........................................... 16
Post-Secondary “Ready to Go” Checklist ............. 17
General College Admission Information. ............... 18
Post-Secondary Planning Timeline .................... 20
Terminology ................................................ 22
Course Selection ......................................... 24
Dual Enrollment .......................................... 25
Eligibility Requirements ............................... 26

**Specialty Programs**
Pre-Governor’s School @ Osbourn Park High School .. 28
The Governor’s School @ Innovation Park ............... 30
Advanced Placement Scholars
  (Patriot High School and
  Woodbridge High School) ............................. 33
The Biotechnology Center
  (Osbourn Park High School) .......................... 36
The Center for Environmental and Natural Sciences
  (Freedom High School) ............................... 39
The Center for the Fine and Performing Arts
  (Colgan High School) .................................. 42
Center for International Studies and Languages
  (Hylton High School) ................................... 44

Information Technology Program
  (Battlefield High School and
  Forest Park High School) ............................ 47
The Cambridge Programme
  (Brentsville District High School and
  Potomac Senior High School) ....................... 50
International Baccalaureate Program
  (Gar-Field High School and
  Stonewall Jackson High School) .................... 53

**The Virtual High School@PWCS** ...................... 57

**Courses and Descriptions**
Career and Technical Education Program ............... 59
English ..................................................... 80
English Learner (EL) Programs ......................... 87
Fine and Performing Arts Program .................... 90
  Dance, Music, Theatre, and Visual Arts
Foreign (World) Language ................................ 99
General Cross-Curricular ................................ 107
Gifted Education ......................................... 108
Health and Physical Education ........................ 109
JROTC ..................................................... 111
Mathematics .............................................. 115
Science ..................................................... 123
The Governor’s School @ Innovation Park ............. 132
Social Studies ............................................ 135
Special Education ........................................ 142
Student Assistants ....................................... 143

**Appendix**
Weighted Courses ....................................... 144
Sample Course Schedules ............................... 147
Sequential Electives ................................... 148
List of Courses Offered ............................... 149
Make the Most of a World-Class School Division’s High School Program

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 our World-Class 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 non-traditional 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 extra-curricular programs at all of our high schools.

Where Do I Start?
Select the diploma type you wish to earn. Students entering the ninth grade are strongly encouraged to consider the advanced 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 Prince William County 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 ninth 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.

Registration
Courses listed will be included in the curriculum for the 2016-17 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.

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 ninth grade for the first time.

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

**Grade Placement**

**Ninth Grade:** Successful completion of grade eight.

**Tenth Grade:** Five units of credit, three of which must be in required courses.

**Eleventh Grade:** Eleven units of credit, six of which must be in required courses.

**Twelfth Grade:** Sixteen units of credit, nine of which must be in required courses.

To be classified as a twelfth 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 core classes in mathematics, science, social studies, English/language arts, physical education, and other subjects. The charts on pages 6-9 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 school choice, 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 of our high schools provide rigorous college preparation through the College Board’s Advanced Placement courses, the International Baccalaureate, or the Cambridge Program. 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 Early College 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 specialty program fairs and 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. Be sure to visit the Prince William County Public Schools Web site at pwcs.edu for information concerning transfer policies and application deadlines.

**Electives**

In addition to the core course requirements and specialty programs, all Prince William County 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, journalism, theater, geography, astronomy, international relations, and many more. Speak with your school counselor to learn about the offerings available at your school.
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 World-Class teaching staff. The classroom environment provides the greatest potential for student interaction. It also creates the opportunity to form life-long friendships with their classmates over an entire school year.

Virtual Courses
As technology has evolved, so have our educational tools and opportunities. An increasing number of students are seeking alternatives to the face-to-face classroom experience through virtual learning opportunities:

PWCS Virtual High School
Prince William County Public Schools is a pioneer in online schooling through our Virtual High School. PWCS Virtual High School continues to lead the online school movement with over a decade of experience of providing accelerated courses for students who are motivated to work in a more independent learning environment and are disciplined enough to manage their coursework and time. The online experience in PWCS Virtual High School is truly World-Class. Students taking our courses have highly skilled, certified, Prince William County teachers conducting their classes. Courses include a wide variety of state of the art media, course management, and collaboration tools. PWCS Virtual High School offers students the opportunity to take courses online to accelerate completion of graduation requirements, recover credits, and balance academic and extracurricular opportunities. With the exception of face-to-face tutorials, these courses are delivered via computer and the coursework is done outside school hours. Students have direct access to their instructors by telephone and by communication tools inside the course delivery platform such as email and instant messaging.

While the content and requirements of online coursework are the same as in the traditional classroom, online courses require different skills and learning styles than traditional face-to-face courses. For instance, students enrolled in an online course are responsible for scheduling their own “class time.” Online students must be very focused and self-disciplined. Information about the nature of online learning, the necessary computer equipment, the cost, and other aspects of this opportunity can be found on the Virtual High Schools Web page at virtualhigh.schools.pwcs.edu.

Courses offered in any given school year are dependent on sufficient enrollment and the availability of qualified and appropriately endorsed instructional staff.

Students interested in virtual course options should see their school counselor or contact the Virtual High School. Contact information is available on the Prince William County Public Schools’ Web site at pwcs.edu.

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 that they may not be able to fit into their regular school day or take advantage of courses that are not currently available in their school.

While some courses require tuition, any students participating in the Early College Scholars program 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. Students who enroll in a Virtual Virginia course and choose to drop the course once it begins, will be assessed a $75.00 fee. Students who are successful in online classes are generally skilled in the use of technology, are self-disciplined and self-motivated, have good communication skills (reading and writing), and have an interest in interacting with others in an online course environment. To learn more about Virtual Virginia opportunities, please visit your school counselor.

Night School
A limited number of courses are available in the evenings. These courses are some of the most critical necessary for graduation. Course availability is subject to meeting sufficient enrollment. Your school counselor can provide more information about the Night School Program.
Summer School

We also offer some courses over the summer. The Summer School Program allows students to accelerate the completion of required coursework to free up their school year for participation in more elective programs while also concentrating on advanced academic coursework. Other students take advantage of the Summer School Program to retake coursework that proved difficult for them during the previous school year. Students interested in exploring summer coursework should contact their school counselor for more information. 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. Students who have not passed a state assessment may be required to enroll in available summer remediation programs. In support of Prince William County Public Schools’ students who must meet the Standards of Learning verified credit diploma criteria, an optional summer tutoring program is provided. This voluntary program is available to students who have passed their classroom instruction and received Carnegie credit, but have not earned verified credit due to failing the corresponding End-of-Course SOL test. Summer school courses not taken in Prince William County Public Schools must meet the requirements as outlined in regulation. See your school counselor for more information.

Alternative Methods for Granting Standard Units of Credit

Students seeking high school credits not offered by Prince William County Public Schools or the Virtual Virginia program must complete a formal request form. Once a parent receives verification that credit will be awarded for the successful completion of the course, the student may enroll in the course. Forms are available from your school counselor.

Regional Advanced Academic Schools

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 I by the end of eighth grade or receive written authorization to apply to Thomas Jefferson from the Admissions Director. Additional information is available through the Thomas Jefferson Admissions Office at 571.423.3370 or at www.tjadmissions.org.

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 at http://governor.schools.pwcs.edu/. Students must have completed Algebra II/trigonometry and both biology and chemistry by the end of the tenth grade in order to apply.

Alternative Education

New Directions Alternative Education Center (Grades 9-12)

New Directions offers students in Grades 9-12 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 which 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 Office of Student Management and Alternative Programs. A nontraditional education plan for each student designed collaboratively by New Directions 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 (ISAEP) –

The Individual Student Alternative Education Plan (ISAEP) is a program offered through the Virginia Department of Education, which provides students ages 16 through 18, 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.
General Information

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Point Value For Courses</th>
<th>Point Value For Courses Designated As Advanced Placement, International Baccalaureate, Cambridge, And Certain Career And Technical Education Courses</th>
<th>Point Value For Designated Prerequisite Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4 points (90-100)</td>
<td>5 points (90-100)</td>
<td>4.5 points (90-100)</td>
</tr>
<tr>
<td>B+</td>
<td>3.4 points (87-89)</td>
<td>4.4 points (87-89)</td>
<td>3.9 points (87-89)</td>
</tr>
<tr>
<td>B</td>
<td>3 points (80-86)</td>
<td>4 points (80-86)</td>
<td>3.5 points (80-86)</td>
</tr>
<tr>
<td>C+</td>
<td>2.4 points (77-79)</td>
<td>3.4 points (77-79)</td>
<td>2.9 points (77-79)</td>
</tr>
<tr>
<td>C</td>
<td>2 points (70-76)</td>
<td>3 points (70-76)</td>
<td>2.5 points (70-76)</td>
</tr>
<tr>
<td>D+</td>
<td>1.4 points (67-69)</td>
<td>1.4 points (67-69)</td>
<td>1.4 points (67-69)</td>
</tr>
<tr>
<td>D</td>
<td>1 point (60-66)</td>
<td>1 point (60-66)</td>
<td>1 point (60-66)</td>
</tr>
<tr>
<td>F</td>
<td>0 points (59 and below)</td>
<td>0 points (59 and below)</td>
<td>0 points (59 and below)</td>
</tr>
</tbody>
</table>

All Carnegie unit courses are used in determining a student’s grade-point average (GPA)
When students successfully complete courses identified as ninth, tenth, eleventh, or twelfth grade courses prior to entering ninth grade, they will receive standard units of credit toward graduation. Such courses will be used in computing the student’s high school GPA.
(See paragraph below)

Omitting a Grade for a High School Credit Taken in Middle School
The Regulations Establishing Standards of Accrediting Public Schools in Virginia have provided families with the option of requesting that grades be omitted 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 Web site to the appropriate principal before the deadlines 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.

Schedule Changes
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:
• If a student drops a one-year course during the first semester, a notation will be made on the student transcript indicating either “Withdrawn, Passing” (WP) or “Withdrawn, Failing” (WF). If a student drops a one-year course after the first semester, a failing grade (F) will be recorded on the student’s transcript. This procedure will become effective within one week after the issuance of the first interim.
• Students enrolled in a one-semester course who drop the course before the end of the nine weeks, will have the notation “Withdrawn, Passing” (WP) or “Withdrawn, Failing” (WF) recorded on the student transcript. If a one-semester course is dropped after the nine-week marking period, a failing grade (F) will be recorded on the student’s transcript.
• 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., Pre-AP English 9 to English 9).

Graduation Requirements and Diploma Options
The Virginia Board of Education sets forth requirements for students associated with the year the student entered ninth grade for the first time. The diploma options available to students can be found, organized by the year the student entered ninth grade for the first time, on the following pages. Students will meet with their school counselor each year to update their individual graduation plan.
## Graduation Requirements

**Students Entering 9th Grade in 2011-12 and 2012-13**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Advanced Studies Diploma</th>
<th>Standard Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard units of credit</td>
<td>Verified units of credit</td>
</tr>
<tr>
<td><strong>English – 9, 10, 11, and 12</strong></td>
<td>4</td>
<td>2 Writing and Reading</td>
</tr>
<tr>
<td><strong>Mathematics – Courses shall include at least two different course selections from among Algebra I; Geometry; Algebra, Functions, and Data Analysis; Algebra II; or other mathematics courses above the level of Algebra II (Standard Diploma) or at least three different course selections from among Algebra I, Geometry, Algebra II, or other mathematics courses above the level of Algebra II (Advanced Studies Diploma).</strong></td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td><strong>Laboratory Science – Courses shall include at least two different course selections from among Earth Science, Biology, Chemistry, or Physics or completion of the sequence of science courses required for the IB Diploma (Standard Diploma). The Advanced Studies Diploma requires at least three different course selections from among Earth Science, Biology, Chemistry, or Physics or completion of the sequence of science courses required for the IB Diploma.</strong></td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td><strong>History and Social Sciences – Courses shall include U.S. and Virginia History, U.S. and Virginia Government, and one (Standard Diploma) or both (Advanced Studies Diploma) of the following: World History to 1500; World History from 1500; World Geography may be accepted as one of the required courses for the Advanced Studies diploma for transfer students.</strong></td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td><strong>Foreign Language to include Spanish for Native/Heritage Speakers courses – Courses shall include three years of one language or two years each of two languages.</strong></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Health/Physical Education I, II</strong></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Economics and Personal Finance</strong></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Fine Arts or Career and Technical Education</strong></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Foreign Language, Fine Arts or Career and Technical Education – Credits earned shall include one credit in fine or performing arts or career and technical education.</strong></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>*<em>Electives – Courses to satisfy this requirement shall include at least two sequential electives (<em>Standard Diploma only).</em></em></td>
<td>3</td>
<td>4*</td>
</tr>
<tr>
<td><strong>Student Selected Test – A student may utilize additional tests for earning verified credit in computer science, technology, career and technical education, economics, or other areas as prescribed by the Board.</strong></td>
<td>1</td>
<td>1#</td>
</tr>
<tr>
<td><strong>TOTAL CREDITS REQUIRED</strong></td>
<td>26</td>
<td>9</td>
</tr>
</tbody>
</table>

Students who complete Advanced Placement, Cambridge, college-level, or courses required for the International Baccalaureate Diploma shall be deemed to have completed the requirements for graduation under these standards provided they have earned the standard units of credit and verified units of credit in accordance with the requirements of the Standard Diploma or Advanced Studies Diploma, or in the case of a complete International Baccalaureate Program, the number of verified credits required for an Advanced Studies Diploma.

# Students who are seeking the Standard Diploma and who complete a Career and Technical Education program sequence and pass an examination or occupational competency assessment in a career and technical education field that confers certification or an occupational competency credential from a recognized industry or trade or professional association or acquire a professional license in a career and technical education field from the Commonwealth of Virginia may substitute the certification, competency credential, or license for (i) the student selected verified credit and (ii) either a science or history and social science verified credit when the certification, license, or credential confers more than one verified credit. The examination or occupational competency assessment must be approved by the Board of Education as an educational test to verify student achievement.
### Graduation Requirements

**Students Entering 9th Grade in 2013-14, 2014-15, and 2015-16**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Advanced Studies Diploma</th>
<th>Standard Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard units of credit</td>
<td>Verified units of credit</td>
</tr>
<tr>
<td><strong>English</strong> – 9, 10, 11, and 12</td>
<td>4</td>
<td>2 Writing and Reading</td>
</tr>
<tr>
<td><strong>Mathematics</strong> – Courses shall include at least two different course selections from among Algebra I; Geometry; Algebra, Functions and Data Analysis; Algebra II; or other mathematics courses above the level of Algebra II (Standard Diploma) or at least three different course selections from among Algebra I, Geometry, Algebra II, or other mathematics courses above the level of Algebra II (Advanced Studies Diploma).</td>
<td>4</td>
<td>2 Writing and Reading</td>
</tr>
<tr>
<td><strong>Laboratory Science</strong> – Courses shall include at least two different course selections from among Earth Science, Biology, Chemistry, or Physics or completion of the sequence of science courses required for the IB Diploma (Standard Diploma). The Advanced Studies Diploma requires at least three different course selections from among Earth Science, Biology, Chemistry, or Physics or completion of the sequence of science courses required for the IB Diploma.</td>
<td>4</td>
<td>2 Writing and Reading</td>
</tr>
<tr>
<td><strong>History and Social Sciences</strong> – Courses shall include U.S. and Virginia History, U.S. and Virginia Government, and one (Standard Diploma) or both (Advanced Diploma) of the following: World History to 1500; World History from 1500; World Geography may be accepted as one of the required courses for the Advanced Studies diploma for transfer students.</td>
<td>4</td>
<td>2 Writing and Reading</td>
</tr>
<tr>
<td><strong>Foreign Language Courses to include Spanish for Native/Heritage Speakers courses.</strong> Courses shall include three years of one language or two years each of two languages.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Health/Physical Education I, II</strong></td>
<td>2</td>
<td>2 Writing and Reading</td>
</tr>
<tr>
<td><strong>Economics and Personal Finance</strong></td>
<td>1</td>
<td>1 Writing and Reading</td>
</tr>
<tr>
<td><strong>Fine Arts or Career and Technical Education</strong></td>
<td>1</td>
<td>1 Writing and Reading</td>
</tr>
<tr>
<td><strong>Foreign Language, Fine Arts, or Career and Technical Education</strong> – Credits earned shall include one credit in fine or performing arts or career and technical education.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Electives</strong> – Courses to satisfy this requirement shall include at least two sequential electives (*Standard Diploma only).</td>
<td>3</td>
<td>4* Writing and Reading</td>
</tr>
<tr>
<td><strong>Student Selected Test</strong> – A student may utilize additional tests for earning verified credit in computer science, technology, career and technical education, economics, or other areas as prescribed by the Board.</td>
<td>1</td>
<td>1 Writing and Reading</td>
</tr>
<tr>
<td><strong>TOTAL CREDITS REQUIRED</strong></td>
<td>26</td>
<td>9 Writing and Reading</td>
</tr>
<tr>
<td><strong>ADDITIONAL REQUIREMENTS</strong></td>
<td>Virtual Course for Credit or Non-Credit</td>
<td>Virtual Course for Credit or Non-Credit Career and Technical Education Credential</td>
</tr>
</tbody>
</table>

Students who complete Advanced Placement, Cambridge, college-level, or courses required for the International Baccalaureate Diploma shall be deemed to have completed the requirements for graduation under these standards provided they have earned the standard units of credit and verified units of credit in accordance with the requirements of the Standard Diploma or Advanced Studies Diploma, or in the case of a complete International Baccalaureate Program, the number of verified credits required for an Advanced Studies Diploma.

# Students who are seeking the Standard Diploma and who complete a Career and Technical Education Program sequence and pass an examination or occupational competency assessment in a career and technical education field that confers certification or an occupational competency credential from a recognized industry or trade or professional association or acquire a professional license in a career and technical education field from the Commonwealth of Virginia may substitute the certification, competency credential, or license for (i) the student selected verified credit and (ii) either science or history and social science verified credit when the certification, license, or credential confers more than one verified credit. The examination or occupational competency assessment must be approved by the Board of Education as an educational test to verify student achievement.

**Students who are seeking the Standard Diploma must take and pass a career and technical education credentialing exam that has been approved by the Board of Education. This may include an industry certification, state licensure examination, National Occupational Competency Assessment, or Virginia Workplace Readiness Skills Assessment.**
## Graduation Requirements

### Students Entering 9th Grade in 2016-17 and Beyond

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Advanced Studies Diploma</th>
<th>Standard Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard</td>
<td>Verified</td>
</tr>
<tr>
<td><strong>English</strong> – 9, 10, 11, and 12</td>
<td>4</td>
<td>2 Writing and Reading</td>
</tr>
<tr>
<td><strong>Mathematics</strong> – Courses shall include at least two different course selections from among Algebra I; Geometry; Algebra, Functions and Data Analysis; Algebra II; or other mathematics courses above the level of Algebra II (Standard Diploma) or at least three different course selections from among Algebra I, Geometry, Algebra II, or other mathematics courses above the level of Algebra II (Advanced Studies Diploma).</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td><strong>Laboratory Science</strong> – Courses shall include at least two different course selections from among Earth Science, Biology, Chemistry, or Physics or completion of the sequence of science courses required for the IB Diploma (Standard Diploma). The Advanced Studies Diploma requires at least three different course selections from among Earth Science, Biology, Chemistry, or Physics or completion of the sequence of science courses required for the IB Diploma.</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td><strong>History and Social Sciences</strong> – Courses shall include U.S. and Virginia History, U.S. and Virginia Government, and one (Standard Diploma) or both (Advanced Diploma) of the following: World History to 1500; World History from 1500; World Geography may be accepted as one of the required courses for the Advanced Studies diploma for transfer students.</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td><strong>Foreign Language Courses to include Spanish for Native/Heritage Speakers courses</strong>. Courses shall include three years of one language or two years each of two languages.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Health/Physical Education I, II</strong></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Economics and Personal Finance</strong></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Fine Arts or Career and Technical Education</strong></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Foreign Language, Fine Arts, or Career and Technical Education</strong> – Credits earned shall include one credit in fine or performing arts or career and technical education.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Electives</strong> – Courses to satisfy this requirement shall include at least two sequential electives (*Standard Diploma only).</td>
<td>3</td>
<td>4*</td>
</tr>
<tr>
<td><strong>Student Selected Test</strong> – A student may utilize additional tests for earning verified credit in computer science, technology, career and technical education, economics, or other areas as prescribed by the Board.</td>
<td>1</td>
<td>1#</td>
</tr>
<tr>
<td><strong>TOTAL CREDITS REQUIRED</strong></td>
<td>26</td>
<td>9</td>
</tr>
</tbody>
</table>

### ADDITIONAL REQUIREMENTS

- Virtual Course for Credit or Non-Credit CPR/First Aid and AED Training
- Virtual Course for Credit or Non-Credit Career and Technical Education Credential CPR/First Aid and AED Training

---

Students who complete Advanced Placement, Cambridge, college-level, or courses required for the International Baccalaureate Diploma shall be deemed to have completed the requirements for graduation under these standards provided they have earned the standard units of credit and verified units of credit in accordance with the requirements of the Standard Diploma or Advanced Studies Diploma, or in the case of a complete International Baccalaureate Program, the number of verified credits required for an Advanced Studies Diploma.

# Students who are seeking the Standard Diploma and who complete a Career and Technical Education Program sequence and pass an examination or occupational competency assessment in a career and technical education field that confers certification or an occupational competency credential from a recognized industry or trade or professional association or acquire a professional license in a career and technical education field from the Commonwealth of Virginia may substitute the certification, competency credential, or license for (i) the student selected verified credit and (ii) either science or history and social science verified credit when the certification, license, or credential confers more than one verified credit. The examination or occupational competency assessment must be approved by the Board of Education as an educational test to verify student achievement. **Students who are seeking the Standard Diploma must take and pass a career and technical education credentialing exam that has been approved by the Board of Education. This may include an industry certification, state licensure examination, National Occupational Competency Assessment, or Virginia Workplace Readiness Skills Assessment.**
Graduation Requirements

Modified Standard Diploma
Students Entering 9th Grade Through 2012-13

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Standard Units of Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong> 9, 10, 11, 12</td>
<td>4</td>
</tr>
<tr>
<td><strong>Mathematics</strong> – Courses completed to satisfy this requirement shall include three units of credit from among Algebra I, Part I; Algebra 1, Part 2; Geometry; personal finance, or higher.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Laboratory Science</strong> – Courses completed to satisfy this requirement shall include content from at least two of the following: Earth Science, Biology, Chemistry, or Physics.</td>
<td>2</td>
</tr>
<tr>
<td><strong>History/Social Sciences</strong> – Courses completed to satisfy this requirement shall include one unit of credit in U.S. and Virginia History and one unit of credit in U.S. and Virginia Government.</td>
<td>2</td>
</tr>
<tr>
<td><strong>Health/Physical Education</strong>: 2 units of credit</td>
<td>2</td>
</tr>
<tr>
<td><strong>Fine Arts or Career and Technical Education</strong>: 1 unit of credit</td>
<td>1</td>
</tr>
<tr>
<td><strong>Electives</strong>: 6 units of credit Courses to satisfy this requirement shall include two sequential electives in the same manner as required for the Standard Diploma</td>
<td>6</td>
</tr>
<tr>
<td><strong>TOTAL CREDITS REQUIRED</strong></td>
<td>20</td>
</tr>
</tbody>
</table>

Eligibility and participation in the Modified Standard Diploma program shall be determined by the student's Individualized Education Program (IEP) team and the student, where appropriate, at any point after the student's eighth grade year. The student who has chosen to pursue a Modified Standard Diploma shall also be allowed to pursue the Standard Diploma, Standard Technical Diploma, Advanced Studies Diploma, or Advanced Technical Diploma at any time throughout the student's high school career.

Students pursuing the Modified Standard Diploma must pass the eighth grade SOL Tests in Math and English/Reading or achieve scores on these or on other tests as approved by the Board of Education.

The Modified Standard Diploma will not be Available to Students Who Enter the 9th Grade in the 2013-14 School Year or Later.

Credit Accommodations
Students entering ninth grade for the first time in 2013-14 and beyond are eligible to pursue an Advanced Studies Diploma, Standard Diploma, or Special Diploma. These students who would have previously been candidates for the Modified Standard Diploma may use credit accommodations to earn the Standard Diploma if they meet the following eligibility requirements (i) the student has a current IEP or 504 plan with standards-based content goals; (ii) 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; (iii) the student needs significant instructional supports to access grade level Standards of Learning (SOL) content and to show progress; and (iv) 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
Courses Needed: 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.
Transfer Students

Students who transfer to a Prince William County School 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 a Prince William County School 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:

### Verified Units of Credit Requirement

#### Transfer Students from Non-Virginia Public School

<table>
<thead>
<tr>
<th>Standard Diploma</th>
<th>Advanced Studies Diploma</th>
</tr>
</thead>
</table>
| **Student enters during 9th grade or at the beginning of 10th grade:**  
  Student must obtain all six (6) required verified units of credit | **Student enters during 9th grade or at the beginning of 10th grade:**  
  Student must obtain all nine (9) required verified units of credit |
| **Student enters during 10th grade or at the beginning of 11th grade:**  
  Student must obtain four (4) verified units  
  One (1) in English  
  One (1) in Math  
  One (1) in History/Social Science  
  One (1) in Science | **Student enters during 10th grade or at the beginning of 11th grade:**  
  Student must obtain six (6) verified units  
  Two (2) in English  
  One (1) in Math  
  One (1) in History/Social Science  
  One (1) in Science  
  One (1) student selected |
| **Student enters during 11th grade or at the beginning of 12th grade:**  
  Student must obtain two (2) verified units  
  One (1) in English  
  One (1) student selected | **Student enters during 11th grade or at the beginning of 12th grade:**  
  Student must obtain four (4) verified units  
  One (1) in English  
  Three (3) student selected |
| **Student enters during 12th grade:**  
  Student may apply for a waiver of verified units with the State Board of Education | **Student enters during 12th grade:**  
  Student may apply for a waiver of verified units with the State Board of Education |

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 who's parents are active duty military may receive additional flexibility as outlined in the Interstate Military Compact on Educational Opportunity for Military Children.
Diploma Warranty

Prince William County Public Schools will provide a two-year warranty for diploma recipients. The diploma warranty guarantees minimum competencies in reading, writing, and mathematics. 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 data-bases, 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’ Night School Program at no expense to the graduate.

Diploma Seals

Regulations Establishing Standards for Accrediting Public Schools in Virginia contain provisions for awards for exemplary performance for students who meet the requirements for graduation as follows:

• 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 (AICE), or dual enrollment courses will receive the Governor’s Seal on the Diploma.
• Students who complete the requirements for a Standard Diploma or an Advanced Studies Diploma with an average of “A” will receive a Board of Education Seal on the Diploma.
• The Board of Education’s Career and Technical Education Seal will be awarded to students who earn a Standard Diploma or an Advanced Studies Diploma, complete a prescribed sequence of career and technical education courses and either:
  • maintain a “B” or better average in those courses; or
  • pass one of the Virginia Department of Education approved industry certifications, occupational competence assessments, or professional licenses. The current list can be found at: http://www.doe.virginia.gov/instruction/career_technical/path_industry_certification/cte_credentials/industry_certifications_2015.pdf
• The Board of Education Seal of Advanced Mathematics and Technology is awarded to students who earn a Standard Diploma or an Advanced Studies Diploma and satisfy all of the mathematics requirements for the Advanced Studies Diploma (four standard units of credit including Algebra II; two verified units of credit) with a “B” average or better and either (i) pass an examination in a career and technical education field that confers certification from a recognized industry, trade, or professional association; or (ii) acquire a professional license in a career and technical education field from the Commonwealth of Virginia; or (iii) pass an examination approved by the Board that confers college-level credit in a technology or computer science area. The Board of Education shall approve all professional licenses and examinations used to satisfy these requirements.
• The Board of Education’s Seal for Excellence in Civics Education will be awarded to students who earn a Modified Standard Diploma, Standard Diploma or an Advanced Studies Diploma and satisfy all of the following criteria: (i) complete U.S. and Virginia History and U.S. and Virginia Government with a grade of “B” or higher; (ii) complete 50 hours of voluntary participation in community service or extracurricular activities that have a civics focus; and (iii) have good attendance and no disciplinary infractions. Any student who enlists in the United States military prior to graduation will be deemed to have completed the community service requirement for this seal.
• The Board of Education’s Seal of Biliteracy will be awarded to students who earn either a Board of Education-approved diploma and (i) pass all required End-of-Course Assessments in English reading and writing at the proficient or higher level; and (ii) be proficient 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. For purposes of this seal, “foreign language” means a language other than English, and includes American Sign Language.
## Prince William County Public Schools

**“Ready to Go” Checklist**

- Students completing the courses and other graduation requirements outlined below will be “Ready to Go” to post-secondary education institutions of their choice to include Northern Virginia Community College and four year universities.

- Students may opt to take a standard level or advanced level (AP, IB, AICE) 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 ninth grade year.

### Grade 9

<table>
<thead>
<tr>
<th></th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td>English 9</td>
<td>English 10</td>
<td>English 11</td>
</tr>
<tr>
<td></td>
<td>□ Completed</td>
<td>□ Completed</td>
<td>□ Completed</td>
</tr>
<tr>
<td><strong>Math</strong></td>
<td>Algebra I or Higher</td>
<td>Geometry or Higher</td>
<td>Algebra Functions and Data Analysis, Algebra II, or higher</td>
</tr>
<tr>
<td></td>
<td>□ Completed</td>
<td>□ Completed</td>
<td>□ Completed</td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>Earth Science or Biology</td>
<td>Biology or Chemistry</td>
<td>Chemistry or Physics</td>
</tr>
<tr>
<td></td>
<td>□ Completed</td>
<td>□ Completed</td>
<td>□ Completed</td>
</tr>
<tr>
<td><strong>Social Studies</strong></td>
<td>World History I</td>
<td>World History II</td>
<td>U.S. and Virginia History</td>
</tr>
<tr>
<td></td>
<td>□ Completed</td>
<td>□ Completed</td>
<td>□ Completed</td>
</tr>
<tr>
<td><strong>Foreign Language</strong></td>
<td>Level 1 or higher</td>
<td>Level 2 or higher</td>
<td>Level 3 or higher</td>
</tr>
<tr>
<td></td>
<td>□ Completed</td>
<td>□ Completed</td>
<td>□ Completed</td>
</tr>
<tr>
<td><strong>Health and</strong></td>
<td>Health and Physical Education I</td>
<td>Health and Physical Education II</td>
<td></td>
</tr>
<tr>
<td><strong>Physical Education</strong></td>
<td>○ Completed</td>
<td>○ Completed</td>
<td></td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>Fine Arts or Career and Technical Education (1 Credit)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Additional</strong></td>
<td>Economics and Personal Finance*</td>
<td>CTE Credentialing Exam*</td>
<td>Virtual Course^</td>
</tr>
<tr>
<td><strong>Graduation</strong></td>
<td>□ Completed</td>
<td>□ Completed</td>
<td>□ Completed</td>
</tr>
<tr>
<td><strong>Requirements</strong></td>
<td></td>
<td></td>
<td>CPR/First/AED+ Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>□ Completed</td>
</tr>
</tbody>
</table>

---

See your school counselor for more information about your high school course plan and your post-secondary education plans!

* Required for those students entering the 9th grade for the first time during the 2011-12 school year or later.

* Required for those students entering the 9th grade for the first time during the 2013-14 school year or later. Students who take Economics and Personal Finance through PWCS may meet both the Virtual Course requirement and CTE Exam requirement if the student passes an industry certification assessment.

+ Required for those students entering the 9th grade for the first time during the 2016-17 school year or later.
## Prince William County Public Schools
### General College Admissions Information

Data below based on acceptance information reported for the class of 2014 from Prince William County Public Schools

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
<th>Average GPA of accepted students</th>
<th>Average SAT of accepted students (combined Verbal and Math)</th>
<th>Average ACT of accepted students (composite score)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elite – National</td>
<td>Ivy League Schools</td>
<td>4.7</td>
<td>1475</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Massachusetts Institute of Technology (MIT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>University of California at Berkeley</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exclusive – State</td>
<td>University of Virginia</td>
<td>4.3</td>
<td>1295</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>College of William &amp; Mary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>University of Richmond</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highly Selective – State</td>
<td>George Mason</td>
<td>3.9</td>
<td>1160</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Virginia Tech</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>James Madison University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Selective – State</td>
<td>Christopher Newport</td>
<td>3.7</td>
<td>1100</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Virginia Commonwealth University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>University of Mary Washington</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selective – State</td>
<td>Old Dominion University</td>
<td>3.29</td>
<td>1020</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Longwood University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shennandoah University</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Virginia Public Four Year Colleges and Universities

- Christopher Newport University
- College of William and Mary
- George Mason University
- James Madison University
- Longwood University
- Norfolk State University
- Old Dominion University
- Radford University
- University of Mary Washington
- University of Virginia
- University of Virginia’s College at Wise
- Virginia Commonwealth University
- Virginia Military Institute
- Virginia State University
- Virginia Tech

### Virginia Public Community Colleges

- Virginia Public Community Colleges
- Blue Ridge Community College
- Central Virginia Community College
- Dabney S. Lancaster Comm. College
- Danville Community College
- Eastern Shore Community College
- Germanna Community College
- J Sergeant Reynolds Comm. College
- John Tyler Community College
- Lord Fairfax Community College
- Mountain Empire Community College
- New River Community College
- Northern Virginia Community College
- Patrick Henry Community College
- Paul D Camp Community College
- Piedmont Virginia Community College
- Rappahannock Community College
- Southside Virginia Community College
- Southwest Virginia Comm. College
- Thomas Nelson Community College
- Tidewater Community College
- Virginia Highlands Community College
- Virginia Western Community College
- Wytheville Community College
**Historically Black Colleges & Universities**

<table>
<thead>
<tr>
<th>State</th>
<th>Institute Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Alabama A&amp;M University</td>
</tr>
<tr>
<td></td>
<td>Alabama State University</td>
</tr>
<tr>
<td></td>
<td>S.D. Beaufort State Community College</td>
</tr>
<tr>
<td></td>
<td>Concordia College</td>
</tr>
<tr>
<td></td>
<td>Miles College</td>
</tr>
<tr>
<td></td>
<td>Oakwood College</td>
</tr>
<tr>
<td></td>
<td>Stillman College</td>
</tr>
<tr>
<td></td>
<td>Talladega College</td>
</tr>
<tr>
<td></td>
<td>Tuskegee University</td>
</tr>
<tr>
<td>Arkansas</td>
<td>Arkansas Baptist College</td>
</tr>
<tr>
<td></td>
<td>Philander Smith College</td>
</tr>
<tr>
<td></td>
<td>University of Arkansas, Pine Bluff</td>
</tr>
<tr>
<td>Delaware</td>
<td>Delaware State University</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>Howard University</td>
</tr>
<tr>
<td></td>
<td>University of the District of Columbia</td>
</tr>
<tr>
<td>Florida</td>
<td>Bethune-Cookman University</td>
</tr>
<tr>
<td></td>
<td>Edward Waters College</td>
</tr>
<tr>
<td></td>
<td>Florida A&amp;M University</td>
</tr>
<tr>
<td></td>
<td>Florida Memorial University</td>
</tr>
<tr>
<td>Georgia</td>
<td>Albany State University</td>
</tr>
<tr>
<td></td>
<td>Clark-Atlanta University</td>
</tr>
<tr>
<td></td>
<td>Fort Valley State University</td>
</tr>
<tr>
<td></td>
<td>Morehouse College</td>
</tr>
<tr>
<td></td>
<td>Morris Brown College</td>
</tr>
<tr>
<td></td>
<td>Paine College</td>
</tr>
<tr>
<td></td>
<td>Savannah State University</td>
</tr>
<tr>
<td></td>
<td>Spelman College</td>
</tr>
<tr>
<td>Kentucky</td>
<td>Kentucky State University</td>
</tr>
<tr>
<td>Louisiana</td>
<td>Dillard University</td>
</tr>
<tr>
<td></td>
<td>Gambling State University</td>
</tr>
<tr>
<td></td>
<td>Southern University and A&amp;M College</td>
</tr>
<tr>
<td></td>
<td>Xavier University of Louisiana</td>
</tr>
<tr>
<td>Maryland</td>
<td>Bowie State University</td>
</tr>
<tr>
<td></td>
<td>Coppin State University</td>
</tr>
<tr>
<td></td>
<td>Morgan State University</td>
</tr>
<tr>
<td></td>
<td>University of Maryland, Eastern Shore</td>
</tr>
<tr>
<td>Mississippi</td>
<td>Alcorn State University</td>
</tr>
<tr>
<td></td>
<td>Coahoma Community College</td>
</tr>
<tr>
<td></td>
<td>Jackson State University</td>
</tr>
<tr>
<td></td>
<td>Mississippi Valley State University</td>
</tr>
<tr>
<td></td>
<td>Rust College</td>
</tr>
<tr>
<td></td>
<td>Tugaloo College</td>
</tr>
<tr>
<td>Missouri</td>
<td>Harris-Stowe State University</td>
</tr>
<tr>
<td></td>
<td>Lincoln University of Missouri</td>
</tr>
<tr>
<td>North Carolina</td>
<td>Barber-Scotia College</td>
</tr>
<tr>
<td></td>
<td>Bennett College</td>
</tr>
<tr>
<td></td>
<td>Elizabeth City State University</td>
</tr>
<tr>
<td></td>
<td>Fayetteville State University</td>
</tr>
<tr>
<td></td>
<td>Johnson C. Smith University</td>
</tr>
<tr>
<td></td>
<td>Livingstone College</td>
</tr>
<tr>
<td></td>
<td>North Carolina A&amp;T State University</td>
</tr>
<tr>
<td></td>
<td>North Carolina Central University</td>
</tr>
<tr>
<td></td>
<td>St. Augustine’s College</td>
</tr>
<tr>
<td></td>
<td>Shaw University</td>
</tr>
<tr>
<td></td>
<td>Winston-Salem State University</td>
</tr>
<tr>
<td>Ohio</td>
<td>Central State University</td>
</tr>
<tr>
<td></td>
<td>Wilberforce University</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>Langston University</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Cheyney University of Pennsylvania</td>
</tr>
<tr>
<td></td>
<td>Lincoln University</td>
</tr>
<tr>
<td>South Carolina</td>
<td>Allen University</td>
</tr>
<tr>
<td></td>
<td>Benedict College</td>
</tr>
<tr>
<td></td>
<td>Claflin University</td>
</tr>
<tr>
<td></td>
<td>Clinton Junior College</td>
</tr>
<tr>
<td></td>
<td>Danish Technical College</td>
</tr>
<tr>
<td></td>
<td>Morris College</td>
</tr>
<tr>
<td></td>
<td>South Carolina State College</td>
</tr>
<tr>
<td></td>
<td>Voorhees College</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Fisk University</td>
</tr>
<tr>
<td></td>
<td>Knoxville College</td>
</tr>
<tr>
<td></td>
<td>Lane College</td>
</tr>
<tr>
<td>Virginia</td>
<td>Hampton University</td>
</tr>
<tr>
<td></td>
<td>Norfolk State University</td>
</tr>
<tr>
<td></td>
<td>St. Paul’s College</td>
</tr>
<tr>
<td></td>
<td>Virginia State University</td>
</tr>
<tr>
<td></td>
<td>Virginia Union University</td>
</tr>
<tr>
<td>West Virginia</td>
<td>Bluefield State College</td>
</tr>
<tr>
<td></td>
<td>West Virginia State University</td>
</tr>
</tbody>
</table>

**Colleges with large Hispanic enrollments (50% or more)**

<table>
<thead>
<tr>
<th>State</th>
<th>Institute Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>Bakersfield College</td>
</tr>
<tr>
<td></td>
<td>California State University, Los Angeles</td>
</tr>
<tr>
<td></td>
<td>Cerritos College</td>
</tr>
<tr>
<td></td>
<td>Chaffey College</td>
</tr>
<tr>
<td></td>
<td>College of the Sequoias</td>
</tr>
<tr>
<td></td>
<td>East Los Angeles College</td>
</tr>
<tr>
<td></td>
<td>Hartnell College</td>
</tr>
<tr>
<td></td>
<td>Imperial Valley College</td>
</tr>
<tr>
<td></td>
<td>Los Angeles Trade-Technical College</td>
</tr>
<tr>
<td></td>
<td>Reedley College</td>
</tr>
<tr>
<td></td>
<td>Rio Hondo College</td>
</tr>
<tr>
<td></td>
<td>San Bernedino Valley College</td>
</tr>
<tr>
<td></td>
<td>Southwestern College</td>
</tr>
<tr>
<td>Florida</td>
<td>Florida International University</td>
</tr>
<tr>
<td></td>
<td>Miami-Dade College</td>
</tr>
</tbody>
</table>

**Virginia Private Four Year Colleges & Universities**

<table>
<thead>
<tr>
<th>Institute Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appalachian School of Law</td>
</tr>
<tr>
<td>Averett University – Danville</td>
</tr>
<tr>
<td>Bluefield College</td>
</tr>
<tr>
<td>Bridgewater College</td>
</tr>
<tr>
<td>Centura College – Alexandria</td>
</tr>
<tr>
<td>Centura College – Chesapeake</td>
</tr>
<tr>
<td>Centura College – Newport News</td>
</tr>
<tr>
<td>Centura College – Norfolk</td>
</tr>
<tr>
<td>Centura College – Richmond</td>
</tr>
<tr>
<td>Centura College – Richmond West</td>
</tr>
<tr>
<td>Centura College – Virginia Beach</td>
</tr>
<tr>
<td>Christendom College</td>
</tr>
<tr>
<td>Eastern Mennonite University</td>
</tr>
<tr>
<td>ECPI University</td>
</tr>
<tr>
<td>Emory and Henry College</td>
</tr>
<tr>
<td>Ferrum College</td>
</tr>
<tr>
<td>George Washington University</td>
</tr>
<tr>
<td>Hampden-Sydney College</td>
</tr>
<tr>
<td>Hampton University</td>
</tr>
<tr>
<td>Hampton University – Virginia Beach</td>
</tr>
<tr>
<td>Hampton University – Roanoke Higher Education Center</td>
</tr>
<tr>
<td>Hollins University</td>
</tr>
<tr>
<td>Institute for the Psychological Sciences</td>
</tr>
<tr>
<td>Jefferson College of Health Sciences</td>
</tr>
<tr>
<td>Liberty University</td>
</tr>
<tr>
<td>Lynchburg College</td>
</tr>
<tr>
<td>Mary Baldwin College – Staunton</td>
</tr>
<tr>
<td>Marymount University</td>
</tr>
<tr>
<td>National College – Bluefield</td>
</tr>
<tr>
<td>Randolph-Macon College</td>
</tr>
<tr>
<td>Randolph College</td>
</tr>
<tr>
<td>Regent University</td>
</tr>
<tr>
<td>Roanoke College</td>
</tr>
<tr>
<td>Shenandoah University – Winchester</td>
</tr>
<tr>
<td>Skyline College</td>
</tr>
<tr>
<td>Stratford University</td>
</tr>
<tr>
<td>Sweet Briar College</td>
</tr>
<tr>
<td>Union Theological Seminary &amp; Presbyterian School of Christian Education</td>
</tr>
<tr>
<td>University of Management and Technology University of Richmond</td>
</tr>
<tr>
<td>Virginia Intermont College</td>
</tr>
<tr>
<td>Virginia Union University</td>
</tr>
<tr>
<td>Virginia Wesleyan College</td>
</tr>
<tr>
<td>Washington and Lee University</td>
</tr>
</tbody>
</table>
Post-Secondary Planning Timeline
Are you “Ready to Go”? 

9th Grade

**Investigate**
- High school graduation requirements;
- Interests as they relate to careers;
- Personal strengths; and
- Skills you have and those which you need to build.

**Create**
- Personal portfolio – gather your report cards, evidence of awards and honors, and a list of school and community activities; and
- Personal goals using the Naviance Program.

**Action**
- Take challenging courses;
- Meet with your school counselor to discuss post-secondary goals;
- Read as much as you can from a variety of materials;
- Prepare for the PSAT;
- Volunteer or work part-time;
- Participate in extra-curricular activities and
- Update your Academic and Career Plan.

10th Grade

**Investigate**
- Career options;
- College entrance requirements;
  - Most competitive college requirements include:
    - English (4 units)
    - Social Studies (4 units)
    - Science (3-4 units)
    - Foreign Language (3-4 units)
    - Mathematics (3-4 units, at least up to Algebra II)
    - Fine/Practical Arts/Electives (with a focus)
    - The cost of post-secondary education; and
    - AP/IB/AICE Courses.

**Create**
- Update your personal portfolio throughout the school year;
- Create a resume using the Naviance Program; and
- Update and modify your personal goals as needed.

**Action**
- Continue to take challenging courses;
- Meet with your school counselor to discuss post-secondary goals;
- Read as much as you can from a variety of materials;
- Take the PSAT and/or PLAN tests;
- Volunteer or work part-time;
- Participate in extra-curricular activities.

11th Grade

**Investigate**
- College options and the application process;
- NCAA Clearinghouse for potential college athletes;
- Personal traits and how they relate to future plans;
- Dual Enrollment with Northern Virginia Community College.

**Create**
- Update personal goals;
- Update personal portfolio; and
- Finalize and update your resume in the Naviance Program.

**Action**
- Continue to take challenging courses to include AP/IB/AICE;
- Take the PSAT in the Fall of your junior year;
- Take the SAT or ACT in the Spring of your junior year. Remember, SAT preparation is now free at www.khanacademy.org.
- Form relationships with teachers and determine who you may ask for a letter of recommendation;
- Participate in extra-curricular activities and consider options for leadership within organizations;
- Attend college fairs;
- Visit college campuses during spring break; and
- Meet with your school counselor and begin to finalize your post-secondary plan.
12th Grade

Investigate
- College entrance requirements;
- College application deadlines;
- Financial aid deadlines;
- Scholarship options;
- College majors; and
- Community College options.

Create
- Update your personal portfolio throughout the school year;
- Finalize your resume using the Naviance Program; and
- Finalize your personal goals.

Action
- **June-August:**
  - Prepare for the SAT/ACT. Remember, preparation is free at www.khanacademy.org
  - Practice completing online applications
  - Practice college essays and ask family, friends and teachers to review your writing
  - Decide if you will apply to college early
  - Work part-time or intern
- **September:**
  - Meet with your school counselor for your senior interview
  - Register for the fall SAT/ACT tests
  - Search for colleges and make a plan for meeting application deadlines
  - Request letters of recommendation from teachers and family friends
- **October-December:**
  - Take the SAT I/SAT II/ACT again if needed
  - Request recommendations from teachers
  - Apply to colleges
- **January-March:**
  - Complete the Federal Application for Federal Student Aid (FAFSA) with your parents
  - Complete scholarship applications
  - Continue to apply to colleges

- **April:**
  - Review college acceptance decisions and finalize your college choice
  - Notify your selected school by sending letter of commitment and submitting a deposit check
  - Review any financial aid packages and scholarship awards with your parents
  - Study for AP/IB/AICE Exams
  - Apply to Northern Virginia Community College if that is your chosen path
  - Take the Northern Virginia Community College placement test if needed
- **May:**
  - Take AP/IB/AICE exams
  - Send thank you notes to people who wrote letters of recommendation
- **June:**
  - Inform your school counselor of any earned scholarships
  - Inform your school counselor about your final post-secondary plan
  - Register for college courses
- **July-August:**
  - Participate in any summer orientation program available at your school of choice
  - Finalize financial aid arrangements
  - Get ready to start college in the fall!

Adapted from Battlefield High School Counseling Department – Counselor, Elizabeth Chase-Kang
Terminology

Standards of Learning (SOL)
The Standards of Learning for Virginia Public Schools describe the Commonwealth’s expectations for student learning and achievement in English, mathematics, science, history and social science, technology, the fine arts, foreign language, health and physical education, and driver education 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 social science courses.

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.

Weighted Credit
Weighted credit refers to grade point values assigned to Advanced Placement, International Baccalaureate, and Cambridge courses; certain Career and Technical Education courses; qualifying college courses; and designated prerequisite courses.

Dual Enrolled
Students taking courses from a community college, trade school program, college or university for a credit, while simultaneously enrolled in a Prince William County High School are said to be dual enrolled. Agreements between the college and PWCS must be in place prior to 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.

Sequential Electives
According to the Virginia Department of Education's (VDOE) Standards of Quality (SOQ) students who plan to graduate with a Standard Diploma or Modified Standard 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. One credit used to satisfy the fine arts or career and technical education requirement for the Standard or Modified Standard Diploma may be used to partially satisfy this requirement.

Fine Arts or Career and Technical Education
• Fine 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 fine arts requirement may also serve as one of the two courses required to satisfy the sequential electives requirement.

Locally Awarded Verified Unit of Credit
A locally awarded verified unit of credit is awarded by a local school board in the science or history/social science areas of study. Locally awarded verified units of credit are available to students who are pursuing the Standard Diploma. Specific criteria have been developed for the awarding of these credits. Students may not earn more than four locally awarded verified units of credit. With the exception of those students with an IEP or 504 Plan who are eligible for credit accommodations.
Career and Technical Education courses are those in which a student is taught 21st century career skills in a real world setting. All courses listed under Career and Technical Education, JROTC, Athletic Training I and II, and Employ 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 electives.

Career and Technical Education Industry Credentialing

Career and Technical Education industry credentialing can be achieved by successful completion of Career and Technical Education coursework which will enable students to participate in Virginia Board of Education approved assessments for industry credentialing. Students who earn these credentials are eligible to earn verified credits toward graduation requirements. Students pursuing the standard diploma who enter the ninth grade for the first time during the 2013-14 school year and beyond will be required to pass a state approved Career and Technical Education Credentialing Exam.

Advanced Placement, International Baccalaureate Diploma, and Cambridge AICE Courses

Certain courses have been designated as Advanced Placement (AP), International Baccalaureate (IB), and Cambridge Courses (AICE). 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 the possibility of weighted credit.

CPR/First Aid and AED Training

Beginning with first-time ninth grade students in the 2016-17 school year, 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 PE I.

Student-Selected Test

A student-selected test for verified credit may come from any End-of-Course Standard of Learning (SOL) test that is not already satisfying a required verified credit, or tests in computer science, technology, or other areas as prescribed by the Virginia Board of Education. Student-selected tests may also come from the successful completion of a career and technical education course in combination with a passing score on a Virginia Board of Education approved industry credential.

Two student-selected verified credits will be awarded for passing an industry credential; and

- The student meets the career and technical education approved sequence course requirements for the program completer.
- The student earns at least two standard units of credit in the career and technical education approved sequence.
- The student may substitute one of these verified credits for a verified credit in either science or history/social science.
Course Selection

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. Art, music, 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 a career goal and still have time for other course offerings without excluding any particular 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. Numbers 1-11 and 99 shown below the course’s descriptive paragraph indicate the schools in which each course is taught. The code number for each high school is as follows:

<table>
<thead>
<tr>
<th>School Number Code</th>
<th>Brentsville</th>
<th>Gar-Field</th>
<th>Osbourn Park</th>
<th>Potomac</th>
<th>Stonewall</th>
<th>Woodbridge</th>
<th>Hylton</th>
<th>Freedom</th>
<th>Virtual @ PWCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Brensville</td>
<td>2 – Gar-Field</td>
<td>3 – Osbourn Park</td>
<td>4 – Potomac</td>
<td>5 – Stonewall</td>
<td>6 – Woodbridge</td>
<td>7 – Hylton</td>
<td>8 – Forest Park</td>
<td>9 – Battlefield</td>
<td>10 – Freedom</td>
</tr>
</tbody>
</table>

For easy reference, this code is repeated at the bottom of each page of this catalog wherever courses are described. 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.

Course Selection

It should not be assumed that a student must select the Advanced Studies Diploma if the student plans to enter college after high school. The Standard Diploma allows a student the flexibility to schedule courses required for college entrance while leaving time for various electives. It is also possible for a student to select the Advanced Studies Diploma and still have options in areas not necessarily required for college entrance such as art, music, or career and technical education courses.

The scheduling of classes 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.

Driver Education

The classroom driver education course is offered as part of the tenth 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.
Dual Enrollment Opportunities for Students

What is dual enrollment?
Dual enrollment is an early college program allowing eligible high school students to simultaneously earn credit toward their high school graduation while also earning college credits.

Who can take a dual enrollment course?
Any student who meets the following criteria may take certain dual enrollment courses offered through Northern Virginia Community College (NVCC) and PWCS:
- 11th or 12th Grade standing
- 16 years of age
- Place into college level MATH and ENGLISH courses by receiving a passing score on the Northern Virginia Community College placement test or an accepted substitute as outlined below:
  - SAT – 500 on both the Reading and Writing section, 520 on the Math section
  - PSAT – 50 on both the Reading and Writing section, 52 on the Math section
  - ACT – Combined score of 21 on both the English and Writing section, 22 on the Math section
  - Virginia SOL – passing score on the Algebra I SOL will allow students to meet the MATH placement requirement.

Where do I take a dual enrollment course and what is the cost?
PWCS students may take dual enrollment courses on any of the Northern Virginia Community College campuses or in certain Prince William County High Schools. The options for dual enrollment for PWCS students for the 2016-17 school year based on established agreements between the community college and PWCS, are outlined below:

<table>
<thead>
<tr>
<th>Automotive I, II, and III</th>
<th>Education Services I and II</th>
<th>IT Essentials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 2</td>
<td>Entrepreneurship</td>
<td>IT Programming</td>
</tr>
<tr>
<td>Computer Networking I, II, III, and IV</td>
<td>IT Database Design &amp; Management (Oracle)</td>
<td>IT Web Technologies</td>
</tr>
<tr>
<td>Hardware Operations (CISCO)</td>
<td>HVAC I and II</td>
<td>IT Web Technologies Advanced</td>
</tr>
<tr>
<td>Computer Systems Technology I</td>
<td>IB Business and Management (SL)</td>
<td>Welding I, II, and III</td>
</tr>
<tr>
<td>English 12</td>
<td>Intro to Speech Communications</td>
<td>US/VA Government</td>
</tr>
<tr>
<td>Early Childhood</td>
<td>IT Database Design &amp; Management Advanced (Oracle)</td>
<td></td>
</tr>
</tbody>
</table>

For Northern Virginia Community College courses taken in a Prince William County School there will not be a charge for tuition. See your school counselor for more information about fees associated with dual enrollment.

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 NVCC application.

Can I take NVCC courses for college credit only?
Some students wish to get a head start on their college course work while in high school and wish to take classes that are not included in the dual enrollment agreement to be applied to their graduation requirements. If the student meets admission requirements and has permission from their family and principal, they may enroll in NVCC courses while they are in high school. Interested students should discuss this option with their school counselor for more information.
Eligibility Requirements
(Extracurricular Activities)

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

- A student must pass five subjects 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. This applies to practice as well as to games.
- Initial determination of eligibility at the beginning of a new semester is made on the first calendar day following the end of the previous semester. Student assistant electives such as science lab assistant, library lab assistant, physical education assistant, and student assistant for special education shall not be counted toward meeting the standards.

Virginia High School League Athletic Eligibility For Students Who Transfer To Specialty Programs

Students who are granted approval to transfer to a school outside their established attendance area shall be eligible to participate in Virginia High School League (VHSL) activities when entering the school as a first time ninth grade student. Any student who transfers after establishing eligibility in the freshman year at his or her base school shall be ineligible to participate in VHSL-sponsored activities for 365 days of the transfer to a requested school. 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, Transfer Rule 28A-7-1.)

- Students who transfer to a school to participate in a designated site program shall meet all eligibility requirements for VHSL-sponsored activities. The transfer shall become effective when the student enters the program. The student shall meet full participation requirements for the program in order to retain eligibility.
- Once a student establishes eligibility in a high school, any additional transfer requests for designated site programs shall not be considered for a waiver and the student shall be ineligible for 365 days from the date of the transfer.

Athletic Activity Participation

The Virginia High School League rules specify that in order to participate in varsity or junior varsity athletics, drama, forensics, debate, scholastic bowl, cheerleading, and any academic or athletic activities involved in competition between/among schools, a student must have passed five subjects during the preceding semester and must be enrolled in five subjects during the current semester. In addition to meeting Virginia High School League regulations, students will be required to meet PWCS eligibility standard (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. To play sports in a NCAA Division I or Division II school a student must graduate from high school, earn a minimum GPA of 2.300 in 16 core courses, have a minimum sum ACT or SAT score that matches the 16 core course GPA, and successfully complete the 16 core course curriculum (see list below). Middle school credit bearing courses can be used to satisfy core-course requirements.

### Division I Core Academic Requirements – for students enrolling in a college or university on or after August 1, 2016

- 4 years English;
- 3 years mathematics (at least Algebra I level or higher);
- 2 years social science;
- 2 years natural or physical science (one lab if offered at any high school attended);
- 1 year additional English, mathematics, or natural/physical science;
- 4 years additional from areas above or foreign language, philosophy, or comparative religion;
- 1) Full qualifier = competition, athletics aid (scholarship), and practice the first year; 2) Academic redshirt = athletics aid in the first year, practice in the first, regular academic term (semester or quarter); 3) Nonqualifier = no athletics aid, practice or competition; and
- 10 core courses required before beginning of senior year.

### Division II Core Academic Requirements – for students enrolling in a college or university on or after August 1, 2016

- 3 years English;
- 2 years mathematics (Algebra I or higher);
- 2 years social science;
- 2 years natural or physical science (including one lab course);
- 2 years additional courses in English, mathematics, or natural or physical science;
- 3 additional years of college preparatory courses: academic courses in any of the above areas or in world languages, philosophy, or non-doctrinal religion; and
- Grade point average of 2.000 (based on a maximum of 4.000), successfully complete 14 core academic courses and have a combined score on the SAT verbal and mathematic sections of 820 or a 68 sum score on the ACT.

Core courses, high school transcripts, and test scores for all prospective Division I and Division II students must be reviewed by the NACC Eligibility Center. School counselors and student activities coordinators at each high school can direct students regarding the submission of the Student Release Form, appropriate records, and a fee.

The NCAA rules are complex, so students should ask coaches, student activities coordinators, and school counselors for help. It is important to let the school counselor know if a student plans to seek an athletic scholarship. More detailed information is available on the NCAA Web site at [www.ncaa.org](http://www.ncaa.org/).
The Pre-Governor’s School @ Osbourn Park Senior High School

Key Elements of the Pre-Governor’s School Program Include:

- Students will be supported through the simultaneous study of two math courses in ninth grade, and Functions/Trigonometry (or a higher Mathematics course) by the end of tenth grade.
- Students will study two Science courses in tenth grade to allow for the completion of SOL Physics prior to eleventh 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 have the opportunity to study Health and PE I and Health and PE II through Prince William County School’s Virtual High School at no cost to the student. This allows students to meet an additional graduation requirement prior to joining GS@IP.
- Pre-Governor’s School students will be strategically grouped to support the accelerated study of Math and Science in ninth and tenth grade.

Program Requirements

Students participating in the Pre-Governor’s School at Osbourn Park will maintain year end grades of B or better in their core subject areas. Students will study in eight classes during grades nine and ten (HPE I and HPE II through PWCS Virtual High School, unless otherwise approved by the PGS@OP Coordinator). Students will be encouraged to fulfill the Economics and Personal Finance (or AP Economics) graduation requirement in tenth grade. Students will also be required to undergo authentic research in support of the GS@IP application process. Students who do not attend GS@IP will have opportunities to study advanced (college-level) course work with an emphasis in Math, Science, and Engineering at Osbourn Park High School during eleventh and twelfth grade.

Sample Course Schedule

The following schematic reflects a sample course schedule for a PGS@OP student during a two-year sequence of study. Moreover, it indicates the additional program opportunities that will be available to PGS@OP students in an effort to accelerate the study of math and science.
Students who complete Geometry in the 8th grade may select AP Seminar or Methods of Scientific Inquiry as a 10th grade elective credit.

Note: Three years of a single foreign language or two years of two separate languages are required for advanced diploma candidates.

Courses marked with * are courses in which PGS@OP students will be grouped for accelerated study.

**Course Work** The following courses are designated as Pre-Governor's School courses:

<table>
<thead>
<tr>
<th>COURSES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-AP English 9</td>
<td>Physics I</td>
</tr>
<tr>
<td>Pre-AP English 10</td>
<td>Geometry</td>
</tr>
<tr>
<td>Pre-AP World History I</td>
<td>Algebra II</td>
</tr>
<tr>
<td>World History II</td>
<td>Functions/Trigonometry</td>
</tr>
<tr>
<td>Pre-AP Biology</td>
<td>Functions/Analytic Geometry</td>
</tr>
<tr>
<td>Pre-AP Chemistry</td>
<td></td>
</tr>
</tbody>
</table>

The following courses are designed as weighted PGS@OP courses:

<table>
<thead>
<tr>
<th>COURSES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AP World History</td>
<td></td>
</tr>
<tr>
<td>AP Economics</td>
<td></td>
</tr>
</tbody>
</table>
The Governor’s School @ Innovation Park

Program of Study and Curriculum Overview
The Governor’s School @ Innovation Park 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 The Governor’s School 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 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
The Governor’s School 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.
# Courses and Dual Enrollment

NOTE: All courses are reported on high school transcripts as weighted semester courses

<table>
<thead>
<tr>
<th>Math</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-calculus</td>
<td></td>
<td>Calculus I Parts A/B</td>
</tr>
<tr>
<td>Calculus I Parts A/B</td>
<td></td>
<td>Calculus I/II</td>
</tr>
<tr>
<td>Or</td>
<td></td>
<td>Or</td>
</tr>
<tr>
<td>Calculus I/II</td>
<td></td>
<td>Calculus III/Linear Algebra</td>
</tr>
<tr>
<td>Or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calculus I/II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calculus III/Linear Algebra</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science</th>
<th></th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology I</td>
<td></td>
<td>Biology II</td>
</tr>
<tr>
<td>Chemistry I</td>
<td></td>
<td>Chemistry II</td>
</tr>
<tr>
<td>Or</td>
<td></td>
<td>Or</td>
</tr>
<tr>
<td>Physics I</td>
<td></td>
<td>Physics II</td>
</tr>
<tr>
<td>Or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biology II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics II</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology/Engineering</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Technology and</td>
<td></td>
<td>Principles of Technology and Engineering I</td>
</tr>
<tr>
<td>Engineering I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands-on research in</td>
<td></td>
<td>Hands-on research in science area of interest</td>
</tr>
<tr>
<td>science area of interest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Or</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Course Options

<table>
<thead>
<tr>
<th>GS Course Names</th>
<th>George Mason University Dual Enrollment Option Names</th>
<th>AP Exam Option</th>
<th>University Credit Transferability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Calculus</td>
<td>(Math 105)</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Calculus I Parts A and B</td>
<td>(Math 123 – 124)</td>
<td>Yes – Calc AB</td>
<td>Likely – AP waiver equivalent course</td>
</tr>
<tr>
<td>Honors Calculus I/II</td>
<td>(Math 115 and 116)</td>
<td>Yes – Calc BC</td>
<td>Likely – AP waiver equivalent course</td>
</tr>
<tr>
<td>Calculus III – Linear Algebra</td>
<td>(Math 215 and 203)</td>
<td>No</td>
<td>Likely – comparable course</td>
</tr>
<tr>
<td>Advanced Biological Studies I</td>
<td>(Biology 103 – 104)</td>
<td>Yes</td>
<td>Possibly science elective</td>
</tr>
<tr>
<td>Advanced Biological Studies II (Microbiology and Anatomy @ Physiology)</td>
<td>(Biology 124 and 246)</td>
<td>No</td>
<td>Possibly science electives</td>
</tr>
<tr>
<td>Advanced Chemistry I</td>
<td>(Chemistry 211 – 212)</td>
<td>Yes</td>
<td>Likely – AP waiver equivalent course</td>
</tr>
<tr>
<td>Advanced Chemistry II (Intro Organic Biochem and Environmental Chem)</td>
<td>(Chemistry 104 and 155)</td>
<td>No</td>
<td>Possibly science electives</td>
</tr>
<tr>
<td>Advanced Physics I</td>
<td>(Physics 243/244 – 245/246)</td>
<td>Phys B</td>
<td>Likely – AP waiver equivalent course; Possibly science elective for Physics majors</td>
</tr>
<tr>
<td>Principles of Technology and Engineering I</td>
<td>(Computer Science 112, Engineering 107)</td>
<td>No</td>
<td>Likely – comparable courses</td>
</tr>
<tr>
<td>Principles of Technology and Engineering I/II Innovations Strand</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Principles of Technology and Engineering II</td>
<td>(Civil and Infrastructure Engineering – CEIE 203, Computer Science 211, Bioengineering)</td>
<td>CS only</td>
<td>Likely – comparable courses</td>
</tr>
<tr>
<td>Junior Year Research</td>
<td>(COS 120)</td>
<td>No</td>
<td>Possibly science elective</td>
</tr>
<tr>
<td>Senior Year Research</td>
<td>(COS 120)</td>
<td>No</td>
<td>Possibly science elective</td>
</tr>
</tbody>
</table>
George Mason University Courses Equivalents

*Bold and italicized text indicates three math courses generally paid for as dual enrollment by school division. Please note student can select one of the three courses paid for by school division to be science or engineering.*

**Schedule for Students enrolling in Pre-Calculus Junior Year:**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Math Strand</th>
<th>Science Strand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math 105 (4 Credits)</strong></td>
<td>Chem 211 (4 Credits)</td>
<td>Math 123 (3 Credits)</td>
</tr>
<tr>
<td><strong>Math 124 (3 Credits)</strong></td>
<td>Biol 103 (4 Credits)</td>
<td>Biol 104 (4 Credits)</td>
</tr>
<tr>
<td><strong>Chem 243 (4 Credits)</strong></td>
<td>Phys 243 (4 Credits)</td>
<td>Phys 245 (4 Credits)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Math Strand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math 123 (3 Credits)</strong></td>
<td><strong>Math 116 (4 Credits)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 115 (4 Credits)</td>
<td>Math 215 (3 Credits)</td>
</tr>
<tr>
<td>Chem 211 (4 Credits)</td>
<td>Chem 104 (4 Credits)</td>
</tr>
<tr>
<td>Biol 103 (4 Credits)</td>
<td>Biol 124 (4 Credits)</td>
</tr>
<tr>
<td>Phys 243 (4 Credits)</td>
<td>Phys 160/161 (4 Credits)</td>
</tr>
</tbody>
</table>

**Schedule for Students enrolling in Honors Calculus I/II Junior Year:**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Math Strand</th>
<th>Science Strand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math 115 (4 Credits)</strong></td>
<td>Chem 211 (4 Credits)</td>
<td>Math 116 (4 Credits)</td>
</tr>
<tr>
<td><strong>Math 215 (3 Credits)</strong></td>
<td>Biol 103 (4 Credits)</td>
<td>Biol 104 (4 Credits)</td>
</tr>
<tr>
<td><strong>Chem 243 (4 Credits)</strong></td>
<td>Phys 243 (4 Credits)</td>
<td>Phys 245 (4 Credits)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Math Strand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math 116 (4 Credits)</strong></td>
<td><strong>Math 203 (3 Credits)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 212 (4 Credits)</td>
<td>Chem 155 (4 Credits)</td>
</tr>
<tr>
<td>Biol 104 (4 Credits)</td>
<td>Biol 246 (4 Credits)</td>
</tr>
<tr>
<td>Phys 245 (4 Credits)</td>
<td>Phys 260/261 (4 Credits)</td>
</tr>
</tbody>
</table>
The Advanced Placement Scholars program at Patriot and Woodbridge High Schools will assist and support those students seeking a rigorous advanced studies curriculum throughout their high school career. Services provided are as follows (may vary by school):

- Challenging course of study to include Pre-AP and Advanced Placement courses (AP)
- A supportive framework open to all students willing to tackle advanced courses
- College exploration sessions at each grade level
- School sponsored college tours in grades 11 and 12
- Instructional support through school counseling department
- Peer mentoring and peer tutoring
- Faculty led and peer led study sessions throughout the school year
- Practice AP exams
- SAT and ACT test preparation opportunities
- Administrative monitoring and support
- Multiple levels of recognition upon exiting the program

Advanced Placement Scholars
Patriot High School
Woodbridge High School

Application Process and Levels of Participation
Students will apply to enter the Advanced Placement Scholars program by February 1 by completing the Prince William County Public Schools' common specialty program online application. To remain in the Advanced Placement Scholars program students must meet the minimum participation criteria as follows:

- 9th Grade – Enroll in two or more Pre-AP courses, and complete the year with a “C” equivalent or better in all courses.
- 10th Grade – Enroll in any combination of two or more Pre-AP or AP courses, and complete the year with a “C” average or better in all courses.
- 11th Grade – Enroll in two or more AP courses, and complete the year with a “C” equivalent or better in all courses.
- 12th Grade – Enroll in two or more AP courses, and complete the year with a “C” equivalent or better in all courses.
- Patriot High School also requires that students enroll in at least six AP courses before graduation.

Instructional/Community Service
As a member of the Advanced Placement Scholars program, students will be required to complete 15 hours of instructional support and/or community service hours per year or 60 hours before graduation. The purpose of including instructional support in the program is to build a support system for all participating students. By providing a structural framework that enables strong students to work with students having initial difficulties, the members of the Advanced Placement Scholars program will form a connection based upon a mutual desire to be academically successful. Types of activities students may complete are indicated below and may vary by school:

1. Volunteer as a research assistant in the library;
2. Assist with the AP Scholars tutoring program;
3. Assist with the SOAR Program in the summer;
4. Mentor new Advanced Placement Scholars participants;
5. Mentor Advanced Placement Scholars probationary students;
6. Assist with core area study sessions established by the teachers; or
7. Participate in other service hours deemed appropriate by the program coordinator.

End Product for Students
The Advanced Placement Scholars program will help to support students in achieving high scores on College Board Advanced Placement exams. In addition to earning AP Scholars distinction at the school level, students participating in the program may be recognized by the College Board in the categories listed below:

- **AP Scholar**: Granted to students who receive scores of 3 or higher on three or more AP Exams.
- **AP Scholar with Honor**: Granted to students who receive an average score of at least 3.25 on all AP Exams taken and scores of 3 or higher on four or more of these exams.
• **AP Scholar with Distinction**: Granted to students who receive an average score of at least 3.5 on all AP Exams taken and scores of 3 or higher on five or more of these exams.

• **National AP Scholar**: Granted to students who receive an average score of 4 or higher on 8 or more AP exams.

A senior research activity is a required component of the AP Scholars Program at both Patriot and Woodbridge High Schools. Students will receive information about this research activity at the school level.

The following schematic reflects a recommended four-year course of study for students in the Advanced Placement Scholars program:

<table>
<thead>
<tr>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-AP English 9</td>
<td>Pre-AP English 10</td>
<td>AP English Language and Composition</td>
<td>AP English Literature and Composition</td>
</tr>
<tr>
<td>Pre-AP World History I</td>
<td>AP World History</td>
<td>AP US History</td>
<td>AP US Government</td>
</tr>
<tr>
<td>Pre-AP Biology or Advanced Earth Science</td>
<td>Pre-AP Chemistry</td>
<td>AP Science</td>
<td>AP Science</td>
</tr>
<tr>
<td>Algebra I or Pre-AP Geometry</td>
<td>Pre-AP Geometry or Pre-AP Alg II/Trig</td>
<td>Functions Analytic Geometry or Functions/Trigonometry</td>
<td>Students may choose from AP Biology, AP Chemistry, or AP Physics</td>
</tr>
<tr>
<td>Level I, II, or III of Foreign Language</td>
<td>Level II, Pre-AP III, or Pre-AP IV of Foreign Language</td>
<td>Economics/Finance (for 9th grade class of 2011 and beyond)</td>
<td>Level IV Pre-AP or Level V AP Language</td>
</tr>
<tr>
<td>Health and Physical Education I</td>
<td>Health and Physical Education II</td>
<td>Open Elective</td>
<td>Open Elective</td>
</tr>
<tr>
<td>Elective</td>
<td>Elective</td>
<td>Suggestions for Open Elective:</td>
<td>Suggestions for Open Elective:</td>
</tr>
</tbody>
</table>

- AP European History, AP Human Geography, AP Economics, AP Music Theory, AP Studio Art, AP Computer Science, AP Statistics

- AP European History, AP Human Geography, AP Economics, AP Music Theory, AP Studio Art, AP Psychology, AP Computer Science, AP Statistics
The following courses are designated as Pre-Advanced Placement or Advanced Placement Courses and may be used to satisfy the requirements for participation in the Advanced Placement Scholars program:

<table>
<thead>
<tr>
<th>COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-AP English 9</td>
</tr>
<tr>
<td>Pre-AP English 10</td>
</tr>
<tr>
<td>AP Language and Composition</td>
</tr>
<tr>
<td>AP Literature and Composition</td>
</tr>
<tr>
<td>Pre-AP World History I</td>
</tr>
<tr>
<td>AP World History</td>
</tr>
<tr>
<td>AP US History</td>
</tr>
<tr>
<td>AP US Government</td>
</tr>
<tr>
<td>AP European History</td>
</tr>
<tr>
<td>AP Human Geography</td>
</tr>
<tr>
<td>AP Psychology</td>
</tr>
<tr>
<td>AP Economics</td>
</tr>
<tr>
<td>Pre-AP Spanish III</td>
</tr>
<tr>
<td>Pre-AP French III</td>
</tr>
<tr>
<td>Pre-AP Spanish IV</td>
</tr>
<tr>
<td>Pre-AP French IV</td>
</tr>
<tr>
<td>AP Spanish Language</td>
</tr>
<tr>
<td>AP French Language</td>
</tr>
<tr>
<td>AP Spanish Literature</td>
</tr>
<tr>
<td>Pre-AP Geometry</td>
</tr>
</tbody>
</table>
Biotechnology and closely related fields may comprise the largest growth industry in our country as well as in Prince William County. A few years ago Governor Mark Warner, created a task force to make the Commonwealth of Virginia a center for the biotechnology industry. We at Osbourn Park know that we can participate in this revolution by playing a small but significant roll in preparing our students for exciting educational and vocational opportunities for the not too distant future.

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

The Biotechnology Center at Osbourn Park Senior High School

Key elements of the Biotech Program include:

- Specialized science courses in Biology, Chemistry, Earth Science and Physics
- During grades 9 and 10, Social Studies and Language Arts classes are integrated with the Biotechnology Center and designed to help students examine how history, literature, art, architecture, music and philosophy are influenced by science
- A wide variety of science choices that include both year-long courses as well as single semester high interest classes
- Advanced Placement (AP) courses in Biology, Chemistry, Environmental Science, and Physics that provide the opportunity to earn college credits while still in high school
- Science-related extracurricular and co-curricular community activities and partnerships

Program Requirements

Students must be enrolled in at least one Biotechnology Center science class each year to stay in the program. Students participating in the Biotechnology Center are required to earn year-end grades of “C” or better in their core subject areas (Language Arts, Social Studies, Math, and Science) to maintain good standing in the program. In order to receive The Biotechnology Center Certificate, students must successfully complete at least seven full-year science classes with a grade of “C” or better. These classes must include Pre-AP Biology, Pre-AP Chemistry, Physics, and at least two Advanced Placement (AP) science classes. Students are also required to 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 following schematic reflects two sample frameworks for a Biotech four year course of study. Units of credit for each course are also indicated. Bolded courses indicate Advanced Placement. Advanced Placement courses provide the opportunity to earn college credits while still in high school.

### 9th Grade
- (1) Pre-AP Biology
- (1) Pre-AP English 9
- (1) Pre-AP World History I
- (1) Health and PE 9
- (1) Mathematics
- (1) World Language
- (1) Scientific Illustration

### 10th Grade
- (1) Pre-AP Chemistry
- (1) Pre-AP English 10
- (1) World History II
  or AP World History
  or AP European History
- (1) Health and PE 10
- (1) Mathematics
- (1) World Language
- (1) Student Elective

### 11th Grade
- (1) SOL-Based Physics
- (1) Economics and Personal Finance
- (1) English 11
- (1) U.S. and Virginia History
- (1) Mathematics
- (1) World Language
- (1) AP Capstone Seminar

### 12th Grade
- (1) AP Capstone Research
- (1) AP Environmental Science
- (1) Science Elective
- (1) English 12
- (1) Mathematics
- (1) U.S. and Virginia Government
- (1) Student Elective

### Notes
- (1) Pre-AP Biology
- (1) Pre-AP Chemistry
- (1) Pre-AP English 9
- (1) Pre-AP World History I
- (1) Health and PE 9
- (1) Mathematics
- (1) World Language

- (1) Intro to DNA Science and Biotechnology
- (0.5) Forensics
- (0.5) Microbiology and Bacteriology
- (1) Pre-AP English 10
- (1) World History II
  or AP World History
  or AP European History
- (1) Health and PE 10
- (1) Mathematics
- (1) World Language

- (1) SOL-Based Physics
- (1) AP Biology
- (1) AP Language and Composition
  or English 11
- (1) AP U.S. History
  or U.S. and Virginia History
- (1) Mathematics
- (1) World Language
- (1) Student Elective

- (1) Economics and Personal Finance
- (1) AP Chemistry or AP Physics
- (1) AP Literature and Composition or English 12
- (1) Mathematics
- (1) AP Government and Politics: U.S.
  or U.S. and Virginia Government
- (2) Student Elective
The following courses are designated as Biotechnology Center courses:

<table>
<thead>
<tr>
<th>Biotechnology Center courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Illustration</td>
</tr>
<tr>
<td>Biomedical Technology</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
</tr>
<tr>
<td>Pre-AP English 9</td>
</tr>
<tr>
<td>Pre-AP English 10</td>
</tr>
<tr>
<td>Earth Science II: Astronomy</td>
</tr>
<tr>
<td>Advanced Earth Science</td>
</tr>
<tr>
<td>Earth Science II: Oceanography</td>
</tr>
<tr>
<td>Methods in Scientific Inquiry</td>
</tr>
</tbody>
</table>

The following courses are designated as weighted Biotechnology Center courses:

<table>
<thead>
<tr>
<th>Weighted Biotechnology Center courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Placement Physics 1 &amp; 2</td>
</tr>
<tr>
<td>Advanced Placement Physics C</td>
</tr>
<tr>
<td>Advanced Physics Laboratory</td>
</tr>
<tr>
<td>Advanced Placement Environmental Science</td>
</tr>
<tr>
<td>Advanced Placement Biology</td>
</tr>
<tr>
<td>Advanced Biology Laboratory</td>
</tr>
<tr>
<td>Advanced Placement Chemistry</td>
</tr>
<tr>
<td>Advanced Chemistry Lab</td>
</tr>
<tr>
<td>Advanced Placement Seminar</td>
</tr>
<tr>
<td>Advanced Placement Research</td>
</tr>
</tbody>
</table>
The Center for Environmental & Natural Sciences at Freedom High School

Specialized components of the Center for Environmental & Natural Sciences Program include:

- Advanced science courses in Earth science, biology, chemistry, physics, ecology, environmental science;
- During grades 9 and 10, students will take Pre-AP/AP social studies and English classes 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, social studies, 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

To earn the CENS Honors Medal, the following requirements must be met:

- The science strand with at least six CENS science credits and a minimum grade of B in each class. The classes will include CENS Pre-AP Biology, CENS Pre-AP Chemistry, AP Environmental Science, two additional AP Science courses, and one CENS Science elective;
- Recommended Pre-AP English & Pre-AP/AP Social Studies program – 9th and 10th grades;
- 100 hours of extracurricular and co-curricular activities, including community service, that support the goals and objectives of the CENS program; and
- Maintain a 3.3 GPA.

To earn the CENS Merit Medal, the following requirements must be met:

- The science strand with at least five CENS science credits and a minimum grade of C+ in each class. The classes will include CENS Pre-AP Biology, CENS Pre-AP Chemistry, AP Environmental Science, one additional AP Science course, and one CENS science elective;
- Recommended Pre-AP English and Pre-AP/AP Social Studies Program – 9th or 10th grade;
- 60 hours of extracurricular and co-curricular activities, including community service, that support the goals and objectives of the CENS program; and
- Maintain a 3.0 GPA.

To earn the CENS Certificate, the following requirements must be met:

- The science strand with at least four CENS science credits and a minimum grade of C in each class. The classes will include CENS Pre-AP Biology, CENS Pre-AP Chemistry, AP Environmental Science. and one CENS science elective;
- 30 hours of extracurricular and co-curricular activities, including community service, that support the goals and objectives of the CENS program; and
- Maintain a 2.5 GPA.

CENS students must maintain a C average and be enrolled in at least one CENS science class each year. CENS Science Electives include all AP science classes, Biology II Ecology Bio II Survey, Intro to Microbiology/Forensics, Oceanography, Physics I, Scientific Illustration, and AP Human Geography.
The following are sample sequences for a four-year course of study in the Center for Environmental & Natural Sciences Program. Units of credit for each course are indicated and courses presented in bold type are Advanced Placement. Advanced Placement courses provide the opportunity to earn college credits while still in high school.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Courses</th>
</tr>
</thead>
</table>
| 9th Grade | (1) Pre-AP Biology  
 (1) Pre-AP English 9  
 (1) Pre-AP World History and Geography to 1500  
 (1) Mathematics (Pre-AP Geometry or Alg.I)  
 (1) World Language  
 (1) Health and PE 9  
 (1) Student Elective |
| 10th Grade | (1) Pre-AP Chemistry  
 (1) Pre-AP English 10  
 (1) AP World History or World History II  
 (1) Mathematics (Alg. 1 or Pre-AP Alg. II/Trig)  
 (1) World Language  
 (1) Health and PE 10  
 (1) Student Elective |
| 11th Grade | (1) AP Biology or AP Chemistry  
 (1) AP English Language and Composition or English 11  
 (1) AP Virginia and US History or Virginia and US History  
 (1) Mathematics (Alg. II or Functions Trig)  
 (1) World Language  
 (1) Student Elective  
 (1) Student Elective |
| 12th Grade | (1) AP Environmental Science  
 (1) AP English Literature and Composition or DE English  
 (1) AP Government or Virginia and US Government  
 (1) Mathematics (AP Calculus)  
 (1) Student Elective  
 (1) Student Elective  
 (1) Student Elective |
The following courses are part of the Center for Environmental & Natural Sciences curriculum:

<table>
<thead>
<tr>
<th>Center for Environmental &amp; Natural Sciences curriculum</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Illustration</td>
<td>AP Chemistry and Laboratory</td>
</tr>
<tr>
<td>Pre-AP English 9</td>
<td>Earth Science II: CENS Oceanography</td>
</tr>
<tr>
<td>Pre-AP English 10</td>
<td>AP Biology and Laboratory</td>
</tr>
<tr>
<td>Biology II: Survey</td>
<td>SOL-Based Physics</td>
</tr>
<tr>
<td>Pre-AP Biology</td>
<td>AP Physics 1 and 2</td>
</tr>
<tr>
<td>Pre-AP Chemistry</td>
<td>Pre-AP World History and Geography to 1500</td>
</tr>
<tr>
<td>Biology II: Ecology</td>
<td>AP Human Geography</td>
</tr>
<tr>
<td>AP Environmental Science</td>
<td>Pre-AP Algebra II Trigonometry</td>
</tr>
<tr>
<td>Pre-AP Geometry</td>
<td>AP Calculus AB or AP Calculus BC</td>
</tr>
<tr>
<td>Functions Trig or Functions Analytic Geometry</td>
<td></td>
</tr>
</tbody>
</table>

The following courses are designated as weighted CENS Science courses:

<table>
<thead>
<tr>
<th>Weighted CENS Science courses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Placement Environmental Science</td>
<td></td>
</tr>
<tr>
<td>Advanced Placement Chemistry and Laboratory</td>
<td></td>
</tr>
<tr>
<td>Advanced Placement Biology and Laboratory</td>
<td></td>
</tr>
<tr>
<td>Advanced Placement Physics 1 and 2 and Laboratory</td>
<td></td>
</tr>
<tr>
<td>Advanced Placement Studies</td>
<td></td>
</tr>
<tr>
<td>Advanced Placement Computer Math</td>
<td></td>
</tr>
<tr>
<td>Advanced Placement Human Geography</td>
<td></td>
</tr>
</tbody>
</table>
The Center For Fine & Performing Arts
at Charles J. Colgan, Sr. High School

The purpose of the Center for the Fine and Performing Arts (CFPA) program is to encourage and develop creativity, self-expression, academic achievement, and critical thinking in the young artist. Upon graduation, the student will have mastered learning that supports the broader education of the artist and promotes a respect for cultural diversity. As a result of the training received in the CFPA program, the student will have the skills necessary to be successful in a college/university arts program and to become an active consumer, strong advocate, and valued participant in the larger arts community.

Students may audition to participate in one of six concentrations including: Creative Writing, Dance, Music: Instrumental, Music: Vocal, Theater, and Visual Art. As Juniors and seniors, instrumental and vocal music students may opt to take Music Technology or Advanced Music Technology in lieu of, or in addition to, upper level music classes. The arts curriculum is enhanced through the use of visiting artists, professional master classes and concert and gallery visits. In 9th and 10 grade, 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

• To provide opportunities for arts-integrated learning.
• To encourage critical thinking through complex problem solving.
• To promote a supportive atmosphere conducive to artistic expression.
• To provide cultural enrichment activities.
• To prepare students for entry into college or university arts programs and careers.
• To offer quality curriculum and instruction which promotes the development of the complete student.
• To encourage partnerships with local artists and arts organizations.

Program Requirements

• Participate in an entrance audition.
• Complete a minimum of five credit hours in the arts (four for those entering as sophomores). The credits should be in the student’s concentration area.
• Earn a minimum of 60 points of extracurricular activities such as small ensemble festival, music seminars, out-of-school concert attendance, gallery visitation, literary/arts magazine publications, and coffee house.
• Prepare and present a portfolio of works or performance jury at the end of grades 9, 10 and 11.
• Successfully participate in the Senior Showcase and present final portfolio.
• Achieve and maintain a B average in the concentration area and C average overall.

"The arts are an essential element of education, just like reading, writing, and arithmetic...music, dance, painting, and theatre are all keys that unlock profound human understanding and accomplishment."

- William Bennett
## CFPA SEQUENCE OF STUDIES

### Required electives

<table>
<thead>
<tr>
<th>Creative Writing</th>
<th>Grade 9</th>
<th>Creative Writing</th>
<th>Grade 10</th>
<th>Genre Focus (0.5)</th>
<th>Grade 11</th>
<th>Adv. Genre Focus (0.5)</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Creative Writing Exploration</td>
<td>Creative Writing I</td>
<td>Genre Focus (0.5); C.W. Elective (0.5)</td>
<td>Portfolio &amp; Marketing (0.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Creative Writing I</td>
<td>Genre Focus (0.5); C.W. Elective (0.5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dance</td>
<td><strong>Dance Technique I</strong></td>
<td><strong>Dance Technique II</strong></td>
<td><strong>Dance Technique III; Composition (0.5) and Repertory (0.5)</strong></td>
<td><strong>Dance Technique IV;</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrumental Music+</td>
<td><strong>Ensemble</strong></td>
<td><strong>Ensemble</strong></td>
<td>**Ensemble; Chamber Music or <em>Piano; Music Technology (<em>Piano is an exit requirement)</em></em></td>
<td><strong>Ensemble; AP Music Theory, Music Technology; or Advanced Music Technology</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocal Music+</td>
<td><strong>Ensemble</strong></td>
<td><strong>Ensemble</strong></td>
<td><em><em>Ensemble Piano</em> or Music Technology (<em>Piano is an exit requirement)</em></em></td>
<td>**Ensemble; AP Music Theory (Elect) <em>Music Technology <em>Advanced Music Technology</em></em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theater</td>
<td>Theater I: Intro To Theater</td>
<td>Exploring Performance in Theater</td>
<td>Theater Production; Adv. Musical Theater III</td>
<td>Musical Theater; Directing for Stage and Screen (0.5), Acting Shakespeare (0.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual Arts</td>
<td>CFPA Art I</td>
<td>CFPA Art II</td>
<td>Portfolio Preparation; Painting (0.5) Sculpture (0.5) or Computer Art or Photography I</td>
<td>AP Studio Art or Computer Art or Photography I Studio Art Seminar (0.5) Studio Art (0.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**By Audition**
Concert Band, Symphonic Band, Varsity Orchestra, Concert Orchestra, Sinfonietta, Varsity Choir, Men’s Choir, Concert Choir. (Marching and Jazz Band may be used to fill one art credit.)

*Piano is an exit requirement

*All Music students will have the opportunity to participate in four Master Classes per year. The Master Classes are held after school for participation points.
The Center for International Studies and Languages (CISL) affords students the opportunity to follow a comprehensive interdisciplinary program of study in pursuit of global awareness. The program advances students’ understanding of global issues and is structured around these areas of concentration:

- Cultures and Languages*
- Information and Communication
- Social and Political Sciences**

The program also enhances classroom experiences with supporting field experiences such as student exchanges, Model United Nations, and foreign travel. Those students who successfully complete the full CISL program will receive a CISL certificate to accompany the advanced studies diploma and will be recognized at graduation with the wearing of the CISL stole.

All students in the full CISL program participate in the Advanced Placement (AP) program which gives them the opportunity to earn credit or advanced standing at the college level.

** FULL CISL Course Requirements **

This academic program requires students to take a sequence of college-preparatory and college level courses. The program maintains the flexibility for students to participate in areas of individual interest.

Students will demonstrate proficiency in a world language through an exit interview during the second semester of their final year of world language study. They will complete a twelve-page research paper on a foreign affairs issue in conjunction with the CISL capstone course (AP Government and Politics: Comparative). Successful completion of the CISL exit interview and CISL research paper is required for the full CISL certificate.

Students are expected to maintain an overall 3.0 GPA with no grade below a “C+” in any CISL designated course. All CISL students are required to complete the Advanced Studies Diploma program.

* Students may choose to pursue a concentration in world languages only.
** Students may choose to pursue a concentration in social and political sciences only.
For these options, please contact the CISL Coordinator at C.D. Hylton Senior High School for more details.
CISL Core Courses for Full CISL Certificate Candidates

- World Languages—four years in one language: choice of Arabic, French, German, Italian, Korean, Latin, Russian, or Spanish. Students are strongly recommended to take five years to include AP offerings. Exception: Students may take a combination of two languages if they select Arabic, Korean, or Russian as one of the two.
  - Pre-AP English 9
  - Pre-AP English 10
  - AP English Language or English 11
  - AP English Literature or English 12
  - Pre-AP World History to 1500 & AP World History
  - AP Human Geography
  - AP Government and Politics: Comparative (capstone course, grade 11 or 12)
  - AP United States History or U.S. and Virginia History
  - Pre-AP Biology and/or Advanced Earth Science

Co-curricular & Extra-curricular Activities

The CISL Program has developed a unique relationship between the academic program and its supporting co-curricular activities. Students are required to complete 100 points of extracurricular activities that increase their global awareness and promote global understanding. Though not required, international travel and participation in exchange programs are strongly encouraged.

Examples of Co-curricular Activities:
- CISL Conference, Speaker & Seminar Programs
- World Language Tutoring & Outreach Programs
- Exchange Program Participation / International Travel
- Model United Nations Conference Participation
- Intensive World Language & Cultural Programs

CISL Qualifying Electives

CISL students take the listed CISL core courses and all other remaining courses to qualify for the Advanced Studies Diploma, including math, science, and HPE course sequences.

- Advanced Earth Science
- Adv. Design MultiM/Web
- AFJROTC
- AP Biology
- AP Chemistry*
- AP Computer Science
- AP Economics
- AP European History
- AP Government & Politics
- AP Psychology
- AP Physics I; AP Physics C
- Architecture
- Art (AP Studio Art, Art Portfolio, Computer Art)

- Astronomy
- Geology
- Creative Writing
- International Business
- GEMS w/ Research
- Journalism
- Music Theory: Band, Choir, Orchestra, Theory
- Oceanography
- Photography
- Sociology
- Twentieth Century History
- Video and Media Technology

* Not available every year.

Any core course may also be taken as an elective, e.g. an additional world language.
A TYPICAL CISL PROGRAM OF STUDY FOR FULL CISL CERTIFICATE CANDIDATE:

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-AP English 9</td>
<td>Pre-AP English 10</td>
<td>AP English Language or English 11</td>
<td>AP English Literature or English 12</td>
</tr>
<tr>
<td>Pre-AP World History &amp; Geography to 1500</td>
<td>World Language (primary)</td>
<td>AP United States History or US &amp; VA History</td>
<td>AP Government &amp; Politics: Comparative</td>
</tr>
<tr>
<td>World Language (primary)</td>
<td>Math Sequence</td>
<td>World Language (primary)</td>
<td>World Language (primary)</td>
</tr>
<tr>
<td>Math Sequence</td>
<td>Science Sequence</td>
<td>Math Sequence</td>
<td>Math Sequence</td>
</tr>
<tr>
<td>Pre-AP Biology I</td>
<td>Health and P.E. II</td>
<td>Science Sequence</td>
<td>Science Sequence</td>
</tr>
<tr>
<td>Health and P.E. I</td>
<td>AP Human Geography</td>
<td>CISL Elective</td>
<td>CISL Elective</td>
</tr>
<tr>
<td>Fine or Practical Arts Unit</td>
<td></td>
<td>AP Macroeconomics</td>
<td></td>
</tr>
</tbody>
</table>

CISL PROGRAM COURSES:

International Business & Marketing
Architectural Drawing/ Design/CAD
Pre-AP English 9
Pre-AP English 10
Creative Writing I & II
Journalism I – IV
Level I: Arabic, French, German, Italian, Korean, Latin, Russian, Spanish
Level II: Arabic, French, German, Italian, Korean, Latin, Russian, Spanish
Level III: Arabic, French, German, Italian, Latin, Russian, Spanish
Level IV: Arabic, French, German, Italian, Latin, Russian, Spanish
Level V: Arabic, French, German, Italian, Latin, Russian, Spanish
Spanish for Native Speakers I – III
Choir/Band/Orchestra/Music Theory

Advanced Earth Science
Earth Science II: Oceanography
Pre-AP Biology
Earth Science II: Astronomy
Geology
Sociology
Pre-AP World History & Geography to 1500
Twentieth Century History
Video & Media Technology
GEMS
Art I – III
Art Portfolio
Adv. Des. MultiM/Web
Photography
AFJROTC
Computer Art I

AP Studio Art (2D, 3D, and Drawing)
AP English Language & Composition
AP English Literature & Composition
AP French Language and Culture
AP German Language and Culture
AP Spanish Language and Culture
AP Spanish Literature
AP Italian
AP Latin*
AP Russian
AP Statistics
AP Calculus AB
AP Calculus BC
AP Biology

AP Chemistry*
AP Environmental Science
AP Physics I
AP Physics C
AP United States History
AP European History
AP Government & Politics: United States
AP Human Geography
AP Computer Science*
AP Economics
AP Psychology
AP Government & Politics: Comparative
AP World History

* Not offered every year.
The Information Technology (iT) Program is a rigorous and challenging course of study for academically and technology motivated students. The Information Technology Program 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.

Battlefield High School and Forest Park High School offer unique specialty programs within the information technology field. The following is a number of suggested sequences that will prepare students for certification of advanced areas of study. Individual schedules should be developed with the help of teachers, school counselors, and the iT Coordinator.

Information Technology Program at Battlefield High School & Forest Park High School

The ability to process and manipulate information has already become the single most important determiner of success of individuals in our technological global economy and will be a focus of the iT Program. One of the goals of the iT Program is to graduate students who are comfortable with and proficient in using information technology in all its forms so they can interact with individuals, organizations, and agencies in our technological society.

Those students who successfully complete their program of study will be eligible to receive either a gold or silver medal (depending on level of achievement) that they can wear at graduation.

Areas of study could include:
- A series of courses for the advanced studies diploma student that emphasize acquiring technology skills that will prepare them to be successful in the technological global economy.
- Extracurricular programs, which would include community service through internships, mentorship, and through after school programs such as SWAT (Forest Park) or BEST (Battlefield).
- A series of professional certificate programs 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/seat-hour certifications. Current areas of study are:
  - Cisco Certified Network Associate (CCNA)
  - Cisco Certified Entry-Level Network Technician (CCENT)
  - Oracle Certified Professional
  - Adobe Certified Associate (ACA)
  - CompTia A+
## IT Sequences

### IT Classes and Suggested Sequences

Student must be enrolled in IT program to take any IT class.

### Interactive Media

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th grade</td>
<td>IT Graphic Design (Art)</td>
</tr>
<tr>
<td>10th grade</td>
<td>IT Computer Graphics I</td>
</tr>
<tr>
<td>11th grade</td>
<td>IT Computer Graphics II</td>
</tr>
<tr>
<td></td>
<td>IT Multimedia Software Design and Development I</td>
</tr>
<tr>
<td>12th grade</td>
<td>Photography I</td>
</tr>
<tr>
<td></td>
<td>IT Computer Graphics II</td>
</tr>
<tr>
<td></td>
<td>AP Studio Art (2-D Design)</td>
</tr>
<tr>
<td></td>
<td>IT Multimedia Software Design and Development II</td>
</tr>
</tbody>
</table>

### Network Systems

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th grade</td>
<td>Information Technology Fundamentals</td>
</tr>
<tr>
<td>10th or 11th grade</td>
<td>Computer System Technology I</td>
</tr>
<tr>
<td>11th or 12th grade</td>
<td>Computer Networking Hardware Operations I &amp; II</td>
</tr>
<tr>
<td></td>
<td>Computer Networking Hardware Operations III &amp; IV</td>
</tr>
<tr>
<td></td>
<td>IT Programming</td>
</tr>
</tbody>
</table>

### Programming & Database Management

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th or 10th grade</td>
<td>Advanced Computer Mathematics</td>
</tr>
<tr>
<td></td>
<td>Information Technology Fundamentals</td>
</tr>
<tr>
<td></td>
<td>AP Computer Science A</td>
</tr>
<tr>
<td>10th or 11th grade</td>
<td>IT Web Technologies (CIW)</td>
</tr>
<tr>
<td>11th grade</td>
<td>Computer Science AB</td>
</tr>
<tr>
<td></td>
<td>Database Design and Management (Oracle)</td>
</tr>
<tr>
<td>11th or 12th grade</td>
<td>IT Advanced/Web Technologies (CIW)</td>
</tr>
<tr>
<td></td>
<td>IT Advanced Database Design and Management (Oracle)</td>
</tr>
<tr>
<td></td>
<td>IT Programming</td>
</tr>
<tr>
<td></td>
<td>Advanced Computer Studies</td>
</tr>
<tr>
<td></td>
<td>AP Calculus AB</td>
</tr>
<tr>
<td></td>
<td>AP Calculus BC</td>
</tr>
</tbody>
</table>
The following courses are designated as Information Technology Program courses:

<table>
<thead>
<tr>
<th>Information Technology Program courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADV Computer Mathematics</td>
</tr>
<tr>
<td>ADV Computer Studies</td>
</tr>
<tr>
<td>AP Calculus AB</td>
</tr>
<tr>
<td>AP Calculus BC</td>
</tr>
<tr>
<td>AP Computer Science A</td>
</tr>
<tr>
<td>AP Studio Art (2-D Design)</td>
</tr>
<tr>
<td>AP Studio Art (Drawing)</td>
</tr>
<tr>
<td>Computer Networking Hardware Operations I, II, III, IV</td>
</tr>
<tr>
<td>Computer Science AB</td>
</tr>
<tr>
<td>IT ADV Database Design &amp; Management</td>
</tr>
<tr>
<td>IT Advanced Web Technologies</td>
</tr>
<tr>
<td>IT Computer Graphics I &amp; II</td>
</tr>
<tr>
<td>IT Database Design &amp; Management</td>
</tr>
<tr>
<td>Information Technology Fundamentals</td>
</tr>
<tr>
<td>IT Graphic Design</td>
</tr>
<tr>
<td>IT Multimedia Software Design and Development I &amp; II</td>
</tr>
<tr>
<td>IT Photography</td>
</tr>
<tr>
<td>IT Programming</td>
</tr>
<tr>
<td>IT Web Technologies</td>
</tr>
</tbody>
</table>

The following courses are designated as weighted Instructional Technology Program courses:

<table>
<thead>
<tr>
<th>Weighted Instructional Technology Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>COURSE</td>
</tr>
<tr>
<td>Advanced Computer Mathematics</td>
</tr>
<tr>
<td>Advanced Placement Calculus AB</td>
</tr>
<tr>
<td>Advanced Placement Calculus BC</td>
</tr>
<tr>
<td>Advanced Placement Computer Science A</td>
</tr>
<tr>
<td>Advanced Placement Studio Art (2-D Design)</td>
</tr>
<tr>
<td>Advanced Placement Studio Art (Drawing)</td>
</tr>
<tr>
<td>Computer Networking Hardware Operations I, II, III, IV (DE)</td>
</tr>
<tr>
<td>Computer Science AB</td>
</tr>
<tr>
<td>IT Advanced Database Design &amp; Management (DE)</td>
</tr>
<tr>
<td>IT Advanced Web Technologies (DE)</td>
</tr>
<tr>
<td>IT Database Design and Management (DE)</td>
</tr>
<tr>
<td>IT Programming (DE)</td>
</tr>
<tr>
<td>IT Web Technologies (DE)</td>
</tr>
</tbody>
</table>

DE = (Dual Enrollment)
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 programme 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.

The International General Certificate of Secondary Education (IGCSE) is a two-year curriculum that provides a strong preparation for higher level courses. These courses are generally appropriate for ninth and tenth grade students. For most of the IGCSE courses, students are required to 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 eleventh and twelfth grade 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 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. Effective the first award from June 2017, Cambridge learners must take a minimum of seven (7) 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 the 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.
Students may be required to enroll in the Advanced Science Laboratory as well.

To qualify for the AICE diploma, students must earn at least seven credits with at least one credit from Group 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.

### Group 1: Mathematics and Sciences
- AICE Biology
- AICE Chemistry
- AICE Mathematics I
- AICE Mathematics II
- AICE Mechanics (Level A)
- AICE Physics
- AICE Marine Science
- AICE Environmental Management

### Group 2: Languages
- AICE English Language
- AICE English Literature
- AICE Spanish Language
- AICE French Language IV
- AICE French Language V
- AICE German IV
- AICE German V
- AICE Spanish IV
- AICE Spanish V

### Group 3: Arts and Humanities
- AICE Art & Design
- AICE World History
- AICE US History
- AICE Psychology
- AICE Music
- AICE International History

### Group 4: Interdisciplinary & Skill-Base
- AICE General Paper
- AICE Thinking Skills
- AICE Global Perspective

---

1 Students may be required to enroll in the Advanced Science Laboratory as well.

To qualify for the AICE diploma, students must earn at least seven credits with at least one credit from Group 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.
Together, the IGCSE and AICE courses constitute a fully integrated, accelerated curriculum for students in high school. The following courses are designated as International General Certificate of Secondary Education or IGCSE courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGCSE English 9</td>
<td>IGCSE Art &amp; Design</td>
</tr>
<tr>
<td>IGCSE English 10</td>
<td>IGCSE Music Studies</td>
</tr>
<tr>
<td>IGCSE French III</td>
<td>IGCSE Biology</td>
</tr>
<tr>
<td>IGCSE German III</td>
<td>IGCSE Chemistry</td>
</tr>
<tr>
<td>IGCSE Spanish III</td>
<td>IGCSE Physics</td>
</tr>
<tr>
<td>IGCSE Latin III</td>
<td>IGCSE World Geography</td>
</tr>
<tr>
<td>IGCSE Geometry</td>
<td>Pre-AICE World History</td>
</tr>
<tr>
<td>IGCSE Algebra II/Trigonometry</td>
<td></td>
</tr>
</tbody>
</table>

The following weighted courses are designated as Advanced International Certificate of Education or AICE courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>AICE Biology</td>
<td>AICE Mathematics I</td>
</tr>
<tr>
<td>AICE Chemistry</td>
<td>AICE Mathematics II</td>
</tr>
<tr>
<td>AICE Computing</td>
<td>AICE Mechanics (Level A)</td>
</tr>
<tr>
<td>AICE French IV</td>
<td>AICE English Literature</td>
</tr>
<tr>
<td>AICE French V</td>
<td>AICE U.S. History</td>
</tr>
<tr>
<td>AICE Physics</td>
<td>AICE German IV</td>
</tr>
<tr>
<td>AICE Spanish IV</td>
<td>AICE German V</td>
</tr>
<tr>
<td>AICE Spanish V</td>
<td>AICE Engineering Technology</td>
</tr>
<tr>
<td>AICE International History, 1945-91</td>
<td>AICE English Language &amp; Composition</td>
</tr>
<tr>
<td>AICE Psychology</td>
<td>AICE Thinking Skills I</td>
</tr>
<tr>
<td>AICE Latin V</td>
<td>AICE Thinking Skills II</td>
</tr>
<tr>
<td>AICE Classical Studies I</td>
<td>AICE Music</td>
</tr>
<tr>
<td></td>
<td>AICE Art &amp; Design</td>
</tr>
<tr>
<td></td>
<td>AICE World History</td>
</tr>
</tbody>
</table>
The IB continuum of international education is unique because of its academic and personal rigor. 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 can respond to challenges with optimism and an open-mind; students 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 real world, complex and unpredictable situations.

International Baccalaureate Programme
Gar-Field Senior High School & Stonewall Jackson Senior High School

The IB offers high-quality programmes of international education that share a powerful vision. An IB education is informed by the values described in the learner profile and:

- **centers on learners** – the IB’s student-centered programmes promote healthy relationships, ethical responsibility and personal challenge
- **develops effective approaches to teaching and learning** – IB programmes help students to develop the attitudes and skills they need for both academic and personal success
- **works within global contexts** – IB programmes increase understanding of languages and cultures, and explore globally significant ideas and issues
- **explores significant content** – IB programmes 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
(9th and 10th grade)

The IB MYP is a program of study that provides a framework of academic challenge, which encourages 9th and 10th grade students to embrace and understand the connections between traditional subjects and the real world, and to become critical thinkers. The IB high schools offer students a five year IB MYP programme 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.

Pre-IB Diploma Program (Pre-IBDP) courses are offered within the Middle Years Programme as part of the Advanced Course Sequence to prepare students with an adequate 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 Pre-DP classes in their areas and strength and interest to prepare them for specific IBDP Courses in grades 11 and 12.
The Diploma Programme (11th and 12th grade)

The International Baccalaureate® Diploma Programme 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 Diploma Programme Courses in their areas of strength and interest.

The Diploma Programme prepares students for effective participation in a rapidly evolving and increasingly global society. The 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 education 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 programme’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, action and service (CAS).

The International Baccalaureate® (IB) assesses student work as direct evidence of achievement against the stated goals of the course.

The Diploma Programme goals provide students with:
- a broad and balanced, yet academically demanding, programme 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
- a globally recognized university entrance qualification

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

The IB Career-related Programme (IBCP) is an innovative education framework for students in grade 11 and 12 incorporating the vision and educational principles of the IB into a unique programme specifically tailored for students who wish to engage in career-related learning.

The aim of the IBCP 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.

The IBCP combines highly regarded and internationally recognized IB Diploma Programme courses with an approved career-related study and a unique IBCP core.

As the IB’s fourth programme, the IBCP 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 IBCP framework is built around three interconnected elements:
- at least two Diploma Programme courses
- an IBCP core that includes personal and professional skills, community and service, language development and a effective project
- an approved career-related study

Students and parents who desire more information on the IB Program are encouraged to address questions to the IB Coordinator at either school.
Sequence of Pre-Diploma and IB Diploma Program Courses for Grades 9-12

The following two sequences are suggested for programs of study for students interested in pursuing the IB Diploma or individual IB certificates in grades 11 and 12. Pre-Diploma (Pre-IBDP) courses are offered within the Middle Years Programme as advanced courses in grades 9 and 10 to prepare students for the challenges of the Diploma Programme courses in grades 11 and 12. Several modifications of the sequences are available. Individual student schedules should be developed with the help of teachers, guidance counselors, and the IB Coordinators. Students must take one credit of fine arts or practical arts as one of the free electives.

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-IBDP English 9</td>
<td>Pre-IBDP English 9</td>
<td>Pre-IBDP English 10</td>
<td>Pre-IBDP English 10</td>
</tr>
<tr>
<td>Pre-IBDP Foreign Language Level II</td>
<td>Pre-IBDP Foreign Language Level III</td>
<td>Pre-IBDP Foreign Language Level III</td>
<td>IBDP Foreign Language Level IV</td>
</tr>
<tr>
<td>Pre-IBDP World History II</td>
<td>Pre-IBDP World History II</td>
<td>Pre-IBDP AP Government: U.S. or Comparative</td>
<td>Pre-IBDP AP Government: U.S. or Comparative</td>
</tr>
<tr>
<td>Pre-IBDP Biology</td>
<td>Pre-IBDP Biology</td>
<td>Pre-IBDP Chemistry or SL Chemistry I</td>
<td>Pre-IBDP Chemistry and/or SOL-Based Physics</td>
</tr>
<tr>
<td>Pre-IBDP Algebra I</td>
<td>Pre-IBDP Geometry</td>
<td>Pre-IBDP Geometry</td>
<td>Pre-IBDP Algebra II/ Trigonometry</td>
</tr>
<tr>
<td>Health &amp; P.E. I</td>
<td>Pre-IBDP Health &amp; P.E. I</td>
<td>Health &amp; P.E. II</td>
<td>Health &amp; P.E. II</td>
</tr>
<tr>
<td>Free Elective</td>
<td>Art Elective (Music, Fine or Performing Arts)</td>
<td>Free Elective</td>
<td>Free Elective</td>
</tr>
</tbody>
</table>

**IB Programme**

These IB Programme sequences are suggestions. Several modifications of sequences are available. Individual student schedules should be developed with the help of teachers, guidance counselors, and the IB Coordinator. Full Diploma candidates must complete three Higher Level (HL) courses and three Standard Level (SL) courses during their junior and senior years. These courses must cover the five major subject areas and one elective subject. Diploma candidates must also take IB Theory of Knowledge, complete the Extended Essay, and complete the CAS requirements.

<table>
<thead>
<tr>
<th>Grade 11</th>
<th>Grade 11</th>
<th>Grade 12</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>IB English I (HL)</td>
<td>IB English I (HL)</td>
<td>IB English II (HL)</td>
<td>IB English II (HL)</td>
</tr>
<tr>
<td>IB Foreign Language Level IV (SL)*</td>
<td>IB Foreign Language Level IV (SL)*</td>
<td>IB Foreign Language Level V (SL)*</td>
<td>IB Foreign Language Level V (SL)*</td>
</tr>
<tr>
<td>IB History I (HL)</td>
<td>IB History I (HL)</td>
<td>IB History II (HL)</td>
<td>IB History II (HL)</td>
</tr>
<tr>
<td>IB Biology I (HL) or IB Chemistry II (SL)</td>
<td>IB Biology I (HL) or IB Chemistry II (SL)</td>
<td>IB Biology II (HL) or IB Environmental Systems (SL)</td>
<td>IB Biology II (HL) or IB Environmental Systems (SL)</td>
</tr>
<tr>
<td>Pre-DP Algebra II/ Trigonometry</td>
<td>IB Math I (SL) or IB Math I (HL)</td>
<td>IB Math Studies (SL)</td>
<td>IB Math II (SL) or IB Math II (HL)</td>
</tr>
<tr>
<td>IB Fine Arts I (HL) or IB Elective**</td>
<td>IB Fine Arts I (HL) or IB Elective**</td>
<td>IB Fine Arts II (HL) or IB Elective**</td>
<td>IB Fine Arts II (HL) or IB Elective**</td>
</tr>
<tr>
<td></td>
<td>Free Elective +</td>
<td>IB Theory of Knowledge</td>
<td>IB Theory of Knowledge</td>
</tr>
</tbody>
</table>

*Foreign language courses may include French, Spanish, Italian, and Latin


+Students are required to meet the VDOE Economics and Personal Finance requirement. This requirement can be met by taking IB Business Management, IB Economics, or Economics and Personal Finance.
The following courses are designated as Pre-DP

<table>
<thead>
<tr>
<th>Pre-DP Courses</th>
<th>Pre-DP Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-IBDP English 9</td>
<td>Pre-IBDP Algebra I</td>
</tr>
<tr>
<td>Pre-IBDP English 10</td>
<td>Pre-IBDP Geometry</td>
</tr>
<tr>
<td>Pre-IBDP French II</td>
<td>Pre-IBDP Algebra II</td>
</tr>
<tr>
<td>Pre-IBDP Italian II</td>
<td>Pre-IBDP Algebra II/Trigonometry</td>
</tr>
<tr>
<td>Pre-IBDP Spanish II</td>
<td>Pre-IBDP Earth Science</td>
</tr>
<tr>
<td>Pre-IBDP French III</td>
<td>Pre-IBDP Biology</td>
</tr>
<tr>
<td>Pre-IBDP Italian III</td>
<td>Pre-IBDP Chemistry</td>
</tr>
<tr>
<td>Pre-IBDP Spanish III</td>
<td>Pre-IBDP World History and Geography from 1500</td>
</tr>
</tbody>
</table>

The following courses are designated as weighted International Baccalaureate courses:

<table>
<thead>
<tr>
<th>Weighted International Baccalaureate courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>IB Visual Arts I (HL)</td>
</tr>
<tr>
<td>IB Visual Arts II (SL &amp; HL)</td>
</tr>
<tr>
<td>IB English I</td>
</tr>
<tr>
<td>IB English II (HL)</td>
</tr>
<tr>
<td>IB English II (SL)</td>
</tr>
<tr>
<td>IB Theatre Arts (SL)</td>
</tr>
<tr>
<td>IB Theory of Knowledge</td>
</tr>
<tr>
<td>IB French IV (SL)</td>
</tr>
<tr>
<td>IB French IV (HL)</td>
</tr>
<tr>
<td>IB French V</td>
</tr>
<tr>
<td>IB Spanish IV (SL)</td>
</tr>
<tr>
<td>IB Spanish IV (HL)</td>
</tr>
<tr>
<td>IB Spanish V</td>
</tr>
<tr>
<td>IB Italian IV (SL)</td>
</tr>
<tr>
<td>IB Italian V (SL)</td>
</tr>
<tr>
<td>IB Spanish A2 (SL)</td>
</tr>
<tr>
<td>IB Spanish A2 (HL)</td>
</tr>
<tr>
<td>IB AB Initio French I</td>
</tr>
<tr>
<td>IB AB Initio French II</td>
</tr>
<tr>
<td>IB AB Initio Spanish I</td>
</tr>
<tr>
<td>IB AB Initio Spanish II</td>
</tr>
<tr>
<td>IB Global Politics (SL)</td>
</tr>
<tr>
<td>IB Mathematics SL I</td>
</tr>
<tr>
<td>IB Mathematics SL II</td>
</tr>
</tbody>
</table>

Policies regarding credit for high school courses are developed by individual colleges and universities, not by the International Baccalaureate Organization, and vary widely among different schools. Colleges and universities throughout the world recognize the IB Diploma Program. Students who wish to receive credit for their work in the IB program should consult with their counselors and the IB Coordinator for advice in planning their IB programs and future college plans. The more prestigious college and universities have traditionally given preference and credit to successful IB students. The official policies of over 1500 colleges and universities in North America are cited on the Internet at www.IBO.org. In addition, the breadth and intensity of the IB Program have prepared students well for pursuits in college, internships, and life-long careers.
The Virtual High School

“Achieving student success in a flexible online learning environment”

The goals of the Virtual High School are to:

• Empower students to learn independently and at a flexible pace.
• Offer students an alternative to the traditional classroom.
• Enable students to fulfill course requirements and to achieve academic success.
• Allow students to recover credit, earn additional credit, or take electives.
• Prepare participating students for Virginia Standards of Learning tests.
• Enhance student use of new and emerging technologies.

Student Criteria for Success in Online Courses:

◆ Personal commitment to learn
◆ Self-motivation
◆ Independent learner
◆ Computer literate
◆ Time management skills
◆ Effective written communication skills
◆ Computer with proper configuration
The following online courses will be offered this school year:

<table>
<thead>
<tr>
<th>Online Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics and Personal Finance</td>
</tr>
<tr>
<td>English 9</td>
</tr>
<tr>
<td>English 10</td>
</tr>
<tr>
<td>English 11</td>
</tr>
<tr>
<td>English 12</td>
</tr>
<tr>
<td>Spanish I</td>
</tr>
<tr>
<td>Spanish II</td>
</tr>
<tr>
<td>Spanish III</td>
</tr>
<tr>
<td>Latin I</td>
</tr>
<tr>
<td>Latin II</td>
</tr>
<tr>
<td>Algebra I</td>
</tr>
<tr>
<td>Algebra, Functions, and Data Analysis</td>
</tr>
<tr>
<td>Algebra II</td>
</tr>
<tr>
<td>Geometry</td>
</tr>
<tr>
<td>Earth Science II: Astronomy</td>
</tr>
<tr>
<td>Chemistry</td>
</tr>
<tr>
<td>Biology</td>
</tr>
<tr>
<td>Earth Science</td>
</tr>
<tr>
<td>World History and Geography to 1500</td>
</tr>
<tr>
<td>World History and Geography from 1500</td>
</tr>
<tr>
<td>U.S. and Virginia History</td>
</tr>
<tr>
<td>U.S. and Virginia Government</td>
</tr>
<tr>
<td>Health and Physical Education I</td>
</tr>
<tr>
<td>Health and Physical Education II</td>
</tr>
</tbody>
</table>

Additional courses are being developed, please contact the VHS Coordinator for updates and availability. Courses are offered in three sessions: fall, spring, and summer. Students earn full course credit in a semester session. Courses run based on enrollment and may be canceled due to low enrollment or closed when enrollment reaches the maximum student/teacher ratio.

Registration for online courses must be completed ONLINE at virtualhigh.schools.pwcs.edu. NO PAPER REGISTRATION.

For more information please go to: virtualhigh.schools.pwcs.edu
Career and Technical Education

Career and Technical Education Courses can fulfill the Following Graduation Requirements:

- Sequential Electives
- Elective Credit
- Student Choice Verified Credit through industry licensure, certification or testing

Any course listed in the Career and Technical Education section will meet the Fine Arts or Career and Technical Education Requirement for Graduation. Sequential Elective options for Career and Technical Education are noted in the course descriptions.

Sequential Electives
The requirements for a standard high school diploma shall include at least two sequential electives chosen from a concentration of courses selected from a variety of options that may be planned to ensure the completion of a focused sequence of elective courses. Students may take such focused sequence of elective courses in consecutive years or any two years of high school. Such focused sequence of elective courses shall provide a foundation for further education or training or preparation for employment, shall be identified in the Academic and Career Plan as described in Board of Education regulations, and shall be developed by the school division, consistent with Board of Education guidelines and as approved by the local school board. Students who successfully pass a combination of CTE courses identified by the Virginia Department of Education as sequential electives that provide a minimum of two high school credits and graduate from high school are considered to be “CTE Completers”. All CTE sequences are defined at the following site: http://www.cteresource.org/apg/

Verified Credit/Student-Selected Verified Credit
A standard unit of credit or standard credit means credit awarded for a course in which the student successfully completes 140 clock hours of instruction and the requirements of the course.

A verified credit is based on a standard credit plus a passing score on the end-of-course SOL test (or other test as described in the Standards of Accreditation 8 VAC 20-131-110). A standard credit cannot be verified more than once.

A student selected verified credit in Career and Technical Education will be awarded for certification or licensure examinations that meet all of the following criteria:
- Industry certification or licensure examinations that are approved to satisfy the requirements for the Board of Education’s Career and Technical Education Seal and the Board of Education’s Seal of Advanced Mathematics and Technology will satisfy requirements for student-selected verified credits.
- The teacher and/or the career and technical education program must be certified by the issuing organization relative to the industry certification or license, if such certification is available.
- A standard credit may not be verified more than once.
- One student-selected verified credit will be awarded for passing each certification or licensure examination that meets all of the above criteria and the student earns one standard unit of credit only in the career and technical education course.
- Two student selected verified credits will be awarded for passing each certification or licensure examination that meets all of the above criteria; and
  - The student meets the career and technical education concentration or specialization course requirements for program completer.
  - The student earns at least two standard units of credit in the career and technical education course.
  - The student may substitute one of these verified credits for a verified credit in either science or history/social science.

NOTE: All CTE students will have the opportunity to take an industry certification before graduating.
Career Clusters and Pathways
Virginia's Office of Career and Technical Education has adopted the nationally recognized structure of 16 career clusters and their accompanying 79 career pathways and sample career specialties or occupations to help students investigate careers and design their courses of study to advance their career goals. To find out more about Career Clusters, Career Pathways, and occupations, go to the following site: http://www.cteresource.org/cpg/clusters.

• Agriculture, Food, and Natural Resources
• Architecture and Construction
• Arts, Audio/Video Technology, and Communications
• Business Management and Administration
• Education and Training
• Finance
• Government and Public Administration
• Health Science
• Hospitality and Tourism
• Human Services
• Information Technology
• Law, Public Safety, Corrections, and Security
• Manufacturing
• Marketing
• Science, Technology, Engineering, and Mathematics
• Transportation, Distribution, and Logistics
**AGRICULTURE**

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

**HORTICULTURE SCIENCES**

Grades: 9-12  
Credit: 1  
Weighted: No  
Dual Enrolled: No  
Prerequisite: None  

- **Career Cluster**: Agriculture, Food & Natural Resources; Science, Technology, Engineering and Math  
- **CTE Sequences**: The course above and any one of the following courses – Landscaping; Turf Grass Establishment and Maintenance

In this course, students develop the necessary knowledge, skills, habits, and attitudes for entry-level employment and advancement in areas such as floriculture, landscape design, greenhouse operation, nursery plant production, and turf management. They receive instruction in using soil and other plant-growing media and in identifying, propagating, and growing horticultural plants in the greenhouse and land laboratory. Instruction is provided in safety and leadership development.

School offering course: 1

**LANDSCAPING I**

Grade: 10-12  
Credit: 1  
Weighted: No  
Dual Enrolled: No  
Prerequisite: Horticulture Sciences  

- **Career Cluster**: Agriculture, Food & Natural Resources  
- **CTE Sequence**: The course above and Horticulture Sciences

In this course, students develop the necessary knowledge, skills, habits, and attitudes for entry-level employment and advancement in areas such as landscape design, landscape construction, and landscape maintenance. They receive instruction in sketching and drawing, analyzing a landscape site, designing for function and aesthetics, identifying and selecting landscape plants, purchasing and installing plants, and maintaining the landscape by watering, fertilizing, mulching, pruning, and controlling pests.

School offering course: 1

**LANDSCAPING II**

Grade: 11-12  
Weighted: No  
Prerequisite: Landscaping I  

- **Career Cluster**: Agriculture, Food & Natural Resources  
- **CTE Sequence**: The course above and Landscaping I

This course focuses on preparing students for entry-level employment in commercial landscaping through hands-on experiences. Students will design landscapes and install components, including lighting, hardscapes, and water features within an environment of the landscaping business enterprise.

School offering course: 1

**TURF GRASS ESTABLISHMENT AND MAINTENANCE**

Grades: 10-12  
Credit: 1  
Weighted: No  
Dual Enrolled: No  
Prerequisite: Horticulture Sciences  

- **Career Cluster**: Agriculture, Food & Natural Resources; Science, Technology, Engineering, & Mathematics  
- **CTE Sequence**: The course above and Horticulture Sciences

Students begin to master the duties and tasks of professionals who establish and maintain turf in public areas such as golf courses, parks, athletic fields, schools, industrial, and institutional campuses; and residential lawns.

School offering course: 1

**BUSINESS AND INFORMATION TECHNOLOGY**

All Business and Information Technology courses will count toward meeting the one-credit “Fine Arts or Career and Technical Education” requirement for graduation. *EXCEPTION: Economics and Personal Finance may only be used as a sequential elective for students entering the ninth grade prior to 2011.

**ACCOUNTING**

Grades: 10-12  
Credit: 1  
Weighted: No  
Dual Enrolled: No  
Prerequisite: None  

- **Career Cluster**: Business, Management & Administration; Finance; Government and Public Administration; Science, Technology, Engineering and Math  
- **CTE Sequences**: The course above and Accounting Advanced; Business Law; Business Management; Computer Information Systems; Computer Information Systems Advanced; Design Multimedia and Web Technologies; Design, Multimedia and Web Technologies Advanced; Entrepreneurship; IB Business and Management; Principles of Business and Marketing

Students study the basic principles, concepts, and practices of the accounting cycle for a service business and a merchandising business. Topics covered include analyzing transactions, journalizing and posting entries, preparing payroll records and financial statements, and managing cash systems. Ethics and professional conduct are emphasized. Students learn fundamental accounting procedures using both manual and electronic systems.

Schools offering course: All except 99 & 9

Graduation requirements are located in the “General Information” section.
ADVANCED ACCOUNTING
Grades: 11-12  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: Accounting

- **Career Cluster:** Business, Management & Administration; Finance; Science, Technology, Engineering and Math
- **CTE Sequences:** The course above and any one of the following courses – Accounting; Business Management; Computer Information Systems; Computer Information Systems Advanced; Design, Multimedia and Web Technologies; Design, Multimedia and Web Technologies Advanced; Entrepreneurship; IB Business and Management; Principles of Business and Marketing

Students gain knowledge of advanced accounting principles, procedures, and techniques used to solve business problems and to make financial decisions. Students use accounting and spreadsheet software to analyze, synthesize, evaluate, and interpret business financial data. Students work in a technology-integrated environment using authentic workplace industry scenarios that reflect current industry trends and standards.

Schools offering course: All except 9, 99

BUSINESS LAW
Grades: 10-12  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: None

- **Career Cluster:** Business, Management & Administration; Information Technology
- **CTE Sequences:** The course above and any one of the following courses – Accounting; Accounting Advanced; Business Management; Computer Information Systems; Computer Information Systems Advanced; Design, Multimedia, and Web Technologies; Design, Multimedia, and Web Technologies Advanced; IB Business and Management; Principles of Business and Marketing

Students examine the foundations of the American legal system. Students explore economic and social concepts as they relate to legal principles and to business and personal laws.

Schools offering course: All except 2, 3, 5, 9

BUSINESS MANAGEMENT
Grades: 10-12  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: None

- **Career Cluster:** Business, Management & Administration
- **CTE Sequences:** The course above and any one of the following courses – Accounting; Accounting Advanced; Business Law; Computer Information Systems; Computer Information Systems Advanced; Design, Multimedia, and Web Technologies; Design, Multimedia, and Web Technologies Advanced; Entrepreneurship; Principles of Business and Marketing

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, project management, problem solving, and ethical decision making are an integral part of the course.

Schools offering course: 2, 3, 6, 9, 12

The Computer Applications course is no longer offered at the high school level. Students should enroll in Computer Information Systems for basic computer application instruction. Please see the Computer Information Systems course description below.

COMPUTER INFORMATION SYSTEMS
Grades: 9-12  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: None

- **Career Cluster:** Arts, AV Technology and Communications; Business, Management & Administration; Information Technology; Marketing; Science, Technology, Engineering and Math
- **CTE Sequences:** The course above and any one of the following courses – Accounting; Accounting Advanced; Business Law; Business Management; Computer Information Systems Advanced; Design Multimedia and Web Technologies; Design, Multimedia and Web Technologies Advanced; Entrepreneurship; IT Fundamentals; IB Business and Management; Principles of Business and Marketing

Students apply problem-solving skills to real-life situations through word processing, spreadsheets, databases, multimedia presentations, and integrated software activities. Students work individually and in groups to explore computer concepts, operating systems, networks, telecommunications, and emerging technologies.

Schools offering course: All except 99

ADVANCED COMPUTER INFORMATION SYSTEMS
Grades: 10-12  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: Computer Information Systems

- **Career Cluster:** Arts, AV Technology and Communications; Business, Management & Administration; Information Technology; Science, Technology, Engineering and Math
- **CTE Sequences:** The course above and any one of the following courses – Accounting; Accounting Advanced; Business Law; Business Management; Design Multimedia and Web Technologies; Design, Multimedia and Web Technologies Advanced; Entrepreneurship; IT Fundamentals; IB Business and Management; Principles of Business and Marketing; Programming; Programming Advanced

Students apply problem-solving skills to real-life situations through advanced integrated software applications, including multimedia presentations, printed, electronic, and Web publications. Students work individually and in groups to explore advanced computer maintenance activities, Web site development, programming, networking, emerging technology, and employability skills.

Schools offering course: All except 99
Design, multimedia and web technologies

Grades: 9-12  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: Design, Multimedia and Web Technologies

- Career Cluster: Arts, A/V Technology & Communications; Information Technology; Science, Technology, Engineering and Math
- CTE Sequences: The course above and any one of the following courses – Accounting; Accounting Advanced; Business Law; Business Management; Computer Information Systems; Computer Information Systems Advanced; Design, Multimedia and Web Technologies Advanced; IT Web Technologies; IT Advanced Web Technologies; IT Fundamentals; IB Business and Management; Programming; Programming Advanced; Principles of Business and Marketing

Students develop proficiency in creating desktop publications, multimedia presentations/projects, and Web sites using industry standard application software. Students incorporate principles of layout and design in completing publications and projects. Students design portfolios that may include business cards, newsletters, mini-pages, Web pages, multimedia presentation/projects, calendars, and graphics.

Schools offering course: All except 9, 99

Advanced Design, Multimedia and Web Technologies

Grades: 10-12  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: Design, Multimedia and Web Technologies

- Career Cluster: Arts, A/V Technology & Communications; Information Technology; Science, Technology, Engineering and Math
- CTE Sequences: The course above and any one of the following courses – Accounting; Accounting Advanced; Business Law; Business Management; Design, Multimedia and Web Technologies; IT Web Technologies; Computer Information Systems; Computer Information Systems Advanced; IT Fundamentals; IB Business and Management; Programming; Programming Advanced; Principles of Business and Marketing

Students develop advanced skills in creating interactive media, Web sites, and publications for print and electronic distribution. Students work with sophisticated hardware and software, applying skills learned to real-world projects.

Schools offering course: All except 9, 99

Economics and personal finance

Grades: 10-12  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: None

- Career Cluster: Business Management and Administration; Finance; Government and Public Administration
- CTE Sequences: The course above and any one of the following courses – Accounting; Accounting Advanced; Business Law; Business Management; Computer Information Systems; Computer Information Systems Advanced; Design, Multimedia, and Web Technologies Advanced; Entrepreneurship; Fashion Marketing; Fashion Marketing Advanced; Hotel Marketing; Hotel Marketing Advanced; Introduction to Fashion Design and Marketing; Marketing; Marketing Advanced; Principles of Business and Marketing; Sports, Entertainment and Recreation Marketing; Advanced Sports, Entertainment and Recreation Marketing

Students learn how to navigate the financial decisions they must face and to make informed decisions related to career exploration, budgeting, banking, credit, insurance, spending, taxes, saving, investing, buying/leasing a vehicle, living independently, and inheritance. Development of financial literacy skills and an understanding of economic principles will provide the basis for responsible citizenship and career success. In addition to developing personal finance skills, students in the 36-week course will also study basic occupational skills and concepts in preparation for entry-level employment in the field of finance. The course incorporates all economics and financial literacy objectives included in the Code of Virginia §22.1-200-03B.

Schools offering course: All including 99

Entrepreneurship

Entrepreneurship – Dual Enrolled

Grades: 10-12  Credit: 1
Weighted: Yes (0.5W)  Dual Enrolled: Yes
Prerequisite: None

Associated Institution: NVCC

- Career Cluster: All 16 Career Clusters
- CTE Sequences: The course above and any one of the following courses – Accounting; Accounting Advanced; Business Management; Computer Information Systems; Computer Information Systems Advanced; Fashion Marketing; Fashion Marketing Advanced; Hotel Marketing; Hotel Marketing Advanced; Introduction to Fashion Design and Marketing; Marketing; Marketing Advanced; Principles of Business and Marketing; Sports, Entertainment and Recreation Marketing; Advanced Sports, Entertainment and Recreation Marketing

This course introduces students to the exciting world of creating, owning, and launching their own business. Students will learn concepts and techniques for planning an innovative business and living the entrepreneurial lifestyle.

Schools offering: All except 5, 6, 9, & 99
School offering Dual Enrolled: 2

Principles of Business and marketing

Grades: 9-10  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: None

- Career Cluster: Business, Management & Administration; Arts, AV Technology and Communications
- CTE Sequences: The course above and any one of the following courses – Accounting; Accounting Advanced; Business Law; Business Management; Computer Information Systems; Computer Information Systems Advanced; Design, Multimedia, and Web Technologies Advanced; Entrepreneurship; Fashion Marketing; Fashion Marketing Advanced; Hotel Marketing; Hotel Marketing Advanced; Introduction to Fashion Design and Marketing; Marketing; Marketing Advanced; Principles of Business and Marketing; Sports, Entertainment and Recreation Marketing; Advanced Sports, Entertainment and Recreation Marketing

This course meets the graduation requirement for Economics and Personal Finance. The following courses may be substituted to meet this requirement: AP Economics, IB Economics, AICE Economics and IB Business and Management.
Students discover the roles of business and marketing in the free enterprise system and the global economy. Basic financial concepts of banking, insurance, credit, inheritance, taxation, and investments are investigated to provide a strong background as students prepare to make sound decisions as consumers, wage earners, and citizens. The real world impact of technology, effective communication, and interpersonal skills are evident throughout the course. This course also supports career development skills and explores career options.

Schools offering course: All except 99

PROGRAMMING

Grades: 10-12 Credit: 1
Weighted: No Dual Enrolled: No

- Career Cluster: Arts, AV Technology and Communications; Information Technology
- CTE Sequences: The course above and any one of the following courses – AP Computer Science; Computer Information Systems; Computer Information Systems Advanced; Database Design and Management (Oracle); Database Design and Management, Advanced (Oracle); Design, Multimedia, and Web Technologies; Design, Multimedia, and Web Technologies Advanced; Information Technology Fundamentals; Programming Advanced

Students explore computer concepts, apply logic procedures, and implement programming procedures with one or more languages, such as Visual Basic.Net, Java, C#, and C++. Graphical User Interfaces, such as Alice, Game Maker, and Flash, may be used as students design and develop interactive multimedia applications. In addition, HTML or JavaScript may be employed to create Web pages.

Schools offering course: All except 99

ADVANCED PROGRAMMING

Grades: 11-12 Credit: 1
Weighted: No Dual Enrolled: No

- Career Cluster: Arts, AV Technology and Communications; Information Technology
- CTE Sequences: The course above and any one of the following courses – AP Computer Science; Computer Information Systems; Computer Information Systems Advanced; Database Design and Management (Oracle); Database Design and Management, Advanced (Oracle); Design, Multimedia, and Web Technologies; Design, Multimedia, and Web Technologies Advanced; Information Technology Fundamentals; Programming Advanced

Building on a foundation of programming skills, students will use object-oriented programming to develop applications for Windows, database, multimedia, games, mobile, and/or Web environments. Students will have the opportunity to explore and create applications related to the information technology and game design industries.

Schools offering course: 2, 3, 5, 6, 8, 9, 10, 12

IT PROGRAMMING

IT PROGRAMMING – Dual Enrolled

Grades: 10-12 Credit: 1
Weighted: Yes (0.5W) Dual Enrolled: Yes

Prerequisite: Enrolled in IT Program
Associated Institution: NVCC

- Career Cluster: Arts, AV Technology and Communications; Information Technology
- CTE Sequences: The course above and any one of the following courses – AP Computer Science; Computer Information Systems; Computer Information Systems Advanced; Database Design and Management (Oracle); Database Design and Management Advanced (Oracle); Design, Multimedia, and Web Technologies; Design, Multimedia, and Web Technologies Advanced; IT Web Technologies; Programming Advanced

IT programming introduces students to Systems Design, programming for the Web Applications, and programming hardware. Emphasis is placed on the programming process starting from system design to program completion. Current software and programming languages are taught.

School offering course: 8
School offering Dual Enrolled: 8, 9

IT DATABASE DESIGN AND MANAGEMENT (Oracle)

IT DATABASE DESIGN AND MANAGEMENT (Oracle) – Dual Enrolled

Grades: 11-12 Credit: 1
Weighted: Yes (1.0 W) Dual Enrolled: Yes

Prerequisite: Enrolled in IT Program
Associated Institution: NVCC

- Career Cluster: Information Technology; Science, Technology, Engineering and Math
- CTE Sequences: The course above and any one of the following courses – Computer Information Systems; Computer Information Systems Advanced; IT Database Design and Management Advanced; IT Fundamentals; Programming; Programming Advanced

This first-year course includes database design and SQL programming. Students study database fundamentals to include database development, modeling, design, and normalization. In addition, students are introduced to database programming. Students gain the skills and knowledge needed to use features of database software and programming to manage and control access to data. Students will prepare for the first of two certification exams.

Schools offering course: 8, 9

School Number Code:

1 – Brentsville 4 – Potomac 7 – Hylton 10 – Freedom 99 – Virtual
2 – Gar-Field 5 – Stonewall 8 – Forest Park 11 – Patriot
3 – Osbourn Park 6 – Woodbridge 9 – Battlefield 12 – Colgan
IT ADVANCED DATABASE DESIGN AND MANAGEMENT (Oracle) – Dual Enrolled

Grade: 12  Credit: 1
Weighted: Yes (1.0 W)  Dual Enrolled: Yes
Prerequisite: Database Design and Management
Associated Institution: NVCC

- Career Cluster: Information Technology; Science, Technology, Engineering and Math
- CTE Sequences: The course above and any one of the following courses – Computer Information Systems; Computer Information Systems Advanced; IT Database Design and Management (Oracle); IT Fundamentals; IT Programming; Programming; Programming Advanced

Web-based technologies used throughout industry, including interactive Web sites, 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, constants, conditional statements, and iterative controls. Students enhance their relational database design and management skills by learning to write PL/SQL code that includes anonymous blocks, sub programs, built-in functions, control structures, procedures, and triggers, all within a browser-based programming environment. In addition, fully functional Web-based applications are created through the use of HTML DB.

Schools offering course: 8, 9

INTERNATIONAL BUSINESS AND MARKETING

Grades: 10-12  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: Enrollment in a foreign language course either concurrently or prior to enrolling in this course

- Career Cluster: Information Technology
- CTE Sequences: The course above and any one of the following courses – Accounting; Accounting Advanced; Business Management; Computer Information Systems; Computer Information Systems Advanced; Fashion Marketing; Fashion Marketing Advanced; Hotel Marketing; Hotel Marketing Advanced; Introduction to Fashion Design and Marketing; Marketing; Marketing Advanced; Principles of Business and Marketing; Sports, Entertainment and Recreation Marketing; Advanced Sports, Entertainment and Recreation Marketing

International Business and Marketing is a specialized course for students with a career interest in the field of international studies. Students gain an understanding of the various careers in international trade, finance, shipping, and marketing and consider fundamental concepts, principles, and theories of business in an international culture, concepts, practices, and applications.

School offering course: 7

INFORMATION TECHNOLOGY (IT) FUNDAMENTALS

Grades: 9-10  Credit: 1
Weighted: No  Dual Enrolled: No
Prerequisite: Enrolled in IT Program
Associated Institution: NVCC

- Career Cluster: Information Technology; Science, Technology, Engineering and Math
- CTE Sequences: The course above and any one of the following courses – Computer Information Systems; Computer Information Systems Advanced; IT Database Design and Management (Oracle); IT Database Design and Management Advanced (Oracle); Design, Multimedia, and Web Technologies; Design, Multimedia and Web Technologies Advanced; Programming; Programming Advanced

Information Technology Fundamentals introduces the essential skills needed for students to pursue specialized programs leading to technical and professional careers and certifications in the IT Industry. Students have an opportunity to investigate career opportunities in four major IT areas: Information Services and Support, Network Systems, Programming and Software Development, and Interactive Media. Students explore ethical issues related to computers and Internet technology and develop teamwork and communication skills that will enhance employability.

Schools offering course: 8, 9

IT WEB TECHNOLOGIES – Dual Enrolled

Grades: 10-12  Credit: 1
Weighted: Yes (0.5W)  Dual Enrolled: Yes
Prerequisite: Enrolled in IT Program
Associated Institution: NVCC

- Career Cluster: Arts, A/V Technology & Communications; Information Technology; Science, Technology, Engineering and Math
- CTE Sequences: The course above and any one of the following courses – Accounting; Accounting Advanced; Business Law; Business Management; Design, Multimedia and Web Technologies; Design, Multimedia and Web Technologies Advanced; IT Advanced Web Technologies; Computer Information Systems; Computer Information Systems Advanced; IT Fundamentals; IB Business and Management; Programming; Programming Advanced; Principles of Business and Marketing

Students will develop an in-depth understanding of the Internet and essential Web page development skills using Extensible HTML, and incorporating images, hyperlinks, tables, forms and frames. Students will learn to write code manually, as well as use GUI authoring tools. Industry certification competencies will be used for this course.

Schools offering: 8, 9
School offering Dual Enrolled: 9

School Number Code:

1 – Brentsville
2 – Gar-Field
3 – Osbourn Park
4 – Potomac
5 – Stonewall
6 – Woodbridge
7 – Hylton
8 – Forest Park
9 – Battlefield
10 – Freedom
11 – Patriot
12 – Colgan
99 – Virtual
**CAREER CONNECTIONS COURSES**

**CAREER INTERPRETATIONS II**
Grades: 10-12  
Credit: 1  
Weighted: No  
Dual Enrolled: No  
Prerequisite: None

- **Career Cluster:** All  
- **Industry Certification:** None  
- **Course Sequences:** None

Career Investigations 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.  

**School offering course:** New Directions Only

**FAMILY AND CONSUMER SCIENCE COURSES**

All Family and Consumer Science courses will count toward meeting the one-credit “Fine Arts or Career and Technical Education” requirement for graduation.

**INTRODUCTION TO CULINARY ARTS**
Grades: 10-12  
Credit: 1  
Weighted: No  
Dual Enrolled: No  
Prerequisite: None

- **Career Cluster:** Hospitality and Tourism

**CULINARY ARTS I**
Grades: 11-12  
Credit: 2  
Weighted: No  
Dual Enrolled: No  
Prerequisites: ADMISSION TO ALL STUDENTS BY APPLICATION

- **Career Cluster:** Hospitality and Tourism  
- **Course Sequences:** The course above and any one of the following courses – GRADS; Independent Living; Individual Development; Culinary Arts I; Culinary Arts II; Nutrition and Wellness

Students practice managerial, production, and service skills used in government, commercial, or independently owned institutional food establishments and related food industry occupations. Students plan, select, store, purchase, prepare, and serve food and food products; study basic nutrition, sanitation, and food safety; the use and care of commercial equipment; and the operation of institutional food establishments. Critical thinking, practical problem solving, and entrepreneurship opportunities within the field of culinary arts are emphasized.  

**Schools offering course:** All except 3, 6, 9 & 99

**CULINARY ARTS II**
Grades: 12  
Credit: 2  
Weighted: No  
Dual Enrolled: No  
Prerequisite: Culinary Arts I

- **Career Cluster:** Hospitality and Tourism  
- **CTE Sequences:** The course above and any one of the following courses – GRADS; Independent Living; Individual Development; Culinary Arts I; Culinary Arts II; Nutrition and Wellness

Culinary Arts II provides students an opportunity to refine skills in serving, dining room management, and other skills learned in Culinary Arts I. Students prepare for occupations such as chef/cook, baker/pastry helper, pastry decorator, hospitality worker, dietetic aide/assistant, food demonstrator, and entrepreneur. Critical thinking, practical problem solving, and entrepreneurship opportunities within the field of culinary arts are emphasized. Teachers highlight the basic skills of mathematics, science and communication when appropriate in content.  

**School offering:** 4, 11

**School Number Code:**
1 – Brentsville  
2 – Gar-Field  
3 – Osbourn Park  
4 – Potomac  
5 – Stonewall  
6 – Woodbridge  
7 – Hylton  
8 – Forest Park  
9 – Battlefield  
10 – Freedom  
99 – Virtual

**IT ADVANCED WEB TECHNOLOGIES**
**IT ADVANCED WEB TECHNOLOGIES – Dual Enrolled**

Grades: 11-12  
Credit: 1  
Weighted: Yes (0.5W)  
Dual Enrolled: Yes  
Prerequisite: IT Web Technologies  
Associated Institution: NVCC

- **Career Cluster:** Arts, A/V Technology & Communications; Information Technology; Science, Technology, Engineering and Math
- **CTE Sequences:** The course above and any one of the following courses – Accounting; Accounting Advanced; Business Law; Business Management; Design, Multimedia and Web Technologies; IT Web Technologies; Computer Information Systems; Computer Information Systems Advanced; IT Fundamentals; IB Business and Management; Programming; Programming Advanced; Principles of Business and Marketing

Students will engage in Web Site Development Process using HTML, XHTML, Dynamic HTML, XML, Server-side technologies, Java applets, tables, frames, metadata and Cascading Style Sheets. Industry certification competencies will be used for the course.

**School offering course:** 9
EARLY CHILDHOOD EDUCATION AND SERVICES I

EARLY CHILDHOOD EDUCATION AND SERVICES I – Dual Enrolled

Grades: 11-12
Weighted: Yes (0.5W)
Prerequisite: ADMISSION TO ALL STUDENTS BY APPLICATION
Associated Institution: NVCC

- Career Cluster: Education and Training
- CTE Sequences: The course above and any one of the following courses – Early Childhood Education and Services I; Family Relations; GRADS; Individual Development; Child Development and Parenting; Virginia Teachers for Tomorrow I; Virginia Teachers for Tomorrow II

Students prepare to be primary providers of home-, family-, or institution-based child care services by focusing on the planning, organizing, and conducting of meaningful play and learning activities; child monitoring and supervision; record-keeping; and referral procedures. Critical thinking, practical problem solving and entrepreneurship opportunities within the field of early childhood education are emphasized. Practical experiences under the supervision of the instructor are required. Students also prepare for continuing education leading to careers in early childhood fields.

Schools offering course: 2, 3, 5, 6, 10, 11, 12
Schools offering Dual Enrolled: 2, 11

EARLY CHILDHOOD EDUCATION AND SERVICES II

EARLY CHILDHOOD EDUCATION AND SERVICES II – Dual Enrolled

Grade: 12
Weighted: Yes (0.5W)
Prerequisite: Early Childhood Education and Services I
Associated Institution: NVCC

- Career Cluster: Education and Training
- CTE Sequences: The course above and any one of the following courses – Early Childhood Education I; Family Relations; GRADS; Individual Development; Child Development and Parenting; Virginia Teachers for Tomorrow I; Virginia Teachers for Tomorrow II

Students focus on occupational skills needed by personnel employed in early childhood-related fields, such as education, medical/health care, social services, counseling, psychology, and entrepreneurship. Work-based experiences under the supervision of the instructor are required. Critical thinking, practical problem solving, and entrepreneurship opportunities within the field of early childhood education are emphasized.

Schools offering course: 2, 3, 5, 6, 11
School offering Dual Enrolled: 2, 11

FAMILY RELATIONS

Grades: 9-12
Weighted: No
Prerequisite: None

- Career Cluster: Human Services
- CTE Sequences: The course above and any one of the following courses – Child Development and Parenting; GRADS; Independent Living: Individual Development; Life Planning; Nutrition and Wellness

Students enrolled in Family Relations focus on analyzing the significance of the family, nurturing human development in the family throughout the life span, analyzing factors that build and maintain healthy family relationships, developing communication patterns that enhance family relationships, dealing effectively with family stressors and conflicts, managing work and family roles and responsibilities, and analyzing social forces that influence families across the life span. Critical thinking, practical problem solving, and entrepreneurship opportunities within the area of family responsibilities and services are emphasized. Teachers highlight the basic skills of mathematics, science, and communication when appropriate in the content.

Schools offering course: 2, 11

INTRODUCTION TO FASHION CAREERS
(formerly Introduction to Fashion Design and Marketing)

Grades: 11-12
Weighted: No
Prerequisite: Enrolled in Fine and Performing Arts Specialty Program

- Career Cluster: Arts, Audio/Visual Technology and Communications; Marketing
- CTE Sequences: The course above and any one of the following courses – GRADS; Independent Living; Individual Development; Life Planning; Marketing; Advanced Marketing; Principles of Business and Marketing

The design and merchandising competencies for this course focus on identifying and exploring the individual careers within the apparel, accessory, and textile design, manufacturing, and merchandising industry. Units of study include the relationships that exist among all areas of the clothing industry; related global and economic issues; apparel, accessory, and textile technology; exploration of careers, including entrepreneurial opportunities in related areas; and the skills and personal characteristics necessary for success in careers in the apparel, accessory, and textile design, manufacturing, and marketing industry.

Schools offering course: 6, 12

GRADS

Grades: 9-12
Weighted: No
Prerequisite: ADMISSION TO ALL STUDENTS BY APPLICATION

- Career Cluster: Human Services
- CTE Sequences: The course above and any one of the following courses – Child Development and Parenting; Independent Living; Family Relations; Individual Development; Introduction to Culinary Arts; Introduction to Fashion Design and Marketing; Life Planning; Nutrition and Wellness
Adolescents enrolled in the Graduation, Reality and Dual-Role Skills Program (GRADS), with a family focus, will complete graduation requirements, build employment skills, and receive parenting and life-management skills to improve quality of life for themselves and their child. Content includes topics on self-esteem, communication skills, and interpersonal relationships. In addition, the course includes instruction on pre- and postnatal care, promoting wellness, and child development. Students will focus on evaluating the cost of parenthood and child care as well as balancing work and family and managing economic resources. In addition, emphasis is placed on exploring careers and acquiring employability skills.

Schools offering course: All except 99

GRADS WORK FOCUS

Grades: 9-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: ADMISSION TO ALL STUDENTS BY APPLICATION

- **Career Cluster:** Human Services
- **CTE Sequences:** The course above and any one of the following courses – Child Development and Parenting; Culinary Arts I; Culinary Arts II; Early Childhood Education, and Services I; Early Childhood Education, and Services II; Family Relations; Independent Living; Individual Development; Introduction to Culinary Arts; Life Planning; Nutrition and Wellness

Adolescents enrolled in the Graduation, Reality, and Dual-Role Skills Program (GRADS) with a work focus, will complete graduation requirements and concentrate on using effective communication skills, maintaining healthy relationships, demonstrating developmentally appropriate child-care skills, and managing interpersonal and family relationships. Students examine the legal rights of parents and guardians as well as how workplace factors affect families. In addition, emphasis is placed on applying employability skills and operating an early care center.

Schools offering course: 2

INDEPENDENT LIVING

Grades: 9-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: None

- **Career Cluster:** Human Services
- **CTE Sequences:** The course above and any one of the following courses – Child Development and Parenting; Culinary Arts I; Culinary Arts II; Family Relations; GRADS; GRADS Work Focus; Individual Development; Introduction to Culinary Arts; Life Planning; Nutrition and Wellness

This course allows students to explore successful strategies for living independently by actively participating in practical problem solving focusing on relating to others, applying financial literacy, managing resources in the areas of apparel, nutrition and wellness, and housing, using leadership skills to reach individual goals, planning for careers, and making consumer choices in a global environment.

Schools offering course: All except 99

INDIVIDUAL DEVELOPMENT

Grades: 9-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: None

- **Career Cluster:** Human Services
- **CTE Sequences:** The course above and any one of the following courses – Child Development and Parenting; Culinary Arts I; Culinary Arts II; Early Childhood Education and Services I; Early Childhood Education and Services II; Family Relations; GRADS; GRADS Work Focus; Independent Living; Introduction to Culinary Arts; Life Planning; Nutrition and Wellness; Virginia Teacher for Tomorrow I; Virginia Teachers for Tomorrow II

Students enrolled in Individual Development focus on encouraging personal potential of self and others throughout the life-span; enhancing positive views of self and others; managing stressful situations; formulating a plan to achieve career goals; forming healthy, caring relationships with family members and peers; managing conflict; choosing responsible ways to express oneself; and evaluating the importance of responsible parenting to individuals, families, and society. Critical thinking, practical problem-solving, and entrepreneurship opportunities within the area of individual mental, emotional, and physical health are emphasized. Teachers highlight the basic skills of math, science, and communication when appropriate in the content.

Schools offering course: 2, 3, 5, 10

LIFE PLANNING

Grades: 11-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: None

- **Career Cluster:** Human Services
- **CTE Sequences:** The course above and any one of the following courses – Child Development and Parenting; Family Relations; GRADS; GRADS Work Focus; Independent Living; Individual Development; Introduction to Culinary Arts; Introduction to Fashion Design and Marketing; Nutrition and Wellness; Virginia Teachers for Tomorrow I; Virginia Teachers for Tomorrow II

Life Planning equips students with the skills to face the challenges in today’s society. Students will develop a life-management plan which includes Developing Career, Community, and Life Connections; Applying Problem-Solving Processes to Life Situations; Creating and Maintaining Healthy Relationships; Developing Strategies for Lifelong Career Planning, Developing a Financial Plan; Examining Components of Individual and Family Wellness; and Demonstrating Leadership within the Community. Critical thinking and practical problem-solving are emphasized through relevant life applications.

Schools offering course: All except 8 & 11

<table>
<thead>
<tr>
<th>School Number Code</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brentsville</td>
</tr>
<tr>
<td>2</td>
<td>Gar-Field</td>
</tr>
<tr>
<td>3</td>
<td>Osbourn Park</td>
</tr>
<tr>
<td>4</td>
<td>Potomac</td>
</tr>
<tr>
<td>5</td>
<td>Stonewall</td>
</tr>
<tr>
<td>6</td>
<td>Woodbridge</td>
</tr>
<tr>
<td>7</td>
<td>Hylton</td>
</tr>
<tr>
<td>8</td>
<td>Forest Park</td>
</tr>
<tr>
<td>9</td>
<td>Battlefield</td>
</tr>
<tr>
<td>10</td>
<td>Freedom</td>
</tr>
<tr>
<td>11</td>
<td>Patriot</td>
</tr>
<tr>
<td>99</td>
<td>Virtual</td>
</tr>
</tbody>
</table>
NUTRITION AND WELLNESS
Grades: 9-12
Weighted: No
Prerequisite: None
Career Cluster: Human Services

CTE Sequences: The course above and any one of the following courses — Child Development and Parenting; Culinary Arts I; Culinary Arts II; Early Childhood Education and Services I; Early Childhood Education and Services II; Family Relations; GRADS; GRADS Work Focus; Independent Living; Individual Development; Introduction to Culinary Arts; Life Planning

Students enrolled in Nutrition and Wellness focus on making choices that promote wellness and good health, analyzing relationships between psychological and social needs and food choice; choosing foods that promote wellness; obtaining and storing food for self and family; preparing and serving nutritious meals and snacks; selecting and using equipment for food preparation; and identifying strategies to promote optimal nutrition and wellness of society. Critical thinking, practical problem solving, and entrepreneurship opportunities within the area of nutrition and wellness are emphasized. Teachers highlight the basic skills of math, science, and communication when appropriate in the content.

Schools offering course: All except 9 & 99

CHILD DEVELOPMENT AND PARENTING
Grades: 9-12
Weighted: No
Prerequisite: None
Career Cluster: Human Services

CTE Sequences: The course above and any one of the following courses — Early Childhood Education and Services I; Early Childhood Education and Services II; Family Relations; GRADS; GRADS Work Focus; Independent Living; Individual Development; Life Planning; Nutrition and Wellness; Virginia Teachers for Tomorrow I; Virginia Teachers for Tomorrow II

Students enrolled in Child Development and Parenting focus on analyzing parenting roles and responsibilities, ensuring a healthy start for mother and child, evaluating support systems that provide services for parents, and evaluating parenting practices that maximize human growth and development. Critical thinking, practical problem solving using case studies, and entrepreneurship opportunities within the area of parenting responsibilities and child development are emphasized. Teachers highlight the basic skills of mathematics, science, and technology when appropriate.

Schools offering course: All except 9 & 99

VIRGINIA TEACHERS FOR TOMORROW I

VIRGINIA TEACHERS FOR TOMORROW I – Dual Enrolled
Grade: 12 with application
Weighted: Yes (1.0 W)
Prerequisite: 3.0 GPA and Application
Associated Institution: Shenandoah University
Career Cluster: Agriculture, Food and Natural Resources; Business Management and Administration; Education and Training; Health Services; Human Services; Information Technology; Science Technology, Engineering, and Mathematics

CTE Sequences: The course above and any one of the following courses — Child Development and Parenting; Early Childhood Education and Services I; Early Childhood Education and Services II; Individual Development; Life Planning; Virginia Teachers for Tomorrow II

Virginia Teachers for Tomorrow (VTfT) fosters student interest, understanding, and appreciation of the teaching profession and allows secondary students to explore careers in education. Students build a foundation for teaching; learn the history, structure, and governance of teaching; apply professional teaching techniques in the VTfT classroom and reflect on their teaching experiences. Additional educational leadership opportunities are offered through the student organization, Future Educators Association.

Schools offering: 2, 3, 5, 6, 7, 8, 11, 12
Schools offering Dual Enrolled: 2, 8, 11

VIRGINIA TEACHERS FOR TOMORROW II
Grade: 12
Weighted: No
Prerequisite: None
Career Cluster: Agriculture, Food and Natural Resources; Business Management and Administration; Education and Training; Health Science; Information Technology; Science, Technology, Engineering, and Mathematics

CTE Sequences: The course above and any one of the following courses — Child Development and Parenting; Early Childhood Education and Services I; Early Childhood Education and Services II; Individual Development; Life Planning; Virginia Teachers for Tomorrow I

Students continue to explore careers in the Education and Training Cluster and pathways. This course provides the opportunity for students to prepare for careers in education as they research post-secondary options, learn about the process of teacher certification in Virginia, and participate in a practicum experience.

Schools offering course: 2, 3, 5, 6, 8, 11

HEALTH AND MEDICAL SCIENCE COURSES

All Health and Medical Science courses will count toward meeting the one-credit “Fine Arts or Career and Technical Education” requirement for graduation except Practical Nursing III.

PROJECT LEAD THE WAY (PLTW) – BIOMEDICAL SCIENCES COURSES

HUMAN BODY SYSTEMS (PLTW)
Grades: 10-12
Weighted: No
Prerequisite: Principles of Biomedical Science (PLTW)

CTE Sequences: The course above and any one of the following courses — Child Development and Parenting; Early Childhood Education and Services I; Early Childhood Education and Services II; Individual Development; Life Planning; Virginia Teachers for Tomorrow II

Note: This course has replaced the Health Assistant Careers course and is the second of four courses in the PLTW Biomedical Sciences Program of Study.

Career Cluster: Health Science

In this Project Lead the Way (PLTW) specialized course, students examine the interactions of human body systems as they...
explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on a skeletal manikin; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases. 

School offering course: 3

PRINCIPLES OF BIOMEDICAL SCIENCE (PLTW)

Grades: 9-12  
Weighted: No  
Prerequisite: None

- Career Cluster: Health Science

Note: This course has replaced Introduction to Health and Medical Sciences and is 1 of 4 courses in the Project Lead The Way (PLTW) Biomedical Sciences Program of Study.

Student explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person’s life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems. 

School offering course: 3

PRACTICAL NURSING I (18 weeks)

Grade: 12-Adult  
Credits: 3.0 credits for completion of Practical Nursing II only

Weighted: No  
Prerequisite: ADMISSION TO ALL STUDENTS BY APPLICATION; Introduction to Health and Medical Sciences recommended (Biology, Chemistry, and Algebra recommended)

- Career Cluster: Health Science
- Prepares for Licensure Exam
- CTE Sequences: The course above and any one of the following courses – Introduction to Health and Medical Sciences; Practical Nursing II

In the first semester, students learn nursing care of patients of all ages, in various stages of sickness or wellness, and with a variety of disease conditions. They focus on human anatomy, body function, communication, community health, fundamental nursing skills, nutrition, drug therapy, and elementary medical-surgical nursing. 

Schools offering course: Available to ALL high school students through an application process. Check with school counselor. 

Adult applications accepted with tuition. Call 703.365.6692.

PRACTICAL NURSING II (18 weeks)

Grade: 12-Adult  
Credits: 3.0 credits for completion of Practical Nursing II only

Weighted: No  
Prerequisite: Practical Nursing I (Biology, Chemistry, and Algebra recommended)

- Career Cluster: Health Service
- Prepares for Licensure Exam
- CTE Sequences: The course above and any one of the following courses – Introduction to Health and Medical Sciences; Practical Nursing I

In the second semester, instruction emphasizes introduction to pharmacology, normal life span (human growth and development), normal nutrition, nursing fundamentals, and nursing trends. Advanced emergency procedures and application of nursing procedures are demonstrated in a laboratory setting. 

Schools offering course: Available to ALL high school students through an application process. Check with school counselor. 

Adult application accepted with tuition. Call 703.365.6692.

INTERNATIONAL BACCALAUREATE (IB) PROGRAMME - CTE COURSES

IB BUSINESS AND MANAGEMENT

Grades: 11-12  
Credit: 1

Weighted: Yes (1.0W)  
Dual Enrolled: Yes

Prerequisite: Enrollment in IB Program

- Career Cluster: Business, Management & Administration

NOTE: This course will satisfy the Virtual Course and Economics and Personal Finance graduation requirements for students taking it in 2014-15 and beyond.

- CTE Sequences: The course above and any one of the following courses - Accounting; Accounting Advanced; Business Law; Computer Information Systems; Computer Information Systems Advanced; Design, Multimedia, and Web Technologies; Design, Multimedia, and Web Technologies Advanced; Principles of Business and Marketing

IB Business and Management is a recognized International Baccalaureate 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. 

School offering Dual Enrolled: 2

**IB INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY**

Grades: 11-12  
Credit: 1  
Prerequisite: Enroll in IB Program

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.

School offering course: 2

---

**FASHION MARKETING**

Grades: 10-12  
Credit: 1  
Prerequisite: None

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.

School offering course: 2, 3, 4, 7, 9, 10, 11

---

**MARKETING COURSES**

All marketing courses will count toward meeting the one-credit “Fine Arts or Career and Technical Education” requirement for graduation.

---

**MARKETING ADVANCED**

Grades: 11-12  
Credit: 1  
Prerequisite: Fashion 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.

School offering course: 2

---

**IB PERSONAL AND PROFESSIONAL SKILLS**

Grades: 11-12  
Credit: 1  
Prerequisite: Enroll in IB Program

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.

School offering course: 2

---

**HOTEL MANAGEMENT AND OPERATIONS**

Grades: 11-12  
Credit: 1  
Prerequisite: Opportunities in Hospitality & Tourism (formerly Hotel 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.

School offering course: 2

---

**OPPORTUNITIES IN HOSPITALITY AND TOURISM**

Grades: 10 - 12  
Credit: 1 credit  
Prerequisite: None

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.

School offering course: 5, 10
• **CTE Sequences:** The course above and any one of the following courses – Business Management; Entrepreneurship; Fashion Marketing; Advanced Fashion Marketing; Hotel Marketing; Hotel Marketing Advanced; IB Business and Management; Introduction to Fashion Design and Marketing; Marketing Advanced; Sports, Entertainment and Recreation Marketing; Sports, Entertainment and Recreation Marketing Advanced; Principles of Business and Marketing

Students examine activities in marketing and business important for success in marketing employment and post-secondary education. Students will learn how products are developed, branded, and sold to businesses and consumers. Students will analyze industry trends and gain hands-on experience in the marketing of goods, services, and ideas. Topics will include professionalism in the workplace, product planning and positioning, promotion, pricing, selling, economic issues, and the impact of technology on the marketplace.

**Schools offering course:** 2, 3, 4, 6, 7, 9, 10, 11

---

### ADVANCED MARKETING

**Grade:** 12  
**Credit:** 1  
**Weighted:** No  
**Dual Enrolled:** No  

**Prerequisite:** Marketing

- **Career Cluster:** Marketing  
- **CTE Sequences:** The course above and any one of the following courses – Entrepreneurship; Fashion Marketing; Fashion Marketing Advanced; Hotel Marketing; Hotel Marketing Advanced; Introduction to Fashion Design and Marketing; Marketing; Principles of Business and Marketing; Sports, Entertainment and Recreation Marketing; Sports, Entertainment and Recreation Marketing Advanced

Students build on knowledge gained in a prior Marketing course. Students participate in supervisory and management activities focusing on the marketing mix, purchasing, financing, human resources, global marketing, pricing, and emerging technologies. Students will prepare for advancement in marketing careers and post-secondary education.

**Schools offering course:** 2, 3, 4, 9, 10

### SPORTS, ENTERTAINMENT, AND RECREATION MARKETING

**Grades:** 10-12  
**Credit:** 1  
**Weighted:** No  
**Dual Enrolled:** No

- **Career Cluster:** Hospitality and Tourism  
- **CTE Sequences:** The course above and any one of the following courses – Entrepreneurship; Marketing; Marketing Advanced; Principles of Business and Marketing; Sports, Entertainment, and Recreation Marketing Advanced

This introductory course helps students develop a thorough understanding of fundamental marketing concepts and theories as they relate to the sports, entertainment, and recreation industries. Students will investigate the components of branding, sponsorships, and endorsements, as well as promotion plans needed for sports, entertainment and recreation events. The course also supports career development skills and explores career options.

**Schools offering course:** 2, 3, 4, 6, 7, 9, 10, 11, 12

---

### ADVANCED SPORTS, ENTERTAINMENT, AND RECREATION MARKETING

**Grades:** 11-12  
**Credit:** 1  
**Weighted:** No  
**Dual Enrolled:** No  

**Prerequisite:** Sports, Entertainment, and Recreation Marketing

- **Career Cluster:** Hospitality and Tourism  
- **CTE Sequences:** The course above and any one of the following courses – Entrepreneurship; Marketing; Marketing Advanced; Principles of Business and Marketing; Sports, Entertainment, and Recreation Marketing

Students will build on prior knowledge of sports, entertainment, and recreation marketing. This course focuses on the principles of management and planning supported by research, financial, and legal concepts. Students will be able to plan and execute an event; develop a career plan, and establish a sports, entertainment, and recreation product/business. Academic skills (mathematics, science, English, and history/social science) related to the content are a part of this course. Computer/technology applications supporting this course are studied.

**Schools offering course:** 2, 3, 4, 7, 9, 10

---

### TECHNOLOGY EDUCATION

All Technology Education courses will count toward meeting the one-credit “Fine Arts or Career and Technical Education” requirement for graduation.

---

### ARCHITECTURAL DRAWING/DESIGN/CAD

**Grades:** 10-12  
**Credit:** 1  
**Weighted:** No  
**Dual Enrolled:** No  

**Prerequisite:** Technical Drawing

- **Career Cluster:** Architecture and Construction  
- **CTE Sequences:** The course above and any one of the following courses – Construction Technology; Digital Visualization; Engineering Drawing/Design/CAD; Technical Drawing

Students explore architectural design foundations and increase understanding of working drawings, construction techniques, and codes regulating building design. They learn the design process and apply the elements and principles of design to architectural projects. Through producing models and illustrations of all aspects of a building, students create architectural design solutions using CAD (Computer Aided Drafting and Design).

**Schools offering course:** All except 9 & 99

---

### CONSTRUCTION TECHNOLOGY

**Grades:** 9-12  
**Credit:** 1  
**Weighted:** No  
**Dual Enrolled:** No  

**Prerequisite:** None

- **Career Cluster:** Architecture & Construction  
- **CTE Sequences:** The course above and any one of the following courses – Architectural Drawing and Design; Production Systems

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.

**Schools offering course:** 1, 3, 5, 6, 10, 11, 12

---

### Number Code

<table>
<thead>
<tr>
<th>Number Code</th>
<th>School Name</th>
<th>Grades</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brentsville</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Gar-Field</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Osbourn Park</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Potomac</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Stonewall</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Woodbridge</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Hylton</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Forest Park</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Battlefield</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Freedom</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Patriot</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>99</td>
<td>VirtualSchool</td>
<td>10-12</td>
<td>1</td>
</tr>
</tbody>
</table>
**ENGINEERING EXPLORATIONS I**
Grades: 10-12  
Weighted: No  
Dual Enrolled: No  
Prerequisite: Geometry  

- **Career Cluster:** Science, Technology, Engineering & Math  
- **CTE Sequences:** The course above and any one of the following courses — Engineering Analysis and Applications II, formerly Challenges of Engineering II; Challenges of Engineering II/Robotics  

This course provides an orientation to the careers and challenges of engineering. Students are actively involved in hands-on activities in engineering graphics, machining, fluid power, electronics, materials testing and technical drawing. Through these activities students learn to solve problems by applying math and science principles. Students communicate information through seminars, technical reports, and sharing ideas in-group activities.

Schools offering course: 1, 8

**ENGINEERING EXPLORATIONS I – ROBOTICS**
Grades: 10-12  
Weighted: No  
Dual Enrolled: No  
Prerequisite: Geometry  

- **Career Cluster:** Science, Technology, Engineering & Math  
- **CTE Sequences:** The course above and any one of the following courses — Engineering Analysis and Applications II, formerly Challenges of Engineering II; Challenges of Engineering II/Robotics  

This course provides an orientation to the careers and challenges of engineering. Students are actively involved in hands-on activities in engineering graphics, machining, fluid power, electronics, materials testing, robotics, and computer technology. Through these activities students learn to solve problems by applying math and science principles. Students communicate information through seminars, technical reports, and sharing ideas in-group activities.

Schools offering course: 3, 4, 9, 11

**ENGINEERING ANALYSIS AND APPLICATIONS II**
Grades: 11-12  
Weighted: No  
Dual Enrolled: No  
Prerequisite: Engineering Explorations I  

- **Career Cluster:** Science, Technology, Engineering & Math  
- **CTE Sequences:** The course above and any one of the following courses — Engineering Explorations I; Engineering Explorations I-Robotics; formerly Challenges of Engineering I; Challenges of Engineering I/Robotics  

To learn the applications and design process of engineering, students form engineering teams and select a group design problem. Each team uses communications, graphics, mathematics, and community resources to solve problems. Each team learns appropriate information in order to complete a project. Projects may be models, systems, or products that creatively solve an engineering problem.

Schools offering course: 1, 5, 8, 9

**ENGINEERING ANALYSIS AND APPLICATIONS II – ROBOTICS**
Grades: 11-12  
Weighted: No  
Dual Enrolled: No  
Prerequisite: Engineering Explorations I  

- **Career Cluster:** Science, Technology, Engineering & Math  
- **CTE Sequences:** The course above and any one of the following courses — Engineering Explorations I; Engineering Explorations I-Robotics; formerly Challenges of Engineering I; Challenges of Engineering I/Robotics  

To learn the applications and design process of engineering, students form engineering teams and select a group design problem. Each team uses communications, graphics, mathematics, and community resources to solve problems. Each team learns appropriate information in order to complete a project. Projects may be models, systems, or products that creatively solve an engineering problem.

Schools offering course: 1, 5, 8, 9

**COMMUNICATION SYSTEMS**
Grades: 9-12  
Weighted: No  
Dual Enrolled: No  
Prerequisite: None  

- **Career Cluster:** Arts, Audio/Visual Technology and Communications; Information Technology  
- **CTE Sequences:** The course above and any one of the following courses — Digital Visualization; Geospatial Technology I; Graphics Communications Systems; Video and Media Technology  

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 related to communications.

Schools offering course: 2, 5, 7, 11

**DIGITAL VISUALIZATION**
Grades: 9-11  
Weighted: No  
Dual Enrolled: No  
Prerequisite: None  

- **Career Cluster:** Arts, Audio/Visual Technology and Communications  
- **CTE Sequences:** The course above and any one of the following courses — Architectural Drawing and Design; Communication Systems; Engineering and Drawing Design; Technical Drawing and Design; Video and Media Technology  

Students gain experiences related to computer animation by using graphics and design concepts. Students solve problems involving 3-D object manipulation, storyboarding, texturing/mapping, lighting concepts, and environmental geometry. Students create a variety of animations that reflect real-world applications and are introduced to interactive and 3-D animation software. Production of a portfolio showcasing examples of original student work is included.

Schools offering course: 2, 5, 7, 10
ENGINEERING DRAWING AND DESIGN – CAD
Grades: 10-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: Technical Drawing
• Career Cluster: Science, Technology, Engineering & Math
• CTE Sequences: The course above and any one of the following courses – Architectural Drawing/Design/CAD; Digital Visualization; Technical Drawing
Students explore the engineering design process and use a graphic language for product design, technical illustration, assembly, patent, and structural drawings. They increase their understanding of drawing and the design process and techniques learned in the prerequisite course. Students use computers, calculators, and descriptive geometry and adhere to established standards to solve design problems.
Schools offering course: 1, 3, 4, 5, 7, 8, 11, 12

POWER AND TRANSPORTATION TECHNOLOGY
Grades: 10-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: None
• Career Cluster: Science, Technology, Engineering, and Math; Transportation, Logistics & Distribution
• CTE Sequences: The course above and the following course – Sustainability and Renewable Technologies
Students survey the many broad sources of energy and power used in power and transportation systems. Instruction in this course includes ways that energy is converted to power; power is transmitted and controlled; and power is used through mechanical, fluid, and electrical devices. Students explore career opportunities in power and transportation fields, design and build products, conduct experiments, and repair mechanical devices such as small engines.
Schools offering course: 1, 4, 6, 7, 10, 11, 12

FOUNDATIONS OF TECHNOLOGY
Grades: 9-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: Exploring Technology Education – MS
• Career Cluster: Science, Technology, Engineering & Math
• Course Sequences: None
In this beginning high school course, students acquire a foundation in technological resources including material, energy, and information and apply processes associated with the technological thinker. Challenged by laboratory activities, students create new ideas and innovations, build systems, and analyze technological products to learn further how and why technology works. The students work in groups to build and control systems using engineering design in the development of a technology.
Schools offering course: 6, 7, 8, 12

GRAPHIC COMMUNICATIONS SYSTEMS
Grades: 10-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: None
• Career Cluster: Arts, A/V Technology & Communication
• CTE Sequences: The course above and the following course – Communications Systems
This course provides experiences related to a wide range of tools and materials used to reproduce information and images. Several mediums are used, including paper, metal, plastic, and fabric. Students develop competencies in message design, composition and assembly, film conversion and assembly, and message transfer and product conversion.
Schools offering course: 2, 3, 4, 5, 8, 11

SUSTAINABILITY AND RENEWABLE TECHNOLOGIES
Grades: 9-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: None
• Career Cluster: Science, Technology, Engineering, and Math
• CTE Sequences: The course above and any one of the following courses – Business Management; Entrepreneurship; Marketing; Power and Transportation
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.
Schools offering course: 9

TECHNICAL DRAWING
Grades: 9-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: None
• Career Cluster: Science, Technology, Engineering, and Math
• CTE Sequences: The course above and any one of the following courses – Architectural Drawing/Design/CAD; Digital Visualization; Engineering Drawing/Design/CAD
In this foundation course, students learn the basic language of technical design, while they design, sketch, and make technical drawings, illustrations, models or prototypes of real design problems. Students develop spatial ability as they apply mathematical concepts to visual representations. The course is especially recommended for future engineering and architecture students.
Schools offering course: All except 9 & 99
VIDEO AND MEDIA TECHNOLOGY
Grades: 11-12 (Hylton HS only – grades 9-10) Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: None

• **Career Cluster:** Arts, A/V Technology and Communication
• **CTE Sequences:** The course above and any one of the following courses – Communication Systems; Digital Visualization

This course offers students an opportunity to study all aspects of video and media production, from planning and writing for production to operating studio and editing equipment. Students practice various methods of gathering news and information from individuals, research, and online resources. In addition, students are introduced to analog and digital principles of film production.

**Schools offering course:** 4, 7, 8, 10, 11

---

PROJECT LEAD THE WAY
(PLTW - Technology Education Courses)

CIVIL ENGINEERING AND ARCHITECTURE (PLTW)
Grades: 10-12 Credit: 1
Weighted: Yes (1.0W) Dual Enrolled: No
Prerequisite: Must be completing college level sequence of math and science

• **Career Cluster:** Architecture & Construction
• **Course Sequences:** The course above and any one of the following courses – Digital Electronics (PLTW); Engineering Design and Development (PLTW); Principles of Engineering (PLTW)

Students explore architectural design foundations and increase understanding of working drawings, construction techniques, and codes regulating building design. They learn the design process and apply the elements and principles of design to architectural projects. Through producing models and illustrations of all aspects of a building, students create architectural design solutions using CAD (computer aided drafting and design).

**Schools offering course:** 3, 6, 11, 12

---

DIGITAL ELECTRONICS (PLTW)
Grades: 10-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: Must be completing college level sequence of math and science

• **Career Cluster:** Science, Technology, Engineering & Math
• **CTE Sequences:** The course above and any one of the following courses – Civil Engineering and Architecture (PLTW); Engineering Design and Development (PLTW); Principles of Engineering (PLTW)

Digital electronics is the foundation of all modern electronic devices such as mobile phones, MP3 players, laptop computers, digital cameras, and high-definition televisions. Students are introduced to the process of combinational and sequential logic design, engineering standards, and technical documentation.

**Schools offering course:** 2, 5, 6, 9, 11, 12

---

ENGINEERING DESIGN AND DEVELOPMENT (PLTW)
Grades: 12 Credit: 1
Weighted: Yes (1.0W) Dual Enrolled: No
Prerequisite: Must have completed at least 3 PLTW courses or have teacher approval

• **Career Cluster:** Science, Technology, Engineering & Math
• **CTE Sequences:** The course above and any one of the following courses – Civil Engineering and Architecture (PLTW); Digital Electronics (PLTW); Introduction to Engineering Design (PLTW); Principles of Engineering (PLTW)

In this capstone course in Project Lead the Way (PLTW), 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.

**Schools offering course:** 4, 6, 11

---

INTRODUCTION TO ENGINEERING DESIGN (PLTW)
Grades: 9-12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: Must be completing college level sequence of math and science

• **Career Cluster:** Science, Technology, Engineering & Math
• **CTE Sequences:** The course above and any one of the following courses – Civil Engineering and Architecture (PLTW); Digital Electronics (PLTW); Engineering Design and Development (PLTW); Principles of Engineering (PLTW)

In this foundation course in Project Lead the Way (PLTW), students use 3-D computer modeling software as they learn the engineering-design process and solve design problems for which they develop, analyze, and create project modes.

**Schools offering course:** 2, 3, 4, 5, 6, 8, 9, 11, 12

---

PRINCIPLES OF ENGINEERING (PLTW)
Grades: 9-12 Credit: 1
Weighted: Yes (1.0W) Dual Enrolled: No
Prerequisite: Must be completing college level sequence of math and science

• **Career Cluster:** Science, Technology, Engineering & Math
• **CTE Sequences:** The course above and any one of the following courses – Civil Engineering and Architecture (PLTW); Digital Electronics (PLTW); Engineering Design and Development (PLTW); Introduction to Engineering Design (PLTW)

In this foundation course in Project Lead the Way (PLTW), 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.

**Schools offering course:** 2, 3, 4, 6, 9, 11, 12

---

Number Code:

1 – Brentsville 4 – Potomac 7 – Hylton 10 – Freedom 99 – Virtual
2 – Gar-Field 5 – Stonewall 8 – Forest Park 11 – Patriot
3 – Osbourn Park 6 – Woodbridge 9 – Battlefield 12 – Colgan
In this first course of the three-course program, students learn all aspects of repair, safety, and customer service by concentrating on two of the primary ASE/NATEF areas for certification (i.e., areas V. Brakes; and VI. Electrical/Electronics). Students who successfully complete this portion of the program will be prepared to take and pass the respective ASE/NATEF exam and will be prepared for post-secondary education opportunities. The course above and any one of the following courses – Automotive Technology II; Automotive Technology III (formerly Automotive Technology I, Automotive Technology II)

In this second course of the three-course program, students learn all aspects of repair, safety, and customer service by concentrating on two of the primary ASE/NATEF areas for certification (i.e., IV, Suspension and Steering; and VIII. Engine Performance). Students who successfully complete this portion of the program will be prepared to take and pass the respective ASE/NATEF exam and will be prepared for post-secondary education opportunities. The course above and any one of the following courses – Automotive Technology II; Automotive Technology III (formerly Automotive Technology I, Automotive Technology II)

In this capstone course of the three-course program, students master all aspects of repair, safety, and customer service by concentrating on the remaining tasks from the four primary ASE/NATEF areas of certification (i.e., IV, Suspension and Steering; V. Brakes; IV. Electrical/Electronics; and VIII. Engine Performance). Students who successfully complete this program will be prepared to take and pass the respective ASE/NATEF exam and will be prepared for post-secondary education opportunities. The four remaining ASE/NATEF areas for certification (i.e., I. Engine Repair; II. Automatic Transmission and Transaxle; III. Manual Drive Train and Axles; and VII. Heating and Air Conditioning) have been added to the course task list as optional tasks and should only be addressed with local administrative approval.

**Schools offering course: 3, 7**

### BUILDING TRADES I

- **Grades:** 10-11
- **Credit:** 2
- **Weighted:** No
- **Dual Enrolled:** No

**Prerequisite:** Building Trades I

- **Career Cluster:** Architecture and Construction
- **CTE Sequence:** The course above and the following course: Building Trades II

Building Trades I prepares students to erect, install, maintain, and repair buildings, and other structures using materials such as metal, wood, stone, brick, glass, concrete, and composition substances. Students focus on developing skills in core safety and the masonry, carpentry, electricity, and plumbing professions.

**School offering:** 11

### BUILDING TRADES II

- **Grades:** 11-12
- **Credit:** 2
- **Weighted:** No
- **Dual Enrolled:** No

**Prerequisite:** Building Trades I

- **Career Cluster:** Architecture and Construction
- **CTE Sequence:** The course above and the following course: Building Trades I

Building Trades II continues to prepare students to erect, install, maintain, and repair buildings, and other structures using materials such as metal, wood, stone, brick, glass, concrete, and composition substances. Students focus on mastering skills in core safety and the masonry, carpentry, electricity, and plumbing professions.

**School offering:** 11

### CABINETMAKING I

- **Grades:** 10-12
- **Credit:** 2
- **Weighted:** No
- **Dual Enrolled:** No

**Prerequisite:** None

- **Career Cluster:** Construction
- **CTE Sequence:** The course above and the following course: Cabinetmaking II

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.

**School offering:** 7
COMPUTER SYSTEMS TECHNOLOGY I

Grades: 10-12
Credit: 1
Weighted: Yes (0.5 W)
Dual Enrolled: Yes
Prerequisite: None

- **Career Cluster:** Information Technology
- **CTE Sequences:** The course above and any one of the following courses – None

Students enter the world of computer technology and gain practical experience in assembling a computer system, installing an operating system, troubleshooting computers and peripherals, and using system tools and diagnostic software. They develop skills in computer networking and resource sharing. In addition, students explore the relationships between internal and external computer components. Emphasis is placed on customer service skills and career exploration. Upon successful completion of the course students may qualify to take the A+ certification exam.

School offering course: 8

COMPUTER SYSTEMS TECHNOLOGY II

Grade: 11-12
Credits: 1
Weighted: No
Dual Enrolled: No
Prerequisite: Computer Systems Technology I

- **Career Cluster:** Information Technology

Building on the foundation of Computer Systems Technology I, this advanced course provides students with training in procedures for optimizing and troubleshooting concepts for computer systems and subsystems. Students explore wireless technologies (e.g., Bluetooth, Wi-Fi) and create and configure a network. Emphasis is placed on technical proficiency, skill-building, and workplace readiness. The course prepares students for postsecondary education and training and a successful career in information technology.

School offering course: 4

COMPUTER NETWORKING HARDWARE OPERATIONS I

COMPUTER NETWORKING HARDWARE OPERATIONS I – Dual Enrolled

Grade: 11; Semester I
Credit: 0.5
Weighted: Yes (1.0W)
Dual Enrolled: Yes
Prerequisite: Computer Networking Hardware Operations I

- **Career Cluster:** Information Technology
- **CTE Sequences:** The course above and ALL of the following courses – Computer Networking Hardware Operations II, III, IV

This course teaches students the skills needed to obtain entry-level home network installer jobs. It also helps students develop some of the skills needed to become network technicians, computer technicians, cable installers, and help-desk technicians. It provides a hands-on introduction to networking and the Internet, using tools and hardware commonly found in home and small business environments. Instructors are encouraged to facilitate field trips and outside-the-classroom learning experiences. Labs include PC installation, Internet connectivity, wireless connectivity, file and print sharing and installation of game consoles, scanners, and cameras.

Schools offering course: 8, 9

COMPUTER NETWORKING HARDWARE OPERATIONS II

COMPUTER NETWORKING HARDWARE OPERATIONS II – Dual Enrolled

Grade: 11; Semester II
Credit: 0.5
Weighted: Yes (1.0W)
Dual Enrolled: Yes
Prerequisite: Computer Networking Hardware Operations I

- **Career Cluster:** Information Technology
- **CTE Sequences:** The course above and ALL of the following courses – Computer Networking Hardware Operations I, III, IV

This course prepares students for jobs as network technicians and helps them develop additional skills required for computer technicians and help desk technicians. It provides a basic overview of routing and remote access, addressing, and security. It also familiarizes students with servers that provide email services, Web space, and authenticated access. Students learn about the soft skills required for help desk and customer service positions, and the final chapter helps them prepare for the CCENT certification exam. Network monitoring and basic troubleshooting are taught in context.

Schools offering course: 8, 9

COMPUTER NETWORKING HARDWARE OPERATIONS III

COMPUTER NETWORKING HARDWARE OPERATIONS III – Dual Enrolled

Grade: 12; Semester I
Credit: 0.5
Weighted: Yes (1.0W)
Dual Enrolled: Yes
Prerequisite: Computer Networking Hardware Operations II

- **Career Cluster:** Information Technology
- **CTE Sequences:** The course above and ALL of the following courses – Computer Networking Hardware Operations I, II, IV

This course familiarizes students with the equipment applications and protocols installed in enterprise networks, with a focus on switched networks, IP Telephone requirements, and security. It also introduces advanced routing protocols such as Enhance Interior Gateway Routing Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol. Hands-on exercises, including configuration, installation, and troubleshooting, reinforce student learning.

Schools offering course: 8, 9

COMPUTER NETWORKING HARDWARE OPERATIONS IV

COMPUTER NETWORKING HARDWARE OPERATIONS IV – Dual Enrolled

Grade: 12; Semester II
Credit: 0.5
Weighted: Yes (1.0W)
Dual Enrolled: Yes
Prerequisite: Computer Networking Hardware Operations III

- **Career Cluster:** Information Technology
A business management unit focuses on managing feet, developing expertise in providing facials, manicures, and coloring hair. In addition, students learn to care for skin, hands, and coloring hair. They also develop artistic skills with artificial to permanent waves, relaxing, soft-curling, lightening, and pedicures. A business management unit focuses on managing the salon. Competency completions prepare the student for the Virginia state-licensing exam. Students are trained in safety and chemical processes related to permanent waves, relaxing, soft-curling, lightening, and pedicure procedures. 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 or classroom, using mannequins for manipulative skill practice. The first-year course emphasizes personal safety, professionalism, and sanitation of equipment and facilities. Students develop skills in shampooing and conditioning hair as well as styling and cutting hair. They also receive an introduction to manicure and pedicure procedures.

Schools offering course: 5, 6, 12

COSMETOLOGY I
Grade: 11 Credit: 3
Weighted: No Dual Enrolled: No
Prerequisite: ADMISSION TO ALL STUDENTS BY APPLICATION

• Career Cluster: Human Services
• Prepares for Licensure Exam
• CTE Sequences: The course above and the following course – Cosmetology I

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 or classroom, using mannequins for manipulative skill practice. The first-year course emphasizes personal safety, professionalism, and sanitation of equipment and facilities. Students develop skills in shampooing and conditioning hair as well as styling and cutting hair. They also receive an introduction to manicure and pedicure procedures.

Schools offering course: 5, 6, 12

COSMETOLOGY II
Grade: 12 Credit: 3
Weighted: No Dual Enrolled: No
Prerequisite: Cosmetology I

• Career Cluster: Human Services
• Students are expected to complete all state requirements and take the State Licensure exam
• CTE Sequences: The course above and the following course – Cosmetology I

In this advanced course, students build on their theoretical foundation in cosmetology and increase proficiency in hair cutting and styling on live models, with attention to professionalism, client consultation, safety, and sanitation. Students are trained in safety and chemical processes related to permanent waves, relaxing, soft-curling, lightening, and coloring hair. They also develop artistic skills with artificial hair. In addition, students learn to care for skin, hands, and feet, developing expertise in providing facials, manicures, and pedicures. A business management unit focuses on managing the salon. Competency completions prepare the student for the Virginia state-licensing exam.

Schools offering course: 5, 6, 12

HEATING, VENTILATION, AIR CONDITIONING, AND REFRIGERATION I
Grades: 11-12 Credits: 2
Weighted: Yes (0.5W) Dual Enrolled: Yes
Prerequisite: None

• Career Cluster: Construction
• CTE Sequences: The course above and the following course: Heating, Ventilation, Air Conditioning, and Refrigeration II

In this first course of the instructional program, students are taught to professionally install, repair, and maintain the operating conditions of heating, air-conditioning, and refrigeration systems. Students work with piping and tubing, study the principles of heat and electricity, install duct systems, and comply with EPA regulation.

School offering course: 10

HEATING, VENTILATION, AIR CONDITIONING, AND REFRIGERATION II
Grades: 11-12 Credits: 2
Weighted: Yes (0.5W) Dual Enrolled: Yes
Prerequisite: None

• Career Cluster: Construction
• CTE Sequences: The course above and the following course: Heating, Ventilation, Air Conditioning, and Refrigeration I

This instructional program teaches students to professionally install, repair, and maintain the operating conditions of heating and cooling systems. Students also explore emerging technologies, EPA regulations and conservation techniques, and R-410A systems.

School offering course: 10
TELEVISION PRODUCTION I
Grades: 10-11 Credit: 1
Prerequisite: ADMISSION TO ALL STUDENTS BY APPLICATION

• Career Cluster: Arts, A/V Technology & Communication
• CTE Sequences: The course above and any one of the following courses – Television Production II; Television Production III

Students will learn how to think and work like media producers by engaging in hands-on production projects. Students will also gain proficiency with the media production process while using industry-standard tools. They will explore jobs and careers in the dynamic and growing industry of television and media production and understand the impact of media and its function as entertainment, persuasion, information, and instruction.

School offering course: 7, 11

TELEVISION PRODUCTION II
Grades: 11-12 Credit: 2
Prerequisite: Television Production I

• Career Cluster: Arts, A/V Technology & Communication
• CTE Sequences: The course above and any one of the following courses – Television Production I; Television Production III

Students will become media producers as they take real-world projects from conception to production. They will continue to develop and master skills that are essential to the industry as they function in various professional roles. In addition, the students will gain both breadth and depth in their abilities with the sophisticated tools and equipment involved in professional media production. They will develop an increased understanding of post-secondary and career pathways and will develop plans and portfolios to help them achieve their goals.

School offering course: 7

TELEVISION PRODUCTION III – PRACTICUM
Grade: 12 Credit: 1
Weighted: No Dual Enrolled: No
Prerequisite: Television Production II

• Career Cluster: Arts, A/V Technology & Communication
• CTE Sequences: The course above and any one of the following courses – Television Production I; Television Production II

Students will demonstrate mastery of media production knowledge and skills. They will function as media producers by creating original productions as they develop and market programs for target audiences. Students will assemble a professional digital portfolio to advance post-secondary and career goals. They will investigate the dynamic media production industry and identify opportunities for real-world experiences (e.g. internship, job shadowing). Students will research post-secondary opportunities and formulate strategies for both college and career success.

School offering course: 7

WELDING I
Grades: 10-12 Credit: 2
Weighted: Yes (0.5W) Dual Enrolled: Yes
Prerequisite: None

• Career Cluster: Manufacturing
• CTE Sequences: The course above and any one of the following courses – Welding II; Welding III

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. Professional welders are in high demand and can earn accordingly. Students in Welding I are taught to use manual welding, cutting, and electric arc welding processes to fabricate and weld metal parts according to diagrams, blueprints, and specifications. Students will also receive safety-related practices and techniques, including the OSHA 10 card.

School offering course: 4

WELDING II
Grades: 11-12 Credit: 2
Weighted: Yes (0.5W) Dual Enrolled: Yes
Prerequisite: Welding I

• Career Cluster: Manufacturing
• CTE Sequences: The course above and any one of the following courses – Welding I; Welding III

This course teaches advanced welding students to fine-tune their craft and to perform V-groove welds in all positions, using multiple welding processes. Students prepare to pass relevant industry certifications. 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.

School offering course: 4

WELDING III
Grades: 11-12 Credit: 2
Weighted: Yes (0.5W) Dual Enrolled: Yes
Prerequisite: Welding II

• Career Cluster: Manufacturing
• CTE Sequences: The course above and any one of the following courses – Welding I; Welding II

This capstone course in welding teaches the industry’s emerging technologies, including exotic metals and their applications, and how to master gas tungsten arc welding (GTAW) and shielded metal arc welding (SMAW) pipe tests. Students are prepared to earn relevant industry credentials toward employment in production or manufacturing facilities.

School offering course: 4
Graduation requirements are located in the “General Information” section.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Approved Substitutes(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 9</td>
<td>• Pre-Advanced Placement English 9</td>
</tr>
<tr>
<td></td>
<td>• IGCSE English 9</td>
</tr>
<tr>
<td></td>
<td>• Pre-IB Diploma Programme English 9</td>
</tr>
<tr>
<td>English 10</td>
<td>• Pre-Advanced Placement English 10</td>
</tr>
<tr>
<td></td>
<td>• IGSCE English 10</td>
</tr>
<tr>
<td></td>
<td>• Pre-IB Diploma Programme English 10</td>
</tr>
<tr>
<td>English 11 (can provide 2 verified credits,</td>
<td>• Advanced Placement English Language and Composition – V, W</td>
</tr>
<tr>
<td>one for reading and one for writing)</td>
<td>• AICE English Language and Composition – V, W</td>
</tr>
<tr>
<td></td>
<td>• IB English I – V, W</td>
</tr>
<tr>
<td>English 12</td>
<td>• Advanced Placement Literature and Composition – W</td>
</tr>
<tr>
<td></td>
<td>• AICE English Literature – W</td>
</tr>
<tr>
<td></td>
<td>• IB English II – W</td>
</tr>
<tr>
<td></td>
<td>• Dual Enrollment English 12 (NVCC Eng 151-152)</td>
</tr>
</tbody>
</table>

Courses indicating a “V” have an end-of-course state SOL test and offer the **possibility** of a verified unit of credit. Courses indicating a “W” offer the **possibility** of weighted credit if the student successfully completes the course with a grade of “C” or higher and fulfills all required external assessments.
ENGLISH 9
Grade: 9 Credit: 1
Prerequisite: Successful completion of Grade 8
Students analyze the elements of short story, drama, poetry, autobiography, biography, mythology, epic, and nonfiction, and develop an independent reading program. They compose narrative, literary, expository, and technical writings. Each unit of literary study involves increasingly complex texts, with an emphasis placed on the development of written and oral communication. Grammar instruction includes sentence formation, usage, and mechanics; and students develop vocabulary skills through a variety of methods. The skills of using the information management process are used to create a research paper.
Schools offering course: All

ENGLISH 10
Grade: 10 Credit: 1
Prerequisite: Successful completion of English 9
Students analyze novels, poetry, essays, editorials, science fiction, and non-fiction from a variety of eras and cultures. Students also develop vocabulary and oral communication skills, use the information management process, and study grammar. Grammar instruction emphasizes sentence formation, usage, and mechanics. Compositions in the narrative, expository, analytical, technical, and persuasive modes reinforce skills from the grammar and literature studies. Students develop reading strategies in increasingly complex texts as well as review and expand research skills through completion of a documented paper. Students develop an independent reading program.
Schools offering course: All

ENGLISH 11
Grade: 11 Credit: 1
Prerequisite: Successful completion of English 10
Students critically analyze and evaluate relationships among American literature, history, and culture. Analysis of literary themes, movements and genres, vocabulary development, application of the information management process, the study of grammar, and oral communication skills are incorporated into this course. Narrative, analytical, expository, technical, and persuasive compositions reinforce grammar and literature skills. Students develop an independent reading program. Students refine research skills by completing a documented paper addressing a question, problem or issue.
Schools offering course: All

ENGLISH 12
Grade: 12 Credit: 1
Prerequisite: Successful completion of English 11
Students critically analyze and evaluate relationships among British literature, history and other cultures. Analysis of literary themes, movements and genres, vocabulary development, application of the information management process, the study of grammar, and oral communication skills are incorporated into this course. Through writing narrative, analytical, expository, technical, and persuasive compositions, students reinforce skills studied in the grammar and literature studies. Students develop an independent reading program. Students practice independent research skills through the completion of documented papers.
Schools offering course: All

PRE-AP ENGLISH 9
Grade: 9 Credit: 1
Prerequisite: Successful completion of Grade 8 and interest in advanced study
Students meet all objectives of English 9 in this accelerated program by developing critical thinking skills through extensive reading and writing in a variety of genres and forms. Emphasis is placed on developing an awareness of the connection between life and literature. Grammar is studied in conjunction with both reading and writing; vocabulary skills are developed through an intense study of Greek and Latin roots; oral skills are practiced through speeches, oral presentations, and group work skills are expanded. This course is an integral component of the multidisciplinary program of studies established for 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). For additional information, refer to the description of these programs in the specialty program section.
Schools offering course: 3, 6, 7, 8, 9, 10, 11, 12

PRE-AP ENGLISH 10
Grade: 10 Credit: 1
Prerequisite: Successful completion of Pre-AP 9 or a grade of B or better in English 9, student interest in advanced study, and teacher recommendation
Students participate in an accelerated program while meeting all the objectives of grade 10. They critically analyze a wide variety of genres and forms through extensive readings and writings which are focused on developing interpretive skills while increasing complexity and sophistication. Grammar and vocabulary studies support the reading and writing levels. Oral and research skills are expanded to develop articulation and effectiveness. This course is an integral component of the multidisciplinary program of studies established for 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). For additional information, refer to the description of these programs in the specialty program section.
Schools offering course: 3, 6, 7, 8, 9, 10, 11, 12

ADVANCED PLACEMENT ENGLISH LANGUAGE AND COMPOSITION
Grade: 11 Credit: 1
Prerequisite: Successful completion of Pre-AP English 10 or a grade of B or better in English 10, student interest in advanced study, and teacher recommendation
This course in advanced language, literature, and composition is designed for the student who needs and desires the challenge of an advanced English class. Students are expected to master all English 11 performance indicators of the curriculum guide and

School Number Code:
1 – Brentsville
2 – Gar-Field
3 – Osbourn Park
4 – Potomac
5 – Stonewall
6 – Woodbridge
7 – Hylton
8 – Forest Park
9 – Battlefield
10 – Freedom
11 – Patriot
12 – Colgan
99 – VirtualSchool
complete a study of American literature. Critical, analytical, and creative writings concerning fiction and poetry are required. In May, the students take an exam to qualify for advanced standing in college and/or college credit. Successful completion of the eleventh grade research paper is a requirement for successful completion of this course.

**Schools offering course: 3, 4, 6, 7, 8, 9, 10, 11, 12**

**ADVANCED PLACEMENT LITERATURE AND COMPOSITION**

**Grade: 12**  
**Credit: 1**

**Prerequisite:** Successful completion of AP English 11 or English 11 with grade of B or better, student interest in advanced study, and teacher recommendation

Advanced Placement English Literature and Composition is a senior-level course designed for the student who needs and desires the challenge of an advanced English class. Students are expected to master all English 12 performance indicators of the curriculum guide and complete a study of world literature. Critical, analytical, and creative writing will be required. Specific problems that occur in students’ work will generate the study of grammar and advanced composition skills. In May, the students take an exam to qualify for advanced standing in college and/or college credit.

**Schools offering course: 3, 4, 6, 7, 8, 9, 10, 11, 12**

**IGCSE ENGLISH 9**

**Grade: 9**  
**Credit: 1**

**Prerequisite:** Successful completion of Grade 8 with a grade of B or better and interest in advanced study

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.

**Schools offering course: 1, 4**

**IGCSE ENGLISH 10**

**Grade: 10**  
**Credit: 1**

**Prerequisite:** Successful completion of IGCSE English 9 or English 9 with a grade of B or better, student interest in advanced study, and teacher recommendation

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.

**Schools offering course: 1, 4**

**AICE ENGLISH LANGUAGE AND COMPOSITION (AS)**

**Grade: 11**  
**Credit: 1**

**Prerequisite:** Successful completion of IGCSE English 10 or English 10 with a grade of B or better, student interest in advanced study, and teacher recommendation

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. Successful completion of the eleventh grade research paper is a requirement for successful completion of this course.

**Schools offering course: 1, 4**

**AICE ENGLISH LITERATURE (AS)**

**Grade: 12**  
**Credit: 1**

**Prerequisite:** Successful completion of AICE English Language and Composition or English 11 with a grade of B or better, student interest in advanced study, and teacher recommendation

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.

**Schools offering course: 1, 4**

**AICE ENGLISH LITERATURE A LEVEL**

**Grade: 12**  
**Credit: 1**

**Prerequisites:** Successful completion of AICE English Language and Composition with a B or better, student interest in advanced study, and teacher recommendations

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.

**Schools offering course: 1, 4**
INTERNATIONAL BACCALAUREATE COURSE SEQUENCE

PRE-IB DIPLOMA PROGRAMME ENGLISH 9
Grade: 9 Credit: 1
Prerequisite: Successful completion of Grade 8 and interest in advanced study

Pre-IBDP English 9 prepares students planning to enroll in the International Baccalaureate 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.

Schools offering course: 2, 5

PRE-IB DIPLOMA PROGRAMME ENGLISH 10
Grade: 10 Credit: 1
Prerequisite: Successful completion of Pre-IBDP English 9 or a grade of B or better in English 9, student interest in advanced study, and teacher recommendation

Pre-IBDP English 10 prepares students planning to enroll in International Baccalaureate 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.

Schools offering course: 2, 5

IB ENGLISH I LITERATURE HIGHER LEVEL
Grade: 11 Credit: 1
Prerequisite: Successful completion of Pre-IBDP English 10 or a grade of B or better in English 10, student interest in advanced study, and teacher recommendation

While meeting all the objectives for English 11, students follow an accelerated, internationally based curriculum. IB English I 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 International Baccalaureate 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 II to meet the requirements for a Higher Level International Baccalaureate Diploma or Certificate. Successful completion of the eleventh grade research paper is a requirement for successful completion of this course.

Schools offering course: 2, 5

IB ENGLISH II – Standard Level
Grade: 12 Credit: 1
Prerequisite: Successful completion of IB English I or grade of B or better in English 11, student interest in advanced study, and teacher recommendation

While completing all the requirements of English 12, IB English II, Standard Level, students work at a more accelerated pace to learn 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 a International Baccalaureate Diploma or Certificate and may qualify for advanced standing in college and/or college credit.

Schools offering course: 2, 5

PRE-IB DIPLOMA PROGRAMME INTRODUCTION TO SPEECH COMMUNICATION
Grades: 10-12 Credit: 1
Prerequisite: None

The Pre-IBDP Introduction to Speech Communication is a sequential program designed to continue the development of each student as a speaker. Students develop their speaking skills, as well as learn the dynamics of speech and the categories of speech (forensics) competition. Students participate in the creative processes of oral interpretation. This course will incorporate the MYP global contexts, strategies, and assessments.

Schools offering course: 2, 5, 7
ENGLISH ELECTIVE COURSES

CREATIVE WRITING I
Grades: 11-12 and 10 with Permission Credit: 1
Prerequisite: Successful mastery of Grade 9 and Grade 10 Language Arts objectives
Students write and revise extensively to develop voice and style as experiment with a variety of subjects, genres, techniques, purposes, and audiences producing polished writing in fiction, non-fiction, poetry, and drama. Students will submit their work for publication in the school’s literary magazine.
Schools offering course: All

CREATIVE WRITING II
Grades: 11-12 Credit: 1
Prerequisite: Successful completion of Creative Writing I
Students who have completed the first level of Creative Writing refine their skills in writing and revising to further develop their style. They examine the composing processes of professional writers and participate in the process of producing a literary magazine.
Schools offering course: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12

FILM STUDIES
Grades: 9-12 Credit: 1
Prerequisite: None
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.
School offering course: 2, 3, 4, 5, 6, 7, 8, 9, 11

JOURNALISM I
Grades: 9-12 Credit: 1
Prerequisite: Successful completion of previous English courses and teacher recommendation
To develop basic skills in journalism, students study and write news, feature, sports, editorial, and other forms of journalistic articles. They study interviewing, various types of research, legal rights and responsibilities, page design, photography, desktop publishing and advertising. They produce articles for publication in the mass media.
Schools offering course: All

JOURNALISM II
Grades: 10-12 Credit: 1
Prerequisite: Successful completion of Journalism I and journalism teacher recommendation
Students produce a news publication. Working cooperatively, students apply skills and techniques learned in Journalism I.
Schools offering course: All

JOURNALISM III
Grades: 11-12 Credit: 1
Prerequisite: Journalism II
Students learn editorial leadership, develop a sense of professionalism, understand the role of the newspaper in our society, and develop more fully as productive members of the publication staff. Students serve as leaders, mentors, and peer tutors. They may also represent the newspaper staff in the community by writing for the professional press in stringer or internship positions, and/or serve as tutors in neighboring middle schools.
Schools offering course: 1, 2, 3, 4, 7, 8, 9, 10, 11, 12

PHOTO JOURNALISM – YEARBOOK
Grades: 9-12 Credit: 1
Prerequisite: Yearbook staff assignment, Journalism I
Students learn various aspects of publication while assisting in the production of the high school yearbook. Students participate in each step of production from planning the ladder diagram to distribution of the completed publication. This course may be taken more than once for credit.
Schools offering course: All

AN INTRODUCTION TO SPEECH COMMUNICATION
Grades: 9-12 Credit: 1
Prerequisite: None
Students develop their speaking skills, as well as learn the dynamics of speech and the categories of speech (forensics) competition. Students participate in the creative processes of oral interpretation.
Schools offering course: All except 6, 8

ENRICHMENT IN SPEECH COMMUNICATION
Grades: 10-12 Credit: 1
Prerequisite: An Introduction to Speech Communication
Students reinforce, refine and expand the speaking skills learned in An Introduction to Speech Communication. They further develop their abilities to compete in intra-scholastic contests in Forensics, Student Congress, Lincoln Douglas, and Policy Debate.
Schools offering course: 2, 3, 4, 5, 7, 9, 10, 12

GLOBAL CONNECTIONS IN MULTICULTURAL LITERATURE
Grades: 11-12 Credit: 1
Prerequisite: Teacher recommendation
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.
Schools offering course: 7, 10
PSAT – SAT VERBAL-MATH PREPARATION

CLASS

Grades: 10-12
Prerequisite: English 9, Algebra 1 and Geometry

Students study and practice the skills necessary for improving scores on the PSAT/SAT tests.

School offering course: 4, 7

READING IMPROVEMENT

Grades: 9-12
Prerequisite: Students reading two to four years below grade level

Students develop and reinforce basic reading and study skills. They learn techniques applicable to content reading and they develop word analysis and comprehension skills.

Schools offering course: All except school 9

ENGLISH 9 SEMINAR

Grade: 9
Prerequisite: Assigned based on SOL Language Arts scores

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.

Schools offering course: 1, 2, 3, 4, 7, 10

Creative Writing Electives for Fine and Performing Arts Center

Genre Focus is required for juniors in Creative Writing at the Center for the Fine & Performing Arts. Students must select two of the following genre: short story, nonfiction, poetry, dramatic literature, and film. Elective: Genre Focus is an elective for all Concentration Areas of CFPA or other Colgan HS students with special permission.

Creative Writing Exploration

Grade: 9
Prerequisite: None

Students examine and employ the writing process, completing writing exercises in a variety of genres. Students explore techniques to generate writing, develop fluidity in writing, gain appreciation for the community of writers, and learn to collaborate with other writers. Students keep a writer’s journal and begin to develop portfolios.

Schools offering course: 6, 12

Short Story I – Genre Focus: Short Story I

Grades: 11-12
Prerequisite: Successful completion of Creative Writing I

Students review elements of story, enhance characterization and dialogue, experiment with point of view and voice, and locate markets for their writing. They explore composing processes of professional writers and extend their study of contemporary fiction writers. Students serve as a community resource for creative writing with younger students. They work with magazine production and develop a fiction portfolio.

Schools offering course: 6, 12

Nonfiction I – Genre Focus: Nonfiction I

Grades: 11-12
Prerequisite: Successful completion of Creative Writing I

Students experiment with different types of creative nonfiction, including essays, narratives, feature articles, reviews, editorials, memoirs, nature and travel writing, and family stories. They explore the composing processes of professional writers and extend their study of contemporary authors in creative nonfiction. Students locate markets for their writing and submit at least one work per genre to a professional publication. Students serve as a community resource for creative writing with younger students and will work with magazine production.

Schools offering course: 6, 12

Poetry I – Genre Focus: Poetry I

Grades: 11-12
Prerequisite: Successful completion of Creative Writing I

Students experiment with traditional and free verse poetry. They enhance their use of sensory imagery and figurative language, and explore the composing processes of professional writers and extend their study of contemporary poets. Students locate markets for their writing and submit at least one work per genre to a professional publication. They also serve as a community resource for creative writing with younger students. Students develop a poetry portfolio, and students work with magazine production.

Schools offering course: 6, 12

Script I – Genre Focus: Script I

Grades: 11-12
Prerequisite: Successful completion of Creative Writing I

Students write scripts to enhance their ability to write realistic dialogue and move action through dialogue. They explore the composing processes of professional writers and view classic and contemporary plays, films, and broadcasts. Students locate markets for their writing and submit at least one work to a professional publication. They also develop a portfolio of scripts and serve as a community resource for younger creative writing students. Students work with magazine production and perform student-written scripts.

Schools offering course: 6, 12

Advanced Genre Focus is an elective with first priority given to CFPA creative writing students who have completed Creative Writing I and specific Genre Focus Courses I. Students from all Concentration Areas of CFPA or other Colgan HS students may elect the courses with special permission if they have completed the prerequisite genre study.
SCRIPT IIIB – ADVANCED GENRE FOCUS: SCRIPTWRITING FOR THE SCREEN

Grades: 11-12  Credit: 0.5
Prerequisite: Successful completion of Creative Writing I and Script I/ Genre Focus: Script I

Students write for the screen and refine skills by further reviewing dramatic structure, use of setting and the stage set, dialogue, moving action through dialogue, and stage direction. Students intensively study the composing process and works of a single professional writer in the given genre as they expand a script portfolio and locate markets for their writing, submitting at least one work to a professional publication.

Schools offering course: 6, 12

CREATIVE WRITING SEMINAR

Grades: 11-12  Credit: 0.5
Prerequisite: Creative Writing I

Students focus on the unique characteristics of specialized genre in literature, thus providing them an opportunity to workshop with other students who have similar writing interests and preferences. The seminar requires students to read exemplary models from each genre specialization.

Schools offering course: 6, 12

CREATIVE WRITING INDEPENDENT STUDY

Grade: 12  Credit: 0.5

This course is determined on a case-by-case basis dependent on student interest and ability.

Schools offering course: 6, 12
ENGLISH LEARNER (EL) PROGRAMS

Graduation requirements are located in the “General Information” section.

**ESL COURSES**

**ESL I CONCEPTS OF LANGUAGE ARTS**
Grades: 9-11
Prerequisite: None

This course is designed for students with very little to no prior knowledge of English. It develops skills in listening comprehension, speaking, reading, and writing of English while examining various literary genres. Students study academic vocabulary, grammar, and language structures through an integrated study of conceptual understandings from social studies, math, and science, texts. Students at the beginner level normally enroll in the following three courses, Concepts of Language Arts; Concepts of Science; and Concepts of Social Studies.

Schools offering course: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

**ESL II LANGUAGE ARTS**
Grades: 9-12
Prerequisite: ESL I or equivalent

Students learn English with a focus on literacy skills and content-specific language aligned with the knowledge and skills of English 9 and their academic courses. Students expand academic vocabulary, examine various literary genres, and practice various forms of writing, including notetaking, summarizing, graphic organizers, book reports, and autobiographical accounts. The ability to read and respond in English with increased fluency is emphasized. ESL II is a class for ELs at English proficiency Levels 1 and/or 2 who may be co-enrolled in English 9.

Schools offering course: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

**ESL III LANGUAGE ARTS**
Grades: 9-12
Prerequisite: ESL II or equivalent

Students continue to gain proficiency in the English skills of listening, speaking, reading, and writing with alignment to the content knowledge of an English 9 or 10 class. Students develop the ability to analyze and interpret nonfiction and fiction texts while continuing to learn complex English language structures. Students compose a variety of written responses for different purposes, including multi-paragraph essays and a variety of genres. This course is for ELs at Levels 2 and/or 3 who may be co-enrolled in English 9 or 10.

Schools offering course: All except school 2

**ESL IV LANGUAGE ARTS**
Grades: 9-12
Prerequisite: ESL III or equivalent

Students refine all English language skills. Emphasis is on academic vocabulary for specific purposes and content-based instruction (vocabulary, grammar, and academic language) including preparation and support of the standard curriculum for English 10 or 11 for a specific content. This course is for ELLs at Levels 3 and/or Level 4 who may be co-enrolled in English 10 or 11.

Schools offering course: All except school 2

**ESL IV ADVANCED READING AND WRITING**
Grades: 10-12
Prerequisite: ESL III, IV or equivalent

This is an advanced course for students at English proficiency Levels 4 or 5, who need support in refining reading, writing, research, and linguistic skills. While focusing on a wide variety of genres, styles, contexts, periods and cultures, students increase academic literacies and text comprehension.

Schools offering course: All except school 2 & 6

**ESL I CONCEPTS OF MATH**
Grades: 9-10
Prerequisite: None

This course is designed to present and reinforce math skills in a condensed format using manipulatives and materials appropriate to develop academic literacy in math so students will know how to think, read, write, and talk like a mathematician. Instruction includes number concepts, estimation, problem solving, operations, measurement, decimals and fractions. Target participants are students who have limited or no previous academic math experience.

Schools offering course: 3, 5, 7, 8, 9, 11

**ESL I CONCEPTS OF SOCIAL STUDIES**
Grades: 9-11
Prerequisite: None

Students develop academic literacy to know how to think, read, write, and talk like a historian. Students learn concepts in civics, economics, and geography within the context of U.S. history. Students will read authentic non-fiction texts and share understandings both orally and in written forms which include long answer and paragraph responses.

Schools offering course: 6, 9, 12

**ESL I CONCEPTS OF SCIENCE**
Grades: 9-11
Prerequisite: None

This course prepares students for Biology or another science course while developing academic literacy to know how to think, read, write, and talk like a scientist. The class covers the major concepts from life science and physical science courses so students will understand how the big ideas are organized. It includes nonfiction reading and scientific writing.

Schools offering course: 6, 9, 12

|-------------------|---------------|--------------|----------------|-----------|-------------|--------------|---------|...............|...............|-----------|------------|----------|

87
ESOL SHELTERED COURSES

ESOL Sheltered Content courses are sections of courses that are taught by certified core content teachers who use an array of strategies to extend academic language development or co-taught with an ESOL teacher or instructed by a content teacher dually endorsed in ESL or by an ESL-endorsed teacher dually endorsed in content.

Course numbers for Sheltered Classes are the same as for those of non-Sheltered academic courses and carry a suffix of 79 for scheduling purposes.

Sheltered Courses Offer 1 Credit

SHELTERED ENGLISH 9
Schools offering course: 2, 3, 4, 6, 7, 8, 9, 10, 11, 12

SHELTERED ENGLISH 10
Schools offering course: 2, 3, 4, 5, 6, 7, 9, 10, 11, 12

SHELTERED ENGLISH 11
Schools offering course: 2, 3, 4, 5, 6, 7, 9, 10, 11, 12

SHELTERED EARTH SCIENCE
Schools offering course: 2, 3, 4, 6, 7, 9, 10, 11, 12

SHELTERED BIOLOGY
Schools offering course: 2, 3, 4, 6, 7, 8, 9, 10, 12

SHELTERED ASTRONOMY
Schools offering course: 2

SHELTERED CHEMISTRY
Schools offering course: 2

SHELTERED GEOLOGY
Schools offering course: 7

SHELTERED WORLD HISTORY I
Schools offering course: 2, 3, 4, 5, 6, 8, 9, 10, 11

SHELTERED WORLD HISTORY II
Schools offering course: 2, 10

SHELTERED US/VA HISTORY
Schools offering course: 2, 3, 4, 5, 7, 9, 10, 11

SHELTERED GOVERNMENT
Schools offering course: 2, 5, 7, 9, 11

SHELTERED ALGEBRA I, PART 1
Schools offering course: 2, 3, 4, 5, 6, 7, 9, 10

SHELTERED ALGEBRA I, PART 2
Schools offering course: 3, 5, 6, 9, 10

SHELTERED ALGEBRA I
Schools offering course: 2, 3, 4, 6, 9, 10

SHELTERED GEOMETRY
Schools offering course: 2, 3, 4, 6, 9, 10

SHELTERED COMPUTER APPLICATIONS – For ELs at Level 1 only
Schools offering course: 5, 8, 10

SHELTERED HPE 1, HPE 2 – For ELs at Level 1 only
School offering course: 10

ESOL ADJUNCT COURSES

Adjunct courses are only recommended for ELs needing additional support to be successful in a specific core area course. Normally a student enrolls in either ESL II-IV or an Adjunct course.

“ESOL adjunct classes, are taught by an ESOL teacher to provide reinforcement of the content of a core academic class. Emphasis is on applying the WIDA English Language Development Standards to course-specific content knowledge and skills and on helping to prepare students for SOL tests, if applicable.

ESOL ADJUNCT ENGLISH 9
Schools offering course at: 2, 3, 4, 7, 9
Co-requisite: Enrollment in English 9

ESOL ADJUNCT ENGLISH 10
Schools offering course: 2, 3, 7, 9

ESOL ADJUNCT ENGLISH 11
Grades: 9-12
Credit: 1
Co-requisite: Enrollment in English 11

Schools offering course: 2, 3, 5, 7, 9, 10

ESOL ADJUNCT GEOMETRY
Grades: 9-12
Credit: 1
Co-requisite: Enrollment in Geometry

Based on the standard curriculum for Geometry, this course incorporates EL methodology to prepare students for success in the co-enrolled Geometry course. Course-specific vocabulary and language structures are emphasized while content objectives are reinforced.

School offering course: 2, 3, 9

ESOL ADJUNCT ALGEBRA I
Grades: 9-12
Credit: 1 elective
Co-requisite: Enrollment in Geometry

EL students enrolled in the math class listed above may be offered this class to support and reinforce all content, vocabulary, and SOL objectives of their math course. Taught by the ESOL teacher, this course serves as an elective, not a core credit.

School Offering course: 2, 9
<table>
<thead>
<tr>
<th><strong>SCIENCE ADJUNCT COURSES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESOL ADJUNCT EARTH SCIENCE</strong></td>
</tr>
<tr>
<td>Schools offering course: 2, 3, 4, 7, 9, 10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ESOL ADJUNCT BIOLOGY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades: 9-12 Credit: 1</td>
</tr>
<tr>
<td>Co-requisite: Enrollment in Science course</td>
</tr>
<tr>
<td>Based on the standard curriculum for science, this course incorporates EL methodology to prepare students for success in the co-enrolled Biology course. Course-specific vocabulary and language structures are emphasized while content objectives are reinforced.</td>
</tr>
<tr>
<td>Schools offering course: 2, 3, 4, 7, 9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>SOCIAL STUDIES ADJUNCT COURSES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESOL ADJUNCT WORLD HISTORY &amp; GEOGRAPHY to 1500</strong></td>
</tr>
<tr>
<td>Credit: 1</td>
</tr>
<tr>
<td>Co-requisite: Enrollment in World History and Geography to 1500</td>
</tr>
<tr>
<td>Based on the standard curriculum for World Civilization Part I, this course incorporates EL methodology to prepare students for success in the co-enrolled history course. Course-specific vocabulary and language structures are emphasized while content objectives are reinforced.</td>
</tr>
<tr>
<td>Schools offering course: 2, 4, 7, 9, 10</td>
</tr>
</tbody>
</table>

| **ESOL ADJUNCT WORLD HISTORY & GEOGRAPHY from 1500** |
| Credit: 1 |
| Co-requisite: Enrollment in World History & Geography from 1500 |
| Based on the standard curriculum for World Curriculum Part II, this course incorporates EL methodology to prepare students for success in the co-enrolled history course. Course-specific vocabulary and language structures are emphasized while content objectives are reinforced. |
| Schools offering course: 2, 3, 4, 7, 9, 10 |

<table>
<thead>
<tr>
<th><strong>ESOL ADJUNCT US &amp; VA HISTORY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit: 1</td>
</tr>
<tr>
<td>Co-requisite: Enrollment in US &amp; VA History</td>
</tr>
<tr>
<td>Based on the standard curriculum for U.S. and VA History, this course incorporates EL methodology to prepare students for success in the co-enrolled history course. Course-specific vocabulary and language structures are emphasized while content objectives are reinforced.</td>
</tr>
<tr>
<td>Schools offering course: 2, 3, 7</td>
</tr>
</tbody>
</table>
DANCE ELECTIVE COURSE SEQUENCE

DANCE I COMPANY
Grades: 9-12  Credit: 1 per year
Prerequisite: Acceptance to the Center for Fine and Performing Arts or recommendation from the Program Coordinator

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 also 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.

Schools offering course: 6, 12

DANCE II CORPS
Grades: 9-12  Credit: 1 per year
Prerequisite: Recommendation from the Program Coordinator

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 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.

Schools offering course: 6, 12

DANCE III ENSEMBLE
Grades: 9-12  Credit: 1 per year
Prerequisite: Recommendation from the Program Coordinator

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.

Schools offering course: 6, 12

DANCE IV ARTIST
Grades: 9-12  Credit: 1 per year
Prerequisite: Recommendation from the Program Coordinator

The content of “Artist” is to develop mastery of physical alignment and technical execution of dance patterns specific to each dance style studied. 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. Continued study of dance history will explore its impact and relevance to dance in the 21st century.

Schools offering course: 6, 12

DANCE COMPOSITION I – REPERTORY
Grades: 11-12  Credit: 0.5 each semester
Prerequisite: Students must audition

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.

Schools offering course: 6, 12

MUSIC ELECTIVE COURSE SEQUENCE

CLASS PIANO – GUITAR
CLASS PIANO
Grades: 9-12  Credit: 0.5 or 1
Prerequisite: None

Students who enroll in the guitar class or the piano class 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. Students enrolling in the guitar class will be required to furnish their own textbook and acoustic (non-electric) guitar. Piano students will be required to furnish their own text and headphones. Some limited performance opportunities may be provided in these classes. These courses may be taken more than once for credit.

Schools offering course: 2, 4, 5, 12 (4, 5, 11 guitar only), 6, 7, 10

INTERMEDIATE ORCHESTRA
ADVANCED ORCHESTRA
ORchestRA ENSEMBLE
CHAMBER ENSEMBLE
PRE-IB DIPLOMA PROGRAMME ORCHESTRA
Grades: 9-12  Credit: 1
Prerequisite: None, except for advanced orchestra

Students who enroll in the high school orchestra develop technical and ensemble skills through the study of related orchestral literature. Students receive fundamental training in the proper playing of a stringed instrument 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. The curriculum for Pre-IBDIP Orchestra will incorporate global contexts, strategies, and assessment criteria.

Schools offering course: All (IB is at schools 2, 5 only)
MUSIC THEORY
MUSIC THEORY I
Grades: 9-12  Credit: 1
Prerequisite: None
This course is designed to provide an overview of musical development through the different major stylistic periods with a study of all the major media involved. Students will study today’s music and how and why it has evolved to its current status. To the extent possible, a multicultural approach to music history will be emphasized. This class may only be taken one time for credit.
Schools offering course: 2, 4

MUSIC THEORY II
Grades: 9-12  Credit: 1
Prerequisite: None
This course is designed to provide an overview of musical development through the different major stylistic periods with a study of all the major media involved. Students will study today’s music and how and why it has evolved to its current status. To the extent possible, a multicultural approach to music history will be emphasized. This class may only be taken one time for credit.
Schools offering course: 2, 4

A SURVEY OF WORLD MUSIC
Grades: 9-12  Credit: 1
Prerequisite: None
This course is designed to expose students to musical styles and genres from around the world. Students will study recorded performances of international music as well as have the opportunity to hear guest performers, either in school or in the community. By comparing sounds students will be able to recognize differences and similarities between cultures. This course is a CISL elective. It may only be taken one time for credit.
School offering course: 7

CHOIR
VARSIY CHOIR
ADVANCED VARSITY CHOIR
CONCERT CHOIR
MEN’S CHOIR
TREBLE CHOIR
VOCAL ENSEMBLE
PRE-IB DIPLOMA PROGRAMME CHOIR
Grades: 9-12  Credit: 1
Prerequisite: Auditions expected for all choirs except Varsity and Men’s Choir
The high school choral program offers various courses to develop a student’s musical skills based on his/her level of ability. Classes in varsity choir, concert choir, men’s choir, treble

WOMEN’S CHORALE
Grades: 9-12  Credit: 1
Prerequisite: None
Women’s Chorale is for any female who has not had singing experience in high school. The classes target audience is incoming ninth graders, although upperclassmen are also eligible for enrollment. There is no audition.
Schools offering course: 5, 6, 7, 8, 11, 12

WOMEN’S CHAMBER CHOIR
Grades: 10-12  Credit: 1
Prerequisite: One year of high school choir
This class offers the opportunity for girls in Grades 10-12 to study and perform three and four-part music for the female voice at an advanced level. Basic vocal skills will be expanded and a high level of music reading will be encouraged. The class will be selected by audition only and is limited to 25-30 singers.
Schools offering course: 2, 4, 5, 6, 7, 8, 11, 12

CLASS VOICE I, II, III
Grades: 9-12  Credit: 1
Prerequisite: Voice II – successful completion of Voice I with a “B” or better or teacher recommendation
Voice III – successful completion of Voice II with a “B” or better, or teacher recommendation
Students enrolled in Class Voice I, II, and III 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.
School offering course: 12 (Class Voice I only is at school 8)
knowledge and skills acquired in Music Technology and refine these through the study of related literature. Some after-school rehearsals and performances are required of all students as an integral part of these courses. 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 a concert band class. 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. The curriculum for Pre-IBDP band will incorporate global contexts, strategies, and assessment criteria. Schools offering course: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12 (IB at schools 2, 5 only)

**MARCHING BAND**
Marching Band
Grades: 9-12 Credit: 0.5
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. This course may be taken more than once for credit.
Schools offering course: All

**MUSIC TECHNOLOGY**
Grades: 10-12 Credit: 1
Prerequisite: One High School music course, or permission of the instructor.
This course will offer students the opportunity to develop an understanding of music composition through the use of digital keyboard, MIDI technology, synthesizers, and music notation software. 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.
Schools offering course: 6, 12

**ADVANCED MUSIC TECHNOLOGY**
Grades: 11-12 Credit: 1
Prerequisite: Music Technology or permission of the instructor
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 both MIDI and audio production techniques. A final portfolio which demonstrates the student’s music development throughout the year will be required.
School offering Course: 6, 11

**IB MUSIC I (SL)**
Grade: 11 Credit: 1
Prerequisite: Two years of high school music
IB Music I is part of a two-year program resulting in an International Baccalaureate 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 high school performing organizations and take private lessons during the course.
School offering course: 2

**IB MUSIC II (HL)**
Grade: 12 Credit: 1
Prerequisite: Successful completion of IB Music I
IB Music II is part two of a two-year program resulting in an International Baccalaureate Certificate or Diploma. The course is a continuation of IB Music I, 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.
School offering course: 2
CAMBRIDGE MUSIC COURSE SEQUENCE

IGCSE MUSIC STUDIES
Grades: 10-12 Credit: 1
Prerequisite: Successful completion of one year of music studies at the high school level and teacher recommendation, Theory I, advanced music ensemble or private instruction

IGCSE Music Studies will provide students with a basis for an informed appreciation of music and a foundation for further study of music 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 ICE certificate.

School offering course: 4

AICE MUSIC (AS/A LEVEL)
Grades: 11-12 Credit: 1
Prerequisite: Successful completion of IGCSE Music Studies and/or teacher recommendation, advanced music ensemble or private instruction

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 by 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 CIE exam in June.

School offering course: 4

THEATRE ELECTIVE COURSE SEQUENCE

THEATRE I: INTRODUCTION TO THEATRE
Grade: 9-12 Credit: 1
Prerequisite: None

Students survey the theatre arts. They 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 that enable students to determine personal areas of interest.

Schools offering course: All

THEATRE II: AN EXPLORATION OF PERFORMANCE IN THEATRE
Grades: 10-12 Credit: 1
Prerequisite: Theatre I: Introduction to Theatre and teacher recommendation

Students have advanced opportunities for reinforcement, refinement and expansion of the acting skills learned in Theatre I: Introduction to Theatre

Schools offering course: All

TECHNICAL THEATRE – PRODUCTION
Grades: 10-12 Credit: 1
Prerequisite: None, or with teacher recommendation

Students study the design, scenery, lighting, makeup, sound, costumes, and public relations necessary to ensure successful theater productions. This course may be taken more than once for credit.

Schools offering course: All

THEATRE III
Grades: 11-12 Credit: 1
Prerequisite: Theatre I and II and teacher recommendation

Students will extensively examine dramatic literature, stage and scene design, costume design, theatre history, and performance.

Schools offering course: 3, 6, 11, 12

THEATRE IV
Grades: 12 Credit: 1
Prerequisite: Theatre I, II, III, and teacher recommendation

Students will refine the concepts learned and skills acquired in Theatre III and apply them to writing, performing, and directing while showcasing their collaborative and analytical skills.

Schools offering course: 11

INTERNATIONAL BACCALAUREATE THEATRE COURSE SEQUENCE

IB THEATRE ARTS (SL)
Grades: 11-12 Credit: 1
Prerequisite: Successful completion of Theatre I and/or Exploration of Performance in Theatre and an audition

IB Theater 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.

School offering course: 2
**THEATRE ELECTIVES FOR FINE AND PERFORMING ARTS CENTER**

**ACTING SHAKESPEARE**

**Grade:** 12  
**Credit:** 0.5  
**Prerequisite:** Theatre I

Students learn the rigors of classical acting and the brilliance of Shakespeare’s theatre, which evolved out of the English Renaissance, and continues to appeal to audiences in our time.  
**Schools offering course:** 6, 12

**MUSICAL THEATRE**

**Grade:** 11  
**Credit:** 1  
**Prerequisite:** Enrollment as a 3rd year student in The Center for the Fine and Performing Arts Vocal Music, Dance or Theatre programs

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.  
**Schools offering course:** 6, 12

**ADVANCED PERFORMANCE THEATRE**

**Grade:** 11  
**Credit:** 1  
**Prerequisite:** Enrollment as a 3rd year student in The Center for the Fine and Performing Arts Theatre program

Students explore acting for classical and traditional theatre of the 20th century, including the works of American playwrights, Eugene O’Neill and Tennessee Williams. Students in this class have access to the educational programs from theatres such as the Folger Shakespeare Theatre and Arena Stage. Priority is given to CFPA Theatre students who have completed Introduction to Theatre and An Exploration of Performance in Theatre. Students from all Concentration Areas of CFPA or other students may elect this course with special permission if they have met the prerequisites.  
**Schools offering course:** 6, 12

**DIRECTING FOR THE STAGE AND SCREEN**

**Grade:** 12  
**Credit:** 0.5  
**Prerequisite:** Theatre I, Advanced Performance Theatre

The student learns how to create a vision for a production and to share 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.  
**School offering course:** 6, 12

**VISUAL ART ELECTIVE COURSE SEQUENCE**

**ART I – BASIC FOUNDATIONS**

**Pre-IB Diploma Programme Art I**

**Grades:** 9-10  
**Credit:** 1 (36 weeks)  
**Prerequisite:** None

First-year art students are enrolled in this introductory course. Art foundations will include two-dimension and three-dimension art production as well as visual literacy experiences with a focus on the elements of art and an introduction to the principles of design. The curriculum for Pre-IBDP Art I will incorporate MYP global contexts, strategies, and assessment criteria.  
**Schools offering course:** All (IB is at schools 2, 5 only)

**ART II**

Focus on the principles of design with reinforcement of the elements of art  
**Prerequisite:** A grade of “C” or better in Art I

**Schools offering course:** All

**ART III**

Focus on art periods, styles and cultures through art production  
**Prerequisite:** A grade of “C” or better in Art II or teacher recommendation

**Schools offering course:** All

**ART IV**

Focus on art periods, styles, cultures and artists through art production  
**Prerequisite:** A grade of “C” or better in Art III

**Schools offering course:** All except at school 9, 12

**ART V**

Focus on a particular art period, style, culture and artist through art production  
**Grades:** 10-12  
**Year Course – 36 weeks: 1 credit**  
**Prerequisite:** Successful completion of the previous course with a “C” or better and a teacher recommendation

These courses are sequentially designed to extend and further develop experiences in the Basic Foundations course. Artistic expression is explored through discipline-based art education (art production, art history, art aesthetics, and art criticism).  
**Schools offering course:** All except at schools 7 & 11  
**School 9:** Art V must be taken concurrently with AP Studio Art
ART PORTFOLIO PREPARATION
Grades: 10-12  
Credit: 1  
Prerequisite: Successful completion of Art I and II with a “B” or better average or Art I with an “A” average and/or approval of the instructor

The Art Portfolio Preparation studio is intended for students committed to serious study in art. The studio will focus on the student’s individual artistic talents. The portfolio, compiled by the student, will demonstrate a variety of experiences in the formal, technical, and expressive means. This course is highly recommended for juniors considering AP Art their senior year.  
Schools offering course: Each school’s offerings are determined by enrollment

PHOTOGRAPHY
Grades: 10-12  
Credit: 1  
Prerequisite: Successful completion of Art I with “B” or better and teacher recommendation. Student must provide a 35mm S.L.R. camera or digital camera

The study of black and white photography as an art medium is introduced. 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.  
Schools offering course: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

PHOTOGRAPHY II
Grades: 10-12  
Credit: 1  
Prerequisite: Successful completion of Photography I with a “B” or better and recommendation from the Photography instructor. Student must provide a 35mm S.L.R. camera or digital camera

Students will expand photography skills using 35mm cameras. Emphasis will be placed on the study of personal expression and development of creativity. Advanced camera problems 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 also explore digital cameras and scanners to create photographic compositions. Students will produce a portfolio containing both 35 mm and digital photographs reflecting a series of works organized around a compelling visual concept or concentration.  
Schools offering course: 1, 5, 6, 7, 8, 9, 10, 11, 12

COMPUTER ART I
Grades: 10-12  
Credit: 1  
Prerequisite: Successful completion of Art I or IT Graphic Design/Commercial Art with a “B” or better and recommendation from Art Teacher

This course places emphasis on the production of artistic computer 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 history of art will be included in the course. Students will combine natural art media, scanned images and digital photography with computer imagery. Students will be required to produce digital portfolios.  
Schools offering course: 1, 6, 8, 9, 11, 12

ART HISTORY
Grades: 9-12  
Credit: 1  
Prerequisite: None

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 particular interest to CISL students and is a prerequisite for students wishing to take 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.  
Schools offering course: 5, 7, 8, 9

SCIENTIFIC ILLUSTRATION
Grades: 9-12  
Credit: 1  
Prerequisite: None

Scientific Illustration is an alternative class to the Art I Elective, and will meet the SOL’s for Art I 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 from each level will demonstrate the students’ individual growth and reflect a broad range of techniques, media, and styles all reflecting ethical practices.  
Schools offering course: 3, 10

ADVANCED PLACEMENT COURSES

ART ADVANCED

ADVANCED PLACEMENT STUDIO ART (2-D DESIGN)
Grades: 9-12  
Credit: 1  
Prerequisite: Completion of Art I and II with a “B” or better, or teacher recommendation. Recommend completion of Portfolio Prep prior to AP Art

The Advanced Placement studio studies are intended for the highly motivated students committed to serious study in art. Students should have completed Art I and II or have an art teacher recommendation for this course. This portfolio is intended to address a very broad interpretation of two-dimensional (2-D) design issues. This type of design involves purposeful decision-making about how the use of the elements and principles of art work in an integral way. This portfolio is comprised of 3 sections: Quality (5 actual works of art), Concentration (12 slides which reflect a series of art around a visual concept in 2-D Design) and Breadth (12 slides that demonstrate a wide variety of concepts,
Schools offering course: 3, 4, 6, 7, 8, 9, 11, 12

**ADVANCED PLACEMENT STUDIO ART (DRAWING)**

**Grades: 9-12**

**Credit: 1**

**Prerequisite:** Completion of Art I and II with a “B” or better and teacher recommendation. Recommend completion of Portfolio Prep prior to AP Art

The Advanced Placement studio studies are intended for the highly motivated students committed to serious study in art. Students should have completed Art I and II and have an art teacher recommendation for this course. This portfolio is intended to address a very broad interpretation of drawing issues and media. The AP Drawing portfolio is comprised of 3 sections: Quality (5 actual works of art), Concentration (12 slides which reflect a series of art around a visual concept in drawing) and Breadth (12 slides that demonstrate a variety of concepts, media, and approaches). Actual works of art and slides are submitted for AP Examination review.

Schools offering course: 3, 4, 6, 7, 8, 9, 12

**ADVANCED PLACEMENT STUDIO ART (3-D DESIGN)**

**Grades: 9-12**

**Credit: 1**

**Prerequisite:** Completion of Art I and II with a “B” or better and teacher recommendation. Recommend completion of Portfolio Prep prior to AP Art

The Advanced Placement studio studies are intended for highly motivated students committed to serious study in art. Students should have completed Art I and II and have an art teacher recommendation for this course. This portfolio is intended to address a broad interpretation of sculptural issues in depth and space. This portfolio is comprised of 3 sections: Quality (10 slides consisting of 2 views each of 5 works), Concentration (12 slides of a series of works organized around a compelling visual concept in 3-D Design) and Breadth (16 sides consisting of 2 views each of 8 works that demonstrate a variety of concepts, media and approaches). Slides are submitted for AP Examination review.

Schools offering course: 3, 6, 7, 8, 9, 12

**ADVANCED PLACEMENT ART HISTORY**

**Grades: 11-12**

**Credit: 1**

**Prerequisite:** Successful completion of one year of art history with a “B” or better average and approval of the department chairperson

The Advanced Placement Program in the History of Art is designed to provide the same benefits to secondary students as are provided by an introductory college course in art history: an understanding and enjoyment of architecture, sculpture, painting, and other art forms within a historical and cultural context. In the 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.

Schools offering course: Each school’s offerings are determined by enrollment

---

**IGCSE ART AND DESIGN**

**Grades: 10-12**

**Credit: 1**

**Prerequisite:** A grade of “B” or better in Art I and teacher recommendation

IGCSE Art & 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 his/her 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 his/her efforts to visually represent the world that he/she observes. Course content includes drawing, painting, graphics, photography, textiles, and 3-D studies. Successful completion of the end of course exam will result in an IGCSE or an ICE certificate.

Schools offering course: 1, 4

---

**AICE ART AND DESIGN**

**Grades: 11-12**

**Credit: 1**

**Prerequisite:** Successful completion of Art II or IGCSE Art with a “B” or better and teacher recommendation

AICE Art & 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 his/her 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.

Schools offering course: 1, 4

---

**CFPA ART I – BASIC FOUNDATIONS**

**Grades: 9-12**

**Credit: 1**

**Prerequisite:** None

This course is designed for the first-year CFPA student. The areas of concentration will include basic foundations, principles of design, elements of design, visual literacy, two-dimensional design 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.

Schools offering course: 6, 12
CFPA ART II
Grades: 10-12  Credit: 1
Prerequisite: A grade of 2.5 or better in CFPA Art I
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.
Schools offering course: 6, 12

CFPA PAINTING I – MEDIA AND DESIGN: PAINTING
Grades: 10-12  Credit: 0.5
Prerequisite: Successful completion of CFPA Art II or ART II or approval by the CFPA faculty
Media & Design: Painting is an exploration of painting with emphasis on the individual’s study of two-dimensional form while adding to the student’s current knowledge of the medium. Works created by students will utilize a wide variety of materials and media. Students will experiment with various techniques. They will explore the works of professional painters. Students will develop a painting portfolio.
Schools offering course: 6, 12

CFPA SCULPTURE I – MEDIA AND DESIGN: SCULPTURE
Grades: 10-12  Credit: 0.5
Prerequisite: Successful completion of CFPA ART II or ART II with approval of the CFPA faculty
Media and Design: Sculpture is an exploration of sculpture with emphasis on the individual’s study of three-dimensional form while adding to the student’s current knowledge of the medium. Works created by students will utilize a wide variety of materials and media. Students will experiment with various techniques. They will explore the works of professional sculptors. Students will develop a sculpture portfolio.
Schools offering course: 6, 12

CFPA STUDIO ART – STUDIO ART SEMINAR
Grades: 10-12  Credit: 0.5 each semester
Prerequisite: Successful completion of CFPA ART II or ART II with approval from CFPA faculty
Studio Art Seminar is a course designed to focus on a specialty area of the visual arts. Students will become familiar with the specific tools, materials, and techniques related to the focus topic, and they will create artwork in the specialized medium. They will explore the works of professional artists in the specialized medium and engage in related oral and written discussions. Students will develop a course portfolio.
Schools offering course: 6, 12

CFPA PERIOD ART – PERIOD ART SEMINAR
Grades: 10-12  Credit: 0.5
Prerequisite: Successful completion of CFPA ART II or ART II with approval from the CFPA faculty
Period Art Seminar is a course designed to focus on a specific period of art or a specific group of artists. Students will become familiar with the history and trends related to the focus topic, and they will create artwork using period art/artists as models. They will explore the works of professional artists and engage in related oral and written discussions. Students will develop a course portfolio.
Schools offering course: 6, 12

INTERNATIONAL BACCALAUREATE ART COURSE SEQUENCE

IB VISUAL ARTS (SLA OR SLB)
Grade: 11 or 12  Credit: 1
Prerequisite: Completion of one year of high school art with a “C” or better average and/or teacher approval
IB Visual Arts (Standard Level) is a one-year program resulting in an International Baccalaureate 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 may choose either SLA (a concentration in studio work) or SLB (a concentration in research). Students are required to take part in an IB assessment process.
Schools offering course: 2, 5

IB VISUAL ARTS I (HL)
Grades: 11-12 Credit: 1
Prerequisite: Successful completion of two years of high school art courses with a grade of “B” or better in each and/or teacher recommendation
IB Visual Arts is the first year of a two-year program resulting in an International Baccalaureate 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 the 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.
Schools offering course: 2, 5

IB VISUAL ARTS II (HL)
Grade: 12  Credit: 1
Prerequisite: Successful completion of IB Visual Arts I
IB Visual Arts II is the second year of a two-year program resulting in an International Baccalaureate 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 a feeling for 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.
Schools offering course: 2, 5
IT GRAPHIC DESIGN

Grades: 9-12
Credit: 1
Prerequisite: Acceptance into the IT Program

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 2-D and 3-D 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.

Schools offering course: 8, 9

IT COMPUTER GRAPHICS I

Grades: 10-12
Credit: 1
Prerequisite: Successful completion of IT Graphic Design with a “B” or better and a background in computer applications is recommended, and teacher recommendation

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’s Photoshop software to complete the design and production process.

Schools offering course: 8, 9

IT COMPUTER GRAPHICS II

Grades: 11-12
Credit: 1
Prerequisite: Successful completion of IT Computer Graphics I with a “B” or better, and teacher recommendation

IT Computer Graphics II is a continuation of IT Computer Graphics I. 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.

Schools offering course: 8, 9

IT MULTIMEDIA SOFTWARE DESIGN AND DEVELOPMENT I

ACADEMY OF MULTIMEDIA I

Grades: 11-12
Credit: 1
Prerequisite: Computer Graphics I, with a “B” average, and teacher recommendation

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.

Schools offering course: 8, 9

IT MULTIMEDIA SOFTWARE DESIGN AND DEVELOPMENT II

ACADEMY OF MULTIMEDIA II

Grade: 12
Credit: 1
Prerequisite: Academy of Multimedia I, with a “B” average, and teacher recommendation

Multimedia II continues the student’s study of the challenging world of information design, multimedia Web-based development and learning management. Students will use information 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.

Schools offering course: 8, 9

IT PHOTOGRAPHY

Grades: 11-12
Credit: 1
Prerequisite: Completion of IT Computer Graphics I with a “B” or better and teacher recommendation. Students must provide a 35mm S.L.R. camera

The study of 35 mm print photography focusing on darkroom development will be introduced. Advanced studies of digital photography using cameras, scanners, and photo editing software will be explored. Students will examine through the camera lens 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 35 mm and digital photographs to be used in multimedia classes. This course is designed for interactive media students seeking an advanced IT certificate.

School offering course: 9
FOREIGN (WORLD) LANGUAGE

Graduation requirements are located in the “General Information” section.

MODERN ROMAN ALPHABET
FOREIGN/WORLD LANGUAGES

FRENCH I
GERMAN I
ITALIAN I
SPANISH I
Grades: 9-12
Credit: 1
Prerequisite: None

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.
Schools offering courses:
French I: All
German I: 6, 7, 8
Italian I: 2, 4, 6, 7, 10
Spanish I: All

FRENCH II
GERMAN II
ITALIAN II
SPANISH II
Grades: 9-12
Credit: 1
Prerequisite: Level I and teacher recommendation

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.
Schools offering courses:
French II: All
German II: 6, 7, 8
Italian II: 2, 4, 6, 7
Spanish II: All

ADVANCED FRENCH II
ADVANCED SPANISH II
Grades: 9
Credit: 1
Prerequisite: Level I equivalent, and teacher recommendation

Advanced French or Spanish II is an accelerated program of study for grade 9 students. 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 this course.
School offering course: 9

FRENCH III
GERMAN III
ITALIAN III
SPANISH III
Grades: 9-12
Credit: 1
Prerequisite: Level II equivalent and teacher recommendation

The emphasis for study continues on 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.
Schools offering courses:
French III: All
German III: 4, 6, 7, 8
Italian III: 2, 6, 7
Spanish III: All

FRENCH IV
GERMAN IV
ITALIAN IV
SPANISH IV
Grades: 9-12
Credit: 1
Prerequisite: Level III, Pre-AP III, or Spanish for Native/Heritage Speakers III equivalent and teacher recommendation

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 foreign culture through the study of current and historical events and literature.
Schools offering courses:
French IV: 1, 3, 4, 6, 7, 8, 9, 10, 12
German IV: 6, 7, 8
Italian IV: 6, 7
Spanish IV: 1, 3, 4, 6, 7, 8, 9, 10, 12

FRENCH V
GERMAN V
SPANISH V
Grades: 10-12
Credit: 1
Prerequisite: Level IV, Pre-AP IV or Spanish for native/heritage Speakers IV equivalent and teacher recommendation

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.

**Schools offering courses:**
- French V: 1, 3, 4, 7, 9, 10
- German V: 6, 7
- Spanish V: 1, 3, 4, 7, 9, 10

### MODERN NON-ROMAN ALPHABET FOREIGN/WORLD LANGUAGES

#### ARABIC I
**Grades:** 9-12  
**Credit:** 1  
**Prerequisite:** None

Arabic I 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.

**Schools offering course:** 7

#### ARABIC II
**Grades:** 9-12  
**Credit:** 1  
**Prerequisite:** Arabic I or basic language proficiency and teacher recommendation

Arabic II 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.

**Schools offering course:** 7

#### ARABIC III
**Grades:** 9-12  
**Credit:** 1  
**Prerequisite:** Arabic II or basic language proficiency and teacher recommendation

After successful completion of Arabic II students will be able to advance to Arabic III. Arabic III 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-high language level through constant review and expands to challenge students as their skills develop.

**Schools offering course:** 7

#### ARABIC IV
**Grades:** 11-12  
**Credit:** 1  
**Prerequisite:** Arabic III or basic language proficiency and teacher recommendation

After successful completion of Arabic III, students will be able to advance to Arabic IV. Arabic IV 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.

**Schools offering course:** 2, 7

### CHINESE I (MANDARIN)
**Grades:** 9-12  
**Credit:** 1

Chinese I is designed to introduce and to make students comfortable with the most widely spoken language on earth. Pronunciation will emphasize Romanization, tones, initials, and finals. Students will examine Chinese characters from a number of angles and will learn the basic principles of grammar. A vocabulary of essential words will be developed and practiced. The course will be infused with the culture and customs of the Chinese people.

**Schools offering course:** 7

### KOREAN I
**Grades:** 9-12  
**Pre-Requisite:** None

Korean I 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.

**Schools offering course:** 7

### KOREAN II
**Grades:** 9-12  
**Pre-Requisite:** None

Korean II students will continue to develop basic reading and writing skills using the Korean alphabet and Hangeul form of written Korean in order 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 in order 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.

**Schools offering course:** 7

### RUSSIAN I
**Grades:** 9-12  
**Pre-Requisite:** None

Russian I 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.

**Schools offering course:** 7, 8

---

1 – Brentsville  
2 – Gar-Field  
3 – Osbourn Park  
4 – Potomac  
5 – Stonewall  
6 – Woodbridge  
7 – Hylton  
8 – Forest Park  
9 – Battlefield  
10 – Freedom  
99 – VirtualSchool

Number Code:
**RUSSIAN II**
Grades: 10-12  
Prerequisite: Russian I equivalent and teacher recommendation

Russian II 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.

Schools offering course: 7, 8

**RUSSIAN III**
Grades: 10-12  
Prerequisite: Russian II or equivalent and teacher recommendation

Russian III 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.

School offering course: 8

**AMERICAN SIGN LANGUAGE I**
Grades: 9-12  
Prerequisite: None

By the end of this course, the students should be able to exchange personal information about themselves in ASL, 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.

School offering course: 6, 10, 11, 12

**AMERICAN SIGN LANGUAGE II**
Grades: 9-12  
Prerequisite: ASL I

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. 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 videotaping are an integral part of the course. Students also study hearing loss, assistive devices, and the Americans with Disabilities Act (ADA).

Schools offering course: 6, 11, 12

**AMERICAN SIGN LANGUAGE III**
Grades: 9-12  
Prerequisite: ASL II

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. 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 videotaping are an integral part of the course. Students also study hearing loss, assistive devices, and the Americans with Disabilities Act (ADA).

Schools offering course: 6, 11, 12

**LATIN I**
Grades: 9-12  
Prerequisite: None

The student of Latin I is introduced to the morphology of an inflected language with the primary focus on the noun system and indicative mood of verbs. The syntax of the language builds from words and phrases to sentences. The student develops a basic Latin vocabulary with opportunities to enlarge his/her English vocabulary through derivative study. Classical pronunciation to aid in reading comprehension is taught. The student is introduced to the customs of daily life and the geography of ancient Rome.

Schools offering course: 1, 3, 5, 7, 8, 9, 10, 12

**LATIN II**
Grades: 9-12  
Prerequisite: Latin I or equivalent and teacher recommendation

Latin II is an elective course offered in Grades 9-12. The student continues a study of Latin morphology with the primary focus on the subjunctive mood of verbs, infinitives and participles, increasingly sophisticated syntactic concepts are introduced, and the student expands his/her comprehension skills through readings of appropriate difficulty. The student continues to develop a Latin vocabulary and to enlarge his/her English vocabulary through derivative study. The student studies the people, places, and events that shaped Roman history.

Schools offering course: 1, 3, 5, 7, 8, 9, 12

**LATIN III**
Grades: 10-12  
Prerequisite: Latin II or equivalent, and teacher recommendation

Latin III is an elective course offered in Grades 10-12 that serves to synthesize the skills already mastered, to complete the corpus of grammar, and to introduce specialized syntactic constructions. The course provides for translation practice, reading comprehension, an introduction to rhetorical devices, and both Latin and English vocabulary expansion through a study of Latin selections. The student develops an understanding of the relationship between the works read and their social, economic, political, and historical contexts.

Schools offering course: 1, 3, 5, 7, 8, 9, 12
LATIN IV
Grades: 11-12
Prerequisite: Latin III or equivalent, and teacher recommendation
Latin IV is an elective course offered in Grades 11 and 12 that serves to refine all grammar skills and to apply these skills to the reading and translation of Latin literature. The student studies in-depth selected works of Latin literature. Emphasis is on increasing comprehension, refining skills for critical analysis, and enhancing the student's ability to respond to the aesthetic elements of literature. Continued attention is given to the acquisition of Latin vocabulary, especially those words/idioms peculiar to authors read and to the varying connotations of familiar words.
Schools offering course: 1, 3, 8, 9

LATIN V
Grades: 11-12
Prerequisite: Latin IV or equivalent, and teacher recommendation
Latin V is an elective course offered in Grades 11 and 12. Extensive reading of various Latin selections of both prose and poetry is emphasized. Discussions will focus on works by Virgil, Horace, Catullus, Ovid, Caesar, Cicero, and Livy, emphasizing their styles, context, and themes of Roman life. Highly motivated seniors may select to study one or two of the authors in depth in preparation for the Advanced Placement Exam.
Schools offering course: 1, 3, 9

SPANISH NATIVE/HERITAGE SPEAKERS PROGRAM
Spanish for Native/Heritage Speakers (SNS) 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 US and never had formal education in a Spanish-speaking country, or students who may have come from a Spanish-speaking country or 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. The course will build on these existing listening and speaking skills, and also 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 fill the gap of skill acquisition in general, especially emerging literacy, install pride in a rich heritage, and allow students to succeed to their full potential.
Schools offering course: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12

SPANISH FOR NATIVE/HERITAGE SPEAKERS I – BEGINNING LEVEL
Grades: 9-12
Prerequisite: Native or heritage speakers of Spanish and recommendation of teacher based on assessment of student's skills
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 US and never had formal education in a Spanish-speaking country, or students who may have come from a Spanish-speaking country or 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 also 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 fill the gap of skill acquisition in general, especially emerging literacy, instill pride in a rich heritage, and allow students to succeed to their full potential.
Schools offering course: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12

SPANISH FOR NATIVE/HERITAGE SPEAKERS II – INTERMEDIATE LEVEL
Grades: 9-12
Prerequisite: Successful completion of Spanish for Native/Heritage Speakers I or Native/Heritage Speakers of Spanish and recommendation of teacher based on assessment of student's skills
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 fill the gap 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.
Schools offering course: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12

SPANISH FOR NATIVE/HERITAGE SPEAKERS III – ADVANCED LEVEL
Grades: 11-12
Prerequisite: Successful completion of Spanish for Native/Heritage Speakers II or Native/Heritage Speakers of Spanish and recommendation of teacher based on assessment of student's skills
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 fill the gap 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.

Schools offering course: 2, 4, 5, 6, 7, 8, 9, 10, 12

### PRE-ADVANCED PLACEMENT

**PRE-AP FRENCH LANGUAGE III**
**PRE-AP GERMAN LANGUAGE III**
**PRE-AP RUSSIAN LANGUAGE III**
**PRE-AP SPANISH LANGUAGE III**
**PRE-AP LATIN LANGUAGE III**

Grades: 9-12  Credit: 1  
Prerequisite: Successful completion of Level II equivalent and teacher recommendation

Pre-AP Language III is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master all of the objectives of the Level III course in a more rigorous and accelerated manner. The courses in French, German, and Spanish seek to develop all skills emphasizing language for communication using authentic materials in preparation for further Advanced Placement study. The Pre-AP Latin course seeks to develop all skills emphasizing literal translation of passages, analysis of grammar and rhetorical devices, discussion of motifs and general themes, analysis of characters and situations and free response essays in preparation for further AP Latin study.

Schools offering courses:
- French: 3, 6, 7, 8, 9, 10, 11, 12
- German: 6
- Latin: 3, 7, 9
- Russian: 7, 8
- Spanish: 3, 6, 7, 8, 9, 10, 11, 12

**PRE-AP FRENCH LANGUAGE IV**
**PRE-AP GERMAN LANGUAGE IV**
**PRE-AP LATIN LANGUAGE IV**
**PRE-AP RUSSIAN LANGUAGE IV**
**PRE-AP SPANISH LANGUAGE IV**

Grades: 9-12  Credit: 1  
Prerequisite: Successful completion of Pre-AP Level III equivalent and teacher recommendation

Pre-AP Language IV is a course designed to develop proficiency in the language for highly motivated students. Students will be expected to master all of the objectives of the Level IV course in a more rigorous and accelerated manner. The courses in French, German, Russian, and Spanish seek to develop all skills emphasizing language for communication using authentic materials in preparation for further Advanced Placement study. The Pre-AP Latin course seeks to develop all skills emphasizing literal translation of passages, analysis of grammar and rhetorical devices, discussion of motifs and general themes, analysis of characters and situations and free response essays in preparation for further AP Latin study.

Schools offering courses:
- French: 3, 6, 7, 8, 9, 10, 11, 12
- German: 6
- Latin: 3, 7, 9
- Russian: 7, 8
- Spanish: 3, 6, 7, 8, 9, 10, 11, 12

**ADVANCED PLACEMENT LATIN VERGIL**

Grades: 10-12  Credit: 1  
Prerequisite: Successful completion of Pre-AP Latin Language III or IV, Latin IV, or Latin V and teacher recommendation

The Advanced Placement Latin Course is parallel to a middle-level or sophomore college course. The course will concentrate on developing the following skills: writing literal English translations of selected Latin passages; defining specific words and/or phrases in context; identifying the content and significance of short excerpts from the required readings, analyzing characteristics or noteworthy features of the authors mode of expression, word choice and placement, imagery, figures of speech, and sound and metrical effects; discussing particular motifs or general themes in specific passages and in the poem as a whole; and analyzing characteristics or situations as portrayed in specific passages. In applying these skills the student will learn to support any observations in paragraphs or essay form, while citing the specific Latin and English in selected passages. The course will concentrate on Vergil’s Aeneid, although other dactylic hexameter works will be read in preparation for the sight translation passages.
on the Advanced Placement Examination. Students are required to take the AP Language Examination which is administered in May.

Schools offering course: 3, 7

ADVANCED PLACEMENT SPANISH LITERATURE

Grades: 10-12
Credit: 1
Prerequisite: Successful completion of Pre-AP IV, Level IV, Level V or Advanced Placement Language and teacher recommendation

The Advanced Placement 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 required to take the AP Language Examination which is administered in May.

Schools offering course: 3, 6, 7, 11, 12

CAMBRIDGE PROGRAMME

IGCSE FRENCH III
IGCSE GERMAN III
IGCSE SPANISH III
ICSE ITALIAN III

Grades: 10-12
Credit: 1
Prerequisite: Level I, Level II (or equivalency test), and teacher recommendation

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 through the use of 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.

Schools offering course: 1, 4

IGCSE LATIN III

Grades: 10-12
Credit: 1
Prerequisite: Latin I and Latin II (or equivalency test), and teacher recommendation

Students will further synthesize the skills already mastered, will complete the corpus of grammar, and will study specialized syntactic constructions. This course will provide for translation practice, reading comprehension, an introduction to rhetorical devices, and both Latin and English vocabulary expansion through study of un-adapted Latin selections. The student develops an understanding of the relationship between the works and their social, economic, political, and historical contexts. Assessment will include an external student examination and course work evaluations by the instructor.

Schools offering course: 1

AICE CLASSICAL STUDIES I

Grades: 11-12
Credit: 1
Prerequisite: None

This course develops the idea that a multi-disciplinary approach of study combining classical literature, art history, history, science, archeology, 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.

Schools offering course: 1

AICE LATIN V

Grade: 12
Credit: 1
Prerequisite: Successful completion of Level IV and teacher recommendation

The objectives of this course are based on an accelerated, international curriculum. Students will demonstrate a capacity to draw on the target language source materials in order to produce a piece of composition in Latin 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 and Advanced Placement credit in language.

Schools offering course: 1

AICE FRENCH IV (AS)
AICE SPANISH IV (AS)

Grades: 11
Credit: 1
Prerequisite: Successful completion of IGCSE III and teacher recommendation

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 in order 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 and Advanced Placement credit in Language.

Schools offering courses:

French: 1, 4
Spanish: 1, 4


104
AICE FRENCH V (A) LITERATURE
AICE GERMAN V (A) LITERATURE
AICE SPANISH V (A) LITERATURE
Grade: 12 Credit: 1
Prerequisite: Successful completion of AICE Level IV (AS) (grade "B") and teacher recommendation
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 in order 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.
Schools offering course: 1, 4

INTERNATIONAL BACCALAUREATE PROGRAM

PRE-IB DIPLOMA PROGRAMME FRENCH II
PRE-IB DIPLOMA PROGRAMME ITALIAN II
PRE-IB DIPLOMA PROGRAMME SPANISH II
Grades: 9-10 Credit: 1
Prerequisite: French I, Italian I, or Spanish I or equivalent and teacher recommendation
This course is part of the IB sequence to prepare students for completion of the IB Program and the external exam in level V. Students will be able to: use French, Italian, 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 Foreign Language strand of courses. The integration of the Pre-IBDP Global Concepts 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, Italian or Spanish IV course.
Schools offering course:
French and Spanish: 2, 5
Italian: 2

IB AB INITIO FRENCH I
IB AB INITIO ITALIAN I
IB AB INITIO SPANISH I
Grade: 11 Credit: 1
Prerequisite: Student must have a fourth or fifth year of another foreign language and teacher recommendation
Students demonstrate, through the use of authentic materials, the skills of listening, speaking, reading, and writing in everyday situations in preparation for an International Baccalaureate exam at the end of AB Initio II. Students will be expected to master all the objectives of the Level I and II curriculum in a rigorous and accelerated manner.
Schools offering course:
French and Spanish: 2, 5
Italian: 2

IB AB INITIO FRENCH II
IB AB INITIO ITALIAN II
IB AB INITIO SPANISH II
Grade: 11-12 Credit: 1
Prerequisite: Successful completion of IB AB Initio French I, Italian I, or Spanish I
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 International Baccalaureate AB Initio Exam.
Schools offering course:
French and Spanish: 2, 5
Italian: 2

IB FRENCH IV SL
IB ITALIAN IV SL
IB SPANISH IV SL
Grade: 11-12 Credit: 1
Prerequisite: Successful completion of Pre-IBDP Level III; can take in grade 10 if started sequence in middle school
IB Foreign Language IV is designed to develop proficiency in highly motivated language students. Students will be expected to master all the objectives of the Level IV 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 International Baccalaureate Language B Exam. An introduction to the International Baccalaureate Language B Program will be an integral part of this class.

Schools offering course:
French and Spanish: 2, 5
Italian: 2

IB FRENCH V SL
IB ITALIAN V SL
IB SPANISH V SL
Grade: 12
Credit: 1
Prerequisite: Successful completion of IB Level IV
This is an advanced level course designed to strengthen fluency and proficiency in both oral and written foreign languages and to prepare students for the International Baccalaureate 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.

Schools offering course:
French and Spanish: 2, 5
Italian: 2

IB FRENCH IV HL
IB ITALIAN IV HL
IB SPANISH IV HL
Grades: 11
Credit: 1
Prerequisite: Three years of French/Italian/Spanish or equivalency or test and permission of instructor. IB French/Italian/Spanish III is preferred immediately prior to this course
IB Spanish, Italian, or French IV HL is the first segment of a two-year series that prepares students to take the IB French, Italian, or 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.

Schools offering course:
French and Spanish: 2, 5

IB FRENCH V HL
IB SPANISH V HL
Grades: 12
Credit: 1
Prerequisite: Four years of French/Spanish or equivalency or test and permission of instructor. IB French/Spanish IV is preferred immediately prior to this course
IB French or Spanish V HL is the second segment of a two-year series that prepares students to take the IB French or 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.

Schools offering course: 2, 5

IB SPANISH A1 SL LANGUAGE AND LITERATURE
Grades: 11-12
Credit: 1
Prerequisite: IB Native/Heritage Speakers of Spanish or equivalent
This course is designed for native/heritage Spanish-speaking students at the high school level in the IB Program. 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 fill the gap 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.

Schools offering course: 2, 5

IB SPANISH A1 HL LANGUAGE AND LITERATURE
Grades: 11-12
Credit: 1
Prerequisite: IB Spanish A1 SL
The IB Spanish for Fluent Speakers HL course is a two-year course of study which meets the requirements of the IB program. 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 life-long 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.

School offering course: 2
GENERAL CROSS-CURRICULAR

Graduation requirements are located in the “General Information” section.

**IB THEORY OF KNOWLEDGE (TOK)**
Grade: 12  
Credit: 1  
Prerequisite: IB diploma candidacy or at least four IB classes taken concurrently

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.

Schools offering course: 2, 5

**AP SEMINAR**
Grade: 11  
Credit: 1  
Prerequisite: Successful completion of at least one AP course, and teacher recommendation

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 individual presentation, and a written exam.

School offering course: 3, 6, 7, 9, 11, 12

**AP RESEARCH**
Grade: 12  
Credit: 1  
Prerequisite: Successful completion of the AP Seminar and teacher recommendation

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.

School offering course: 3, 6, 9, 11

**IB PERSONAL AND PROFESSIONAL SKILLS**

Grades: 11-12  
Credit: 1  
Weighted: Yes (1.0W)  
Dual Enrolled: No  
Prerequisite: Enrollment in IB Program

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.

Schools offering course: 2
GIFTED EDUCATION

Graduation requirements are located in the “General Information” section.

GIFTED EDUCATION MULTI-DISCIPLINARY SEMINAR (GEMS)
Grade: 11 Credit: 0.5
Prerequisite: Successful completion of the tenth grade gifted education seminar program and concurrent enrollment in an Advanced Placement course

This multi-disciplinary seminar course may replace the seminar program for identified gifted students in grade eleven. The class explores different dimensions of the American experience to determine what constitutes the American identity. The class is multicultural and multi-disciplinary, examining literature, history, science, customs, and visual and performing arts in the kaleidoscope of American culture.

Schools offering course: 3, 12

GIFTED EDUCATION MULTI-DISCIPLINARY SEMINAR (GEMS)
Grade: 12 Credit: 0.5
Prerequisite: Placement in the Prince William County Public Schools Gifted Education program and concurrent enrollment in an Advanced Placement course

The multi-disciplinary seminar may replace the seminar program for identified gifted students in grade twelve. It may also serve as a capstone course for Advanced Placement Scholars. The strengths and limits of each academic discipline are explored in a seminar setting. The course allows students to examine interrelationships among differing concepts of knowledge. The course’s overall structure introduces and explores branches of philosophy.

Schools offering course: 3, 10

GIFTED EDUCATION MULTI-DISCIPLINARY SEMINAR (GEMS)
Grade: 12 Credit: 1
Prerequisite: Placement in the Prince William County Public Schools Gifted Education program or qualification as an Advanced Placement Scholar

The multi-disciplinary seminar may replace the seminar program for identified gifted students in grade twelve. It may also serve as a capstone course for Advanced Placement Scholars. The strengths and limits of each academic discipline are explored in a seminar setting. The course allows students to examine interrelationships among differing concepts of knowledge. The course’s overall structure introduces and explores branches of philosophy.

The course includes a research component.

Schools offering course: 6, 7, 8, 9, 11

NOTE: In schools offering the International Baccalaureate Programme, the Theory of Knowledge (TOK) course can serve as the senior seminar course for identified gifted students. In schools offering the Cambridge Programme, AICE Thinking Skills can serve as the senior seminar for identified gifted students.
HEALTH AND PHYSICAL EDUCATION

Graduation requirements are located in the “General Information” section.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Approved Substitutes(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and Physical Education I</td>
<td>None</td>
</tr>
<tr>
<td>Health and Physical Education II</td>
<td>None</td>
</tr>
</tbody>
</table>

HEALTH AND PHYSICAL EDUCATION

REQUIRED COURSE SEQUENCE FOR PHYSICAL EDUCATION

HEALTH AND PHYSICAL EDUCATION I

PRE-IB DIPLOMA PROGRAMME PE I

Grades: 9-12

Credit: 1

Prerequisite: None

Students will participate in classroom instruction and in individual and team activities designed to develop attitudes, knowledge, and skills necessary to maintain personal fitness for a lifetime. Fifty percent of the course focuses on classroom instruction in fitness, nutrition, mental health, First Aid CPR AED family relationships, disease prevention and control, and substance abuse prevention. The curriculum for Pre-IBDP physical education will incorporate global contexts, strategies and criteria.

Schools offering course: All (IB is at schools 2, 5 only)

HEALTH, PHYSICAL EDUCATION, AND CLASSROOM DRIVER EDUCATION II

PRE-IB DIPLOMA PROGRAMME HPE II

Grades: 9-12

Credit: 1

Prerequisite: Successful completion of Health and Physical Education I

Students continue to participate in classroom instruction and in individual and team activities designed to develop attitudes, knowledge, and skills necessary to maintain personal fitness for a lifetime. Fifty percent of the course focuses on classroom instruction in family life education, health concepts, 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. The curriculum for Pre-IBDP physical education will incorporate global contexts, strategies and criteria.

New Virginia Licensing Regulation – Beginning the Fall of 2010

Legislative change to the Juvenile Licensing will require a parent and student to attend a 90 minute traffic safety presentation. This requirement must be met for the student to successfully meet all of the classroom driver education certification requirements.

Schools offering course: All (IB is at schools 2, 5 only)

ELECTIVE COURSE SEQUENCE FOR PHYSICAL EDUCATION

DRIVER EDUCATION (IN-CAR)

Grades: 10-12

Credit: 0

Prerequisite: Learner’s Permit and enrollment in or successful completion of Classroom Driver Education. Students must complete a minimum of ten hours behind the wheel experience prior to taking In-Car Driver Education

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 (PDL). 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 ninth grade physical education before enrolling in the tenth grade Driver Education Program.

Schools offering course: All

PHYSICAL EDUCATION ASSISTANT

Grades: 11-12

Credit: 0.5

Prerequisite: Successful completion of Health and Physical Education I and II with a “B” average or better and approval of the department chairperson and the teacher being assisted

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.

Schools offering course: 1, 2, 3, 4, 5, 7, 11, 12
ADVANCED PHYSICAL EDUCATION – PERSONAL FITNESS  
Grades: 11-12  
Credit: 1  
Prerequisite: Successful completion of Health and Physical Education I and II with a “C” or better and/or recommendation from the Department Chair. Students who choose to enroll in a second year of an Advanced Physical Education Course must have completed the first year of Advanced Physical Education with a “B” or better.

Advanced Physical Education places emphasis on why exercise and fitness are important, what one’s own fitness needs are, and how to attain and maintain personal fitness for a lifetime. Additional emphasis is placed on the five health-related components of fitness including cardiovascular fitness, muscular strength and endurance, flexibility, and body fat control. Individual student fitness levels are assessed. Instruction includes emphasis on health risk factors related to lifestyles and how nutrition affects wellness. The course may include classroom instruction as well as physical activity. This course may be taken more than once for credit.

Schools offering course: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12

ADVANCED PHYSICAL EDUCATION – WEIGHT TRAINING – EMPHASIS ON WEIGHT TRAINING AND CONDITIONING  
Grades: 11-12  
Credit: 1  
Prerequisite: Successful completion of Health and Physical Education I and II with a “C” or better and/or recommendation from the Department Chair. Students who choose to enroll in a second year of an Advanced Physical Education Course must have completed the first year of Advanced Physical Education with a “B” or better.

This Advanced Physical Education section places emphasis on weight training and conditioning. The student will understand how and why weight training and conditioning benefits the student’s ability to perform athletically. The student will learn to assess one’s own fitness needs and how to attain and maintain personal fitness for a lifetime. Additional emphasis is placed on the five health-related components of fitness including cardiovascular fitness, muscular strength and endurance, flexibility, and body fat control. Individual student fitness levels will be assessed and the students will formulate personal goals and develop individual fitness programs. Instruction includes emphasis on health risk factors related to lifestyles and how nutrition affects wellness. This course may be taken more than once for credit.

Schools offering course: All

PREVENTION AND CARE OF ATHLETIC INJURIES I  
Grades: 11-12  
Credit: 1  
(10th grade with permission from instructor)  
Prerequisite: Successful completion of Health and Physical Education I and II with a grade of “C” or better, and/or teacher recommendation

These courses, taught by the school’s certified athletic trainer, place emphasis on recognition, prevention, and treatment of common sports injuries. In addition, students learn anatomy and physiology of the human body, first aid, nutrition, and career opportunities. Students will be required to participate in 9 hours per 9-week grading period of after school practicum for successful completion. Completion of both Athletic Training courses may be taken as part of the sequencing requirement for graduation.

Schools offering course: All

PREVENTION AND CARE OF ATHLETIC INJURIES II  
Grades: 11-12  
Credit: 1  
Prerequisite: Successful completion of Prevention and Care of Athletic Injuries I with at least a “B”, and teacher recommendation

These courses, taught by the school’s certified athletic trainer, continue to place emphasis on recognition, prevention, and treatment of common sports injuries. In addition to classroom instruction, students in this course will be required to complete 75 hours of practical ATC work with one team during the school year. Completion of both Athletic Training courses will fulfill the course sequencing requirement for graduation.

Schools offering course: All except for school 12

ADVANCED PREVENTION AND CARE OF ATHLETIC INJURIES  
Grades 11-12  
Credit: 0.5  
Prerequisite: Successful participation in Prevention and Care of Athletic Injuries Due to the nature of the responsibilities required of this course, teacher recommendation and selection is required

This course is offered as an extension of Athletic Training I and II. This partial credit course requires all of its instructional time after normal school hours in an athletic training practicum. A minimum of 100 hours must be completed throughout the year at a minimum of 4 hours each week and 25 per quarter. The student will be required to work one semester with players and coaches, putting to practical use the skills of prevention, evaluation and management of athletic injuries. Interns will improve athletic training skill level as well as the communication and personal skills necessary to be an athletic trainer.

Schools offering course: 1, 2, 3, 5, 6, 7, 8, 11

School Number Code:  
1 – Brentsville  
2 – Gar-Field  
3 – Osbourn Park  
4 – Potomac  
5 – Stonewall  
6 – Woodbridge  
7 – Hylton  
8 – Forest Park  
9 – Battlefield  
10 – Freedom  
99 – Virtual
JROTC

Graduation requirements are located in the “General Information” section.

Participation in JROTC does not commit or obligate any student to military service. These courses are designed to teach citizenship and leadership skills through their respective service.

**NAVY JROTC COURSE SEQUENCE**

**NAVAL SCIENCE I (NJROTC)**

- Grades: 9-11
- Credit: 1
- Prerequisite: Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards

This introductory course is designed for all students in their first year of Naval Science. Units are taught in military customs and courtesies, leadership, government, geography, naval history, introductory navigation, and basic seamanship. Students are inspected in designated Naval Cadet uniform once a week, participate in military drill, and attend field trips as well as training visits to military installations, ships, and museums. Extracurricular activities include Drill Team/Color Guard, Air Rifle Team, Academic Team, and active participation in community events and in the unit organization. Students planning to enroll in JROTC programs must meet program entry requirements.

*Schools offering course: 3, 4*

**NAVAL SCIENCE II (NJROTC)**

- Grades: 10-12
- Credit: 1
- Prerequisite: Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards. Successful completion of NJROTC I

This course includes units of study in leadership, maritime history, maritime geography, oceanography, meteorology, astronomy and physical science. Students are inspected in a designated Naval Cadet uniform once a week, participate in military drill, and also attend field trips and training visits. Second-year cadets begin to assume leadership positions in the unit and in various extracurricular activities. Students planning to enroll in JROTC programs must meet program entry requirements.

*Schools offering course: 3, 4*

**NAVAL SCIENCE III (NJROTC)**

- Grades: 11-12
- Credit: 1
- Prerequisite: Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards. Successful completion of NJROTC II

This third-year course includes units of study in leadership, naval knowledge and naval skills. Naval knowledge includes the study of Sea Power and National Security, Naval Operations and support functions, military law, and international law and the sea. Naval Skills includes study of ship construction and damage control, shipboard organization and watch standing, marine navigation, rules of the road and maneuvering board, and naval weapons and aircraft. Students assume increasing positions of leadership and participate in the full range of activities. They also teach new cadets in customs and courtesies, rules and regulations, proper wearing of the uniform and drill. Students planning to enroll in JROTC programs must meet program entry requirements.

*Schools offering course: 3, 4*

**NAVAL SCIENCE IV (NJROTC)**

- Grades: 10-12
- Credit: 1
- Prerequisite: Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards. Successful completion of NJROTC III

This fourth-year course includes units of study in leadership and the graded practical application of previous course work and experience in planning and executing organizational functions. Students organize and lead the company of cadets in all activities. Students planning to enroll in JROTC programs must meet program entry requirements.

*Schools offering course: 3, 4*

**NAVAL SCIENCE – CHALLENGE COURSE (NJROTC)**

- Grades: 11-12
- Credit: 1
- Prerequisite: Successful completion of Naval Science III or Naval Science IV with a grade of “B” or better and instructor recommendation

This fifth-level course includes units of study in leadership and skill application. All students desiring to take this course must demonstrate their swimming ability by swimming 50 yards and treading water for five minutes. Students must also pass the NJROTC physical readiness test and participate in physical training each day. Students planning to enroll in JROTC programs must meet program entry requirements.

*School offering course: 4*

**ARMY JROTC COURSE SEQUENCE**

**MILITARY SCIENCE I (AJROTC)**

- Grades: 9-12
- Credit: 1
- Prerequisite: Students planning to enroll in JROTC 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

This introductory course is designed for all students in their first year of Military Science. Curriculum units are taught in American Citizenship, Techniques of Communication, Leadership,
Presidential Physical Fitness testing, Basic Drill and Ceremony, First Aid and Your Health, Drug Abuse Prevention, Map Reading, Military History, Customs and Courtesies of the Army, Basic Leadership Skills, and Life Management Skills. Students are inspected in a designated Army cadet uniform once a week and participate in military drill and field trips. Co-curricular activities include Drill/Color Guard, Air Rifle Team, Raider Team, and active participation in community events/service projects and in unit social activities such as a dining-in and military ball.

Schools offering course: 6, 8

MILITARY SCIENCE II (AJROTC)

Grades: 10-12 Credit: 1
Prerequisite: Students planning to enroll in JROTC programs must meet program entry requirements. Students 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 Military Science I or equal level in another JROTC program

This second-year course includes curriculum units of study in Techniques of Communication, Leadership, Presidential Physical Fitness testing, Drill and Ceremony, First Aid and Hygiene, Drug Abuse Prevention, Map Reading, American Military History, Career Opportunities, Role of the U.S. Army, and Technology Awareness. Students are inspected in their designated Army Cadet uniform once a week, participate in military drill, and also attend field trips. Second-year cadets begin to assume leadership positions in the unit and in various extracurricular activities as listed in Military Science I.

Schools offering course: 6, 8

MILITARY SCIENCE III (AJROTC)

Grades: 11-12 Credit: 1
Prerequisite: Students planning to enroll in JROTC programs must meet program entry requirements. Students 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 Military Science I and II

This third-year course includes curriculum study in Techniques of Communication, Leadership, Presidential Physical Fitness testing, Drill and Ceremony, First Aid, Drug Abuse Prevention, Map Reading, American History, Citizenship, Career Opportunities, Role of the U.S. Army, Technology Awareness, and Motivational Programs. Students assume increasing positions of leadership and participate in the full range of activities. Students also teach new cadets in customs and courtesies, rules and regulations, proper wearing of the Army Cadet uniform, and drill.

Schools offering course: 6, 8

MILITARY SCIENCE IV (AJROTC)

Grade: 12 Credit: 1
Prerequisite: Students planning to enroll in JROTC programs must meet program entry requirements. Students 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 Military Science I, II, and III

This fourth-year course includes curriculum units of study in leadership and the graded practical application of previous course work and experience in planning and executing organizational functions. Students organize and lead the Cadet Corps in all activities. The Cadets Corps of senior students are encouraged and are self motivated to display leadership potential and the ability to live and work cooperatively with others through the effective understanding and application of the leadership traits, principles, styles, and the Army core values. Senior students have a goal to be able to critically analyze quality leadership traits; and use the application of effective management techniques for planning and decision-making/problem solving processes (as well as the ethical decision-making process) and supervision in staff and command/leadership positions.

Schools offering course: 6, 8

MARINE JROTC COURSE SEQUENCE

LEADERSHIP EDUCATION I (MCJROTC)

Grades: 9-12 Credit: 1
Prerequisite: Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards

The course of instruction is a combined program of classroom instruction and practical application designed to emphasize leadership education, citizenship, self-discipline, personal growth and responsibility, and character development. Basic training in leadership tenets, physical fitness, health, drill and ceremonies, military customs and courtesies, general military subjects, grooming standards, uniform wear and care and military organization are taught as part of the cadets’ orientation to the Marine Corps and as a means to develop leadership qualities taught in class. Cadets are expected to wear designated Marine Corps uniforms on a weekly basis, and adhere to appropriate grooming standards. Extracurricular activities include Drill Team/Color Guard, Raider (physical fitness) Team, Air Rifle Team, orientation trips, community service projects, and social events. The first year also gives the new cadets exposure to personal growth and responsibility, and establishes a foundation of military structure and tradition. Students planning to enroll in JROTC programs must meet program entry requirements.

School offering course: 2
LEADERSHIP EDUCATION II (MCJROTC)
Grades: 10-12 Credit: 1
Prerequisite: Successful completion of Leadership Education I, and be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards

This course builds upon knowledge and experience attained during Leadership Education I. The course continues to stress classroom instruction and practical application designed to emphasize leadership education, citizenship, personal growth and responsibility, self-discipline, character development, and future career considerations. Training in leadership, physical fitness, drill and ceremonies, military customs and courtesies, general military subjects, air rifle marksmanship, and military history are taught as part of the cadets’ further orientation to the Marine Corps and as a means to develop leadership qualities taught in class. Cadets are expected to wear designated Marine Corps uniforms on a weekly basis, adhere to appropriate grooming standards, and perform leadership roles within the MCJROTC cadet organization. Extracurricular activities include Drill Team/Color Guard, Raider (physical fitness) Team, Air Rifle Team, orientation trips, community service projects, and social events. Students planning to enroll in JROTC programs must meet program entry requirements.

School offering course: 2

LEADERSHIP EDUCATION III (MCJROTC)
Grades: 11-12 Credit: 1
Prerequisite: Successful completion of Leadership Education I and II, and be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards

This course builds upon the knowledge and experience attained during Leadership Education I and II. The course continues to stress classroom instruction and practical application designed to emphasize leadership education, citizenship, personal growth and responsibility, self-discipline, and character development. Training in leadership, physical fitness, drill and ceremonies, military customs and courtesies, general military subjects, air rifle marksmanship, and military history are taught as part of the cadets’ further orientation to the Marine Corps. During this year, there is an increased emphasis on the consideration and exploration of post high school educational and career opportunities. Cadets are expected to wear designated Marine Corps uniforms on a weekly basis, adhere to appropriate grooming standards, and perform leadership roles within the MCJROTC cadet organization. Extracurricular activities include Drill Team/Color Guard, Raider (physical fitness) Team, Air Rifle Team, orientation trips, community service projects, and social events. Students planning to enroll in JROTC programs must meet program entry requirements.

School offering course: 2

LEADERSHIP EDUCATION IV (MCJROTC)
Grades: 12 Credit: 1
Prerequisite: Successful completion of Leadership Education I, II, and III, and be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards

The course allows senior cadets the opportunity to serve as both a training facilitator for the MCJROTC instructional staff and as a mentor for junior cadets. Senior cadets are expected to display positive attitudes, requisite leadership ability, and perform in leadership roles within the MCJROTC cadet organization. Senior cadets are assigned to Leadership Education I, II, or III classes to provide leadership, serve as role models, conduct training, and mentor junior cadets as a means to enhance their leadership education and prepare them for a career after high school. Cadets are expected to wear designated Marine Corps uniforms on a weekly basis, adhere to appropriate grooming standards, and perform leadership roles within the MCJROTC cadet organization. Extracurricular activities include Drill Team/Color Guard, Raider (physical fitness) Team, Air Rifle Team, orientation trips, community service projects, and social events. Students planning to enroll in JROTC programs must meet program entry requirements.

School offering course: 2

AIR FORCE JROTC COURSE SEQUENCE

*A student may apply to receive college credit for the noted courses. The instructor for each course will provide the application instructions. Upon successful completions and approval from the senior instructor, students will receive college credit from the University of Colorado that can be accepted upon entrance to any university.

*AEROSPACE SCIENCE AND LEADERSHIP I (AFJROTC)
Grades: 9-11 Credit: 1
Prerequisite: Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards

This introductory course is designed for all students in their first year of Air Force JROTC. Units taught include the heritage of flight, development of air power, contemporary aviation, and the aerospace environment. Leadership studies include Air Force customs and courtesies, cadet corps activities, study habits, time management, communication skills, and leadership and management studies. Extracurricular activities include Drill Team/Color Guard. Cadets also participate in parades, summer leadership schools, drill team competitions, military balls, honorary academic groups, and other community activities. Students planning to enroll in JROTC programs must meet program entry requirements.

Schools offering course: 5, 7, 9, 10

School Number Code:
**AEROSPACE SCIENCE AND LEADERSHIP II (AFJROTC)**

Grades: 10-12  
Credit: 1  
Prerequisite: Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards. Successful completion of AFJROTC I  
This course includes units of study in The Aerospace Environment, Human Requirements of Flight, Principles of Aircraft Flight History, and Principles of Navigation. Students are inspected in a designated Air Force cadet uniform, participate in military drill, and also attend field trips and training visits. Second-year cadets begin to learn effective communication skills, understanding individual and group behavior, and practice basic leadership concepts. Students planning to enroll in JROTC programs must meet program entry requirements.  
*Schools offering course: 5, 7, 9, 10*

**AEROSPACE SCIENCE AND LEADERSHIP III (AFJROTC)**

Grades: 11-12  
Credit: 1  
Prerequisite: Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards. Successful completion of AFJROTC I and II  
This third-year course includes units of study in Orbits and Trajectories, Spacecraft and Launch Vehicles, and continued practicing of Basic Leadership Concepts. Students assume increasing positions of leadership and participate in the full range of activities. Cadets will begin to learn goal setting and begin to develop skills related to preparing for future careers. All extracurricular activities (Drill Team/Color Guard, parades, competitions, military balls honorary groups and community activities) apply. Students planning to enroll in JROTC programs must meet program entry requirements.  
*Schools offering course: 5, 7, 9, 10*

**AEROSPACE SCIENCE AND LEADERSHIP IV (AFJROTC)**

Grades: 11-12  
Credit: 1  
Prerequisite: Student must be able to participate in physical education program, dress in regulation uniform and meet and maintain the personal grooming standards. Successful completion of AFJROTC I-III  
This fourth-year course includes continued instruction in flight through the Honors Ground Program. Other units of study are offered in leadership through management of cadet corps, and practicing management techniques, decision making, management functions for themselves and others. All extracurricular activities (Drill Team/Color Guard, parades, competitions, military balls honorary groups and community activities) apply. Students organize and lead the company of cadets in all activities. Students planning to enroll in JROTC programs must meet program entry requirements.  
*Schools offering course: 5, 7, 9, 10*
Graduation requirements are located in the “General Information” section.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Approved Substitutes(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algebra I (V)</td>
<td>• Algebra I, Part 1 and Part 2 (V)</td>
</tr>
<tr>
<td></td>
<td>• Pre-AP Algebra I (V)</td>
</tr>
<tr>
<td></td>
<td>• Pre-IBDP Algebra (V)</td>
</tr>
<tr>
<td>Geometry (V)</td>
<td>• Geometry, Part 1 and Part 2 (V)</td>
</tr>
<tr>
<td></td>
<td>• Pre-AP Geometry (V)</td>
</tr>
<tr>
<td></td>
<td>• Pre-IBDP Geometry (V)</td>
</tr>
<tr>
<td></td>
<td>• IGCSE Geometry (V)</td>
</tr>
<tr>
<td>Algebra, Functions, and Data Analysis</td>
<td></td>
</tr>
<tr>
<td>Algebra II (V)</td>
<td>• Pre-IBDP Algebra II (V)</td>
</tr>
<tr>
<td></td>
<td>• Pre-AP Algebra II/Trigonometry (V, 0.5W)</td>
</tr>
<tr>
<td></td>
<td>• Pre-IBDP Algebra II/Trigonometry (V, 0.5W)</td>
</tr>
<tr>
<td></td>
<td>• IGCSE Algebra II/Trigonometry (V, 0.5W)</td>
</tr>
<tr>
<td>Advanced Mathematics</td>
<td></td>
</tr>
<tr>
<td>Functions/Trigonometry (W) or</td>
<td>• IB Mathematical Studies SL (W)</td>
</tr>
<tr>
<td>Functions/Analytic Geometry (W)</td>
<td>• IB Mathematics SL I (W), IB Mathematics HL I (W)</td>
</tr>
<tr>
<td></td>
<td>• AICE Mathematics I (W)</td>
</tr>
<tr>
<td></td>
<td>• GS Pre-Calculus Fall and GS Pre-Calculus Spring (W)</td>
</tr>
<tr>
<td>AP Calculus AB (W) or AP Calculus BC (W)</td>
<td>• IB Mathematics SL II (W), IB Mathematics HL II (W)</td>
</tr>
<tr>
<td></td>
<td>• AICE Mathematics II (W)</td>
</tr>
<tr>
<td></td>
<td>• AICE Mechanics (Level A)</td>
</tr>
<tr>
<td></td>
<td>• GS Calculus I, Parts A and B (W)</td>
</tr>
<tr>
<td></td>
<td>• GS Calculus Fall and GS Calculus Spring (W)</td>
</tr>
<tr>
<td>Trigonometry (0.5 credit)</td>
<td></td>
</tr>
<tr>
<td>Discrete Mathematics (0.5 credit)</td>
<td></td>
</tr>
<tr>
<td>Probability / Statistics (0.5 credit)</td>
<td></td>
</tr>
<tr>
<td>Computer Mathematics</td>
<td>• Advanced Computer Mathematics (0.5W)</td>
</tr>
<tr>
<td></td>
<td>• Computer Science</td>
</tr>
<tr>
<td>AP Statistics (W)</td>
<td></td>
</tr>
<tr>
<td>AP Computer Science A (W) or Computer Science AB (W)</td>
<td>• IB Computer Science SL (W), IB Computer Science HL (W)</td>
</tr>
<tr>
<td></td>
<td>• AICE Computing (W)</td>
</tr>
<tr>
<td>Advanced Computer Studies</td>
<td></td>
</tr>
<tr>
<td>Personal Living and Finance</td>
<td></td>
</tr>
</tbody>
</table>

Courses indicating a “V” have an end-of-course SOL test and offer the possibility of a verified unit of credit. Courses indicating a “W” offer the possibility of a weighted credit if the student earns a “C” or better in the course. Those indicating “0.5W” offer the possibility of a 0.5 weighted credit if the student earns a “C” or better in course.
ALGEBRA I, PARTS 1 AND 2  
Grades: 9-10  
Credits: 1 Elective Credit for Part 1 and 1 Math Credit for Part 2 when student has passed both parts  
Prerequisite: Math 8 (Pre-Algebra)

Note: Students earning a Modified Standard Diploma and students with disabilities eligible for credit accommodations receive two math credits for completing both courses.

Algebra I, in two parts, is offered for students who need additional time to complete the Algebra I curriculum. These two courses employ an interactive, hands-on approach to teaching algebra concepts. This two-part course uses the graphing calculator and real-world and workplace applications as the platform for learning algebra. Emphasis is placed on making connections in algebra to arithmetic, geometry, and statistics. Algebra I, Part 1 and Algebra I, 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 full year. This gives students the chance to earn the first math credit by the end of the 9th grade year in addition to an elective credit for Part 1. Schools may allow students to take Part 1 in the 9th grade year and Part 2 in the 10th grade. Students must take the Virginia SOL test for Algebra I during the Algebra I, Part 2 course.

Schools offering courses: All

GEOMETRY, PARTS 1 AND 2  
Grades: 11-12  
Credits: 1 Elective Credit for Part 1 and 1 Math Credit for Part 2 when student has passed both parts  
Prerequisite: Algebra I or Algebra I, Parts 1 and 2

Note: 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 I, they would receive 3 math credits and one elective credit for the four parts of the two courses.

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. Students must take the Virginia SOL test for Geometry during the Geometry, Part 2 course.

Schools offering course: 12

GEOMETRY  
Grades: 9-11  
Credit: 1  
Prerequisite: Algebra I or Algebra I, Parts 1 and 2

All students are expected to successfully complete 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. Calculators, computers, graphing utilities (graphing calculators or computer graphing simulators), dynamic geometry software, and other appropriate technology tools will be used.

Students must take the Virginia SOL test for Geometry.

Schools offering course: All

ALGEBRA, FUNCTIONS, AND DATA ANALYSIS  
Grades: 11-12  
Credit: 1  
Prerequisite: Algebra I and Geometry

This course is designed for students who have completed Algebra I and Geometry but need time to further develop algebraic and geometric concepts to ensure success in Algebra II. Within the context of mathematical modeling and data analysis, students will study functions and their behaviors, inequalities, probability, experimental design, and analysis of data. Data will be generated by practical applications arising from science, business, and finance. Students will solve problems that require the formulation of linear, quadratic, exponential, or logarithmic equations or a system of equations.

Note: A student may not receive credit for this course after receiving credit for Algebra II.

Schools offering course: All

ALGEBRA II  
Grades: 9-12  
Credit: 1  
Prerequisites: Algebra I and Geometry

All students preparing for post-secondary and advanced technical studies are expected to achieve the Algebra II standards. A thorough treatment of advanced algebraic concepts will be provided through the study of functions, “families of functions,” equations, inequalities, systems of equations and inequalities, polynomials, rational and radical equations, complex numbers, and sequences and series. Emphasis will be placed on practical applications and modeling throughout the course of study. Graphing utilities (graphing calculators or computer graphing simulators), computers, spreadsheets, and other appropriate technology tools will be used to assist in teaching and learning. Students must take the Virginia SOL test for Algebra II. Algebra II is required for Advanced Studies Diploma.

Schools offering course: All

School Number Code:  
1 – Brentsville  4 – Potomac  7 – Hylton  10 – Freedom  99 – Virtual  
2 – Gar-Field  5 – Stonewall  8 – Forest Park  11 – Patriot  
3 – Osbourn Park  6 – Woodbridge  9 – Battlefield  12 – Colgan
ADVANCED STUDIES DIPLOMA.

the Virginia SOL test for Algebra II. Algebra II is required for the Trigonometry class. Students must take

The content of the course is the same as the full year of Algebra

PRE-AP Algebra II/Trigonometry is taught at an accelerated pace. The content of the course is the same as the full year of Algebra II and the semester Trigonometry class. Students must take the Virginia SOL test for Algebra II. Algebra II is required for the Advanced Studies Diploma.

Schools offering course: All

PRE-AP ALGEBRA I

Grades: 7-9 Credit: 1
Prerequisite: Math 7 Extended or Math 8 (Pre-Algebra)

This course is designed for those students who have completed the Middle School Extended Mathematics curriculum prior to 8th grade or completed 8th grade Pre-algebra with a “B” or better. Pre-AP Algebra I students are expected to master all of the Algebra I objectives as well as some of the Algebra II objectives. Students taking this course are expected to continue their studies with an Advanced Geometry course followed by Algebra II/Trigonometry. Students will use algebra as a tool for representing and solving a variety of practical problems. The use of manipulatives and graphing calculators will help students develop and attach meaning to abstract ideas. Tables and graphs will be used to interpret algebraic expressions, equations, and inequalities and to analyze functions. Students must take the Virginia SOL test for Algebra I.

Schools offering course: 4, 6, 8, 11, 12, and All Middle Schools

PRE-AP GEOMETRY

Grades: 8-10 Credit: 1
Prerequisite: Pre-AP Algebra I

This course includes emphasis on two- and three-dimensional reasoning skills, coordinate and transformational geometry, and the use of geometric models to solve problems. Students will use a variety of applications and problem-solving techniques including algebraic skills. The intent of this course is to provide students with many opportunities to explore, conjecture, reason logically, formulate and solve problems, and communicate mathematically. Calculators, computers, graphing calculators or computer graphing simulators, dynamic geometry software, and other appropriate technology tools will be used to assist in teaching and learning. Students must take the Virginia SOL test for Geometry.

Schools offering course: 3, 6, 7, 8, 9, 10, 11, 12

PRE-AP ALGEBRA II – TRIGONOMETRY

Grades: 9-11 Credit: 1
Prerequisite: Pre-AP Algebra I, advanced Geometry, and teacher recommendation

Pre-AP Algebra II/Trigonometry is taught at an accelerated pace. The content of the course is the same as the full year of Algebra II and the semester Trigonometry class. Students must take the Virginia SOL test for Algebra II. Algebra II is required for the Advanced Studies Diploma.

Schools offering course: 3, 6, 7, 8, 9, 10, 11, 12

FUNCTIONS – TRIGONOMETRY

Grades: 10-12 Credit: 1
Prerequisite: Algebra II and teacher recommendation

Functions/Trigonometry is a one-year preparatory course for Advanced Placement Calculus AB. Basic course content is comprised of the algebra of real numbers, complex numbers and polynomials; exponential, polynomial and logarithmic functions; circular functions and trigonometry.

Schools offering course: 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

FUNCTIONS – ANALYTIC GEOMETRY

Grades: 10-12 Credit: 1
Prerequisite: Algebra II / Trigonometry and teacher recommendation

Functions/Analytic Geometry is a one-year preparatory course for Advanced Placement Calculus BC. The course content is comprised of the algebra of real numbers, vectors, complex numbers and polynomials; exponential, polynomial and logarithmic functions; and analytic geometry.

Schools offering course: 3, 4, 6, 7, 8, 9, 10, 11, 12

ADVANCED PLACEMENT STATISTICS

Grades: 11-12 Credit: 1
Prerequisite: Algebra II

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:
- Exploring Data: observing patterns and departures from patterns, anticipating patterns
- Planning a Study: deciding what and how to measure
- Producing models using probability theory and simulation,
- Inference: drawing conclusions from sample data.

Students are required to take the AP Statistics examination which is administered in May. Students who successfully complete the course and the Advanced Placement Statistics Examination may receive credit for a one-semester introductory college statistics course.

Schools offering course: All

ADVANCED PLACEMENT CALCULUS AB

Grades: 11-12 Credit: 1
Prerequisite: Functions/Trigonometry or Functions/Analytic Geometry and teacher recommendation

Advanced Placement Calculus AB explores the topics of limits/continuity, derivatives, and integrals. These ideas are examined using a multi-layered approach including the verbal, numerical, analytical, and graphical analysis of polynomial, rational, trigonometric, exponential, and logarithmic functions and their inverses. 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. These applications emphasize derivatives as rates of change, local linear approximations, optimizations and curve analysis, and integrals as Riemann sums, area of regions, volume of solids with known cross sections, average value of functions, and rectilinear motions. As mandated by the College Board, graphing calculators will be required. Students are required to take the AP Calculus AB
Schools offering course: 3, 4, 6, 7, 8, 9, 10, 11, 12

ADVANCED PLACEMENT CALCULUS BC
Grades: 11-12  Credit: 1
Prerequisite: Functions/Analytic Geometry and teacher recommendation

Advanced Placement Calculus BC is intended for students who have a thorough knowledge of analytic geometry and elementary functions. Although all of the elements of the Advanced Placement 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 Advanced Placement Calculus BC. Among these are parametric, polar, and vector functions; the rigorous definition of limit; advanced integration techniques; Simpson’s Rule; length of curves; improper integrals; Hooke’s Law; and the study of sequences and series. The use of the graphing calculator 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 required to take the AP Calculus BC examination which is administered in May. College credit and/or advanced placement in college is available to those students receiving a qualifying score on the Advanced Placement Examination.

Schools offering course: 3, 6, 7, 8, 9, 10, 11, 12

AICE MATHEMATICS I (AS LEVEL)
Grades: 11-12  Credit: 1
Prerequisite: IGCSE Algebra II/Trigonometry and teacher recommendation

AICE Mathematics I 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 an in-depth study of vectors and an introduction to differentiation and integration. Students will acquire the mathematical background necessary for further study at the AICE Mathematics II level.

Schools offering course: 1, 4

AICE MATHEMATICS II (A LEVEL)
Grade: 12  Credit: 1
Prerequisite: AICE Mathematics I and teacher recommendation

AICE Mathematics II extends the knowledge base built in AICE Mathematics I. 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 with derivatives, integrals, vectors, sequences and series. 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.

Schools offering course: 1, 4

AICE MECHANICS (LEVEL A)
Grades: 11-12  Credit: 1
Prerequisite: AICE Mathematics I

AICE Mechanics is designed to provide accelerated students a strong foundation in physics and the mathematical applications of it. They will develop an understanding of advanced mathematical principles and an appreciation of mathematics as a logical and coherent subject. The international curriculum includes an in-depth study of forces and how they apply to the movement of a body as well as concepts such as movements, Center of Mass, and Elasticity. This course is designed to complement the AICE Mathematics and the AICE Physics courses. It may be taken in conjunction with AICE Mathematics II by seniors or by seniors who completed the AICE Mathematics II class in their junior year. They will be prepared to sit for the external examination leading to an Advanced International Certificate of Education Diploma.

Schools offering course: 1, 4

IGCSE GEOMETRY
Grades: 9-10  Credit: 1
Prerequisite: Algebra I

IGCSE Geometry includes all objectives in the PWCS Geometry curriculum and the Virginia Standards of Learning with a strong relation to algebraic concepts such as functions and linear programming. 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. Students must take the Virginia SOL test for Geometry.

Schools offering course: 1, 4

IGCSE ALGEBRA II – TRIGONOMETRY
Grades: 10-11  Credit: 1
Prerequisites: Algebra I, IGCSE Geometry, and teacher recommendation

IGCSE Algebra II/Trigonometry is an accelerated course including all objectives in the Algebra II curriculum and Trigonometry curriculum as stated in the Virginia Standards of Learning. Further topics include binomial expansions and vectors in two dimensions. Assessment includes an external student examination and course work evaluations by the teacher. Students must take the Virginia SOL test for Algebra II. Algebra II is required for Advanced Studies Diploma.

Schools offering course: 1, 4
INTERNATIONAL BACCALAUREATE COURSES

PRE-IB DIPLOMA PROGRAMME ALGEBRA I
Grade: 9 Credit: 1
Prerequisite: 8th grade Pre-Algebra

Pre-IBDP Algebra I includes all objectives in the PWCS Algebra I curriculum and the Virginia Standards of Learning. In addition, enrichment and extension topics such as linear programming, absolute value functions, and real-life math applications are emphasized. Critical thinking skills and use of graphing calculator technology are also important components in this course. Alternative assessments such as projects, oral and written communication and cooperative learning activities are a regular part of this course. Students must take the Virginia SOL test for Algebra I.

Schools offering course: 2, 5

PRE-IB DIPLOMA PROGRAMME GEOMETRY
Grades: 9-10 Credit: 1
Prerequisite: Pre-IBDP Algebra I or Pre-AP Algebra I

Pre-IBDP Geometry is an accelerated program of study for students interested in pursuing the IB level math courses. The course includes all objectives from the PWCS Pre-AP Geometry curriculum with particular emphasis on algebraic connections. Additional topics in trigonometry and transformational graphing are included. Graphing calculators are used throughout the course. Students must take the Virginia SOL test for Geometry.

Schools offering course: 2, 5

PRE-IB DIPLOMA PROGRAMME ALGEBRA II
Grades: 9-11 Credit: 1
Prerequisite: Pre-IBDP Geometry

Pre-IBDP Algebra II is the pre-requisite for IB Math Studies and IB Mathematics SL I. The course incorporates and expands the knowledge from both Pre-IBDP Algebra and Geometry. The course includes all objectives from the PWCS Pre-AP Algebra II curriculum with emphasis on and completion of projects and internationalism. A graphing calculator is used throughout the course. In all courses, students will acquire technical writing skills within the mathematics curriculum. Students must take the Virginia SOL test for Algebra II. Algebra II is required for Advanced Studies Diploma.

Schools offering course: 2

PRE-IB DIPLOMA PROGRAMME ALGEBRA II – TRIGONOMETRY
Grades: 10-11 Credit: 1
Prerequisite: Pre-IBDP Geometry and teacher recommendation

Pre-IBDP Algebra II/Trigonometry is an accelerated course including all objectives in the Algebra II curriculum and Trigonometry curriculum as stated in the Virginia Standards of Learning. It is recommended for students with high grades in Pre-IBDP Algebra I and Geometry. This course is the prerequisite for IB Mathematics HL I. Students must take the Virginia SOL test for Algebra II. Algebra II is required for Advanced Studies Diploma.

Schools offering course: 2, 5

IB MATHEMATICS SL I
Grades: 10-11 Credit: 1
Prerequisite: Pre-IBDP Algebra II / Trigonometry or Pre-IBDP Algebra II with a teacher recommendation

IB Mathematics SL I 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 strong math students who are preparing for studies in subjects such as chemistry, economics, psychology and business administration. The goal of this course is to provide students with a solid foundation of vectors, statistics, probability and pre-calculus topics. 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.

Schools offering course: 2, 5

IB MATHEMATICS SL II
Grades: 11-12 Credit: 1
Prerequisite: IB Mathematics SL I and teacher recommendation

IB Mathematics SL II is the second year of the two-year sequence in mathematics that meets the requirements of the IB Diploma Programme. Students who have successfully completed IB Mathematics SL I may enroll in this course. This course builds on and extends the knowledge base of IB Mathematics SL I. IB Mathematics SL II is the study of concepts, techniques, and applications of calculus. Students in this course will complete one portfolio project and take the IB Mathematics SL examination.

Schools offering course: 2, 5

IB MATHEMATICAL STUDIES (SL)
Grade: 12 Credit: 1
Prerequisite: Pre-IBDP Algebra II and teacher recommendation

IB Mathematical Studies (SL) is intended to provide a realistic mathematical course for students with varied backgrounds and abilities. The skills needed to cope with the mathematical demands of a technological society are developed but no great technical expertise is required. Students likely to need to use mathematics in the pursuit of a science or mathematics career are advised to consider IB Mathematics SL. A substantial piece of work in the form of a project is required for IB Mathematical Studies. Topics include sets, logic, probability and statistics, functions, simple sequences, introductory differential calculus, finance, geometry, and trigonometry.

Schools offering course: 2, 5

IB MATHEMATICS HL I
Grade: 11 Credit: 1
Prerequisite: Pre-IBDP Algebra II / Trigonometry and teacher recommendation

IB Mathematics HL I 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 the strong math student whose next formal experience with mathematics will be college level courses in calculus, differential equations, linear algebra, finite mathematical structures or probability and statistics. The goal of this course is to provide students with a strong foundation...
in the concepts, techniques, and applications of pre-calculus topics, including functions, analytic geometry, further trigonometry, vectors, the complex plane, probability, statistics, and mathematical induction. Students will use technology as a tool for learning and develop an awareness of global contributions to the field of mathematics sciences.

Schools offering course: 2, 5

**IB MATHEMATICS HL II**

**Grade: 12**  
**Credit: 1**  
**Prerequisite: IB Mathematics HL I and teacher recommendation**

IB Mathematics HL II is the second year of the two-year sequence in mathematics that meets the requirements of the IB Diploma Programme. Students who have successfully completed IB Mathematics HL I may enroll in this course during their senior year. This course builds on and extends the knowledge base of IB Mathematics HL I. IB Mathematics HL II is the study of concepts, techniques, and applications of differential and integral calculus, including Taylor series, the convergence or divergence of infinite series, and differential equations. Students in this course will complete one portfolio project and will take the IB Mathematics HL examination.

Schools offering course: 2, 5

**MATHEMATICS ELECTIVES**

**PERSONAL LIVING AND FINANCE**

**Grades: 10-12**  
**Credit: 1 elective credit for Standard or Advanced Studies Diplomas or 1 math credit for Modified Standard Diploma only**  
**Prerequisite: Teacher recommendation**

This course addresses the need for students to have the skills to manage personal finances and to make sound financial decisions. Students may earn one mathematics credit for the Modified Standard Diploma by successfully completing a Personal Living and Finance course. Personal Living and Finance may not be used to satisfy the mathematics requirement for the Standard or Advanced Studies Diplomas.

Schools offering course: All

**TRIGONOMETRY**

**Grades: 11-12**  
**Credit: 0.5**  
**Prerequisite: Algebra II**

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 II standards.

Schools offering course: 4, 5, 11

**DISCRETE MATHEMATICS**

**Grades: 11-12**  
**Credit: 0.5**  
**Prerequisite: Algebra II**

This elective 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).

Schools offering course: 2, 4, 6, 7, 8, 9, 12

**PROBABILITY AND STATISTICS**

**Grades: 11-12**  
**Credit: 0.5**  
**Prerequisite: Algebra II**

The Probability and Statistics course includes theory of probability, description of statistical measurements, probability distributions and statistical inference. The course is designed for the student who plans to enter such fields as business, economics, education, psychology, sociology, medicine, etc., which require statistics for their effective pursuit. Successful completion of this course will be adequate preparation for the usual college courses in these fields. In addition, any student who is preparing for study in mathematics, physical sciences or engineering will eventually find a need for one or more courses in statistics. This course will provide the student the necessary fundamental background in probability and statistics.

Schools offering course: 2, 4, 6, 7, 8, 9, 11, 12

**COMPUTER ELECTIVES**

**PERSONAL LIVING AND FINANCE**

**Grades: 10-12**  
**Credit: 1 elective credit for Standard or Advanced Studies Diplomas or 1 math credit for Modified Standard Diploma only**  
**Prerequisite: Teacher recommendation**

This course addresses the need for students to have the skills to manage personal finances and to make sound financial decisions. Students may earn one mathematics credit for the Modified Standard Diploma by successfully completing a Personal Living and Finance course. Personal Living and Finance may not be used to satisfy the mathematics requirement for the Standard or Advanced Studies Diplomas.

Schools offering course: All

**TRIGONOMETRY**

**Grades: 11-12**  
**Credit: 0.5**  
**Prerequisite: Algebra II**

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 II standards.

Schools offering course: 4, 5, 11

**DISCRETE MATHEMATICS**

**Grades: 11-12**  
**Credit: 0.5**  
**Prerequisite: Algebra II**

This elective 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).

Schools offering course: 2, 4, 6, 7, 8, 9, 12

**PROBABILITY AND STATISTICS**

**Grades: 11-12**  
**Credit: 0.5**  
**Prerequisite: Algebra II**

The Probability and Statistics course includes theory of probability, description of statistical measurements, probability distributions and statistical inference. The course is designed for the student who plans to enter such fields as business, economics, education, psychology, sociology, medicine, etc., which require statistics for their effective pursuit. Successful completion of this course will be adequate preparation for the usual college courses in these fields. In addition, any student who is preparing for study in mathematics, physical sciences or engineering will eventually find a need for one or more courses in statistics. This course will provide the student the necessary fundamental background in probability and statistics.

Schools offering course: 2, 4, 6, 7, 8, 9, 11, 12

**COMPUTER ELECTIVES**

**COMPUTER MATHEMATICS**

**Grades: 9-12**  
**Credit: 1**  
**Prerequisite: Completed or currently enrolled in Algebra I**

Notes: 1) 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. 2) If Advanced Computer Math is taken following this course, Computer Mathematics will become 1 elective credit.

The computer mathematics course is intended to provide students with experiences in using the computer/calculator to solve problems that can be set up as mathematical models. Programming concepts, problem-solving strategies, and mathematical applications are integrated throughout the course. This course is designed for students who want only one computer course.

Schools offering course: 2, 3, 4, 7, 8, 10, 11
Advanced Computer Mathematics has a focus to provide the student with a conceptual background in computer science. Topics include computer architecture, data representation, operating systems, computing systems in society, and software development. Students will implement the major stages of software development using a high level language. Topics will include loops, selections, and arrays. This advanced course covers all topics in the regular Computer Mathematics class as well as others. In some schools this course is the first year of a three-year curriculum in Computer Science.

Schools offering course: 2, 3, 4, 6, 8, 9, 10, 11, 12

**ADVANCED COMPUTER STUDIES**
Grades: 11-12
Credit: 1
Prerequisite: Completed or concurrently enrolled in Computer Science AB

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.

Schools offering the course: 4, 7, 8, 9
GS PRE-CALCULUS FALL
GS PRE-CALCULUS FALL – DUAL ENROLLMENT
(GMU MATH 105 – 4 credits)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: Algebra II / Trigonometry
GS PRE-CALCULUS Fall 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.
Offered ONLY at The Governor’s School @ Innovation Park

GS CALCULUS I, PART A
GS CALCULUS I, PART A – DUAL ENROLLMENT
(GMU MATH 123 – 4 credits)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: GS Pre-Calculus or equivalent course
GS CALCULUS I, Parts A and B are the equivalent of GMU Math 115 taken over an extended time. This 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.
Offered ONLY at The Governor’s School @ Innovation Park

GS CALCULUS I, PART B
GS CALCULUS I, PART B – DUAL ENROLLMENT
(GMU MATH 124 – 4 credits)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: GS Calculus I, Part A
GS CALCULUS I, Parts A and B are the equivalent of GMU Math 115 taken over an extended time. This 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.
Offered ONLY at The Governor’s School @ Innovation Park

GS CALCULUS FALL
GS CALCULUS FALL – DUAL ENROLLMENT
(GMU MATH 115 – 4 credits)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: GS Pre-Calculus
GS CALCULUS Fall 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.
Offered ONLY at The Governor’s School @ Innovation Park

GS CALCULUS SPRING
GS CALCULUS SPRING – DUAL ENROLLMENT
(GMU MATH 116 – 4 credits)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: GS Pre-Calculus
GS CALCULUS Spring 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.
Offered ONLY at The Governor’s School @ Innovation Park

GS MULTIVARIABLE CALCULUS FALL – DUAL ENROLLMENT
(GMU MATH 215 – 3 CREDITS)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: GS 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.
Offered ONLY at The Governor’s School @ Innovation Park

GS LINEAR ALGEBRA SPRING – DUAL ENROLLMENT
(GMU MATH 203 – 3 credits)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: GS Calculus
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.
Offered ONLY at The Governor’s School @ Innovation Park
Courses indicating a "V" have an end-of-year test and offer the possibility of a verified unit of credit. Courses indicating a "W" offer the possibility of weighted credit if the student passes the course with a "C" or better and completes the required external assessment of the course.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Approved Substitutes(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth Science</td>
<td>• Earth Science I, Advanced Earth Science I, Pre-IB Diploma Programme</td>
</tr>
<tr>
<td></td>
<td>Earth Science – V</td>
</tr>
<tr>
<td></td>
<td>• Earth Science II: Oceanography</td>
</tr>
<tr>
<td></td>
<td>• Earth Science II: Astronomy</td>
</tr>
<tr>
<td></td>
<td>• Earth Science II: Physical Geology</td>
</tr>
<tr>
<td></td>
<td>• AP Environmental Science V, W</td>
</tr>
<tr>
<td></td>
<td>• IB Environmental Systems – W, V</td>
</tr>
<tr>
<td></td>
<td>• AICE Environmental Management – W, V</td>
</tr>
<tr>
<td>Biology</td>
<td>• Biology I, Pre-AP Biology, IGCSE Biology, Pre-IB Diploma Programme Biology – V</td>
</tr>
<tr>
<td></td>
<td>• Biology II Ecology</td>
</tr>
<tr>
<td></td>
<td>• Biology II Survey</td>
</tr>
<tr>
<td></td>
<td>• Biology II DNA Science/Biotechnology</td>
</tr>
<tr>
<td></td>
<td>• AP Biology – W</td>
</tr>
<tr>
<td></td>
<td>• Advanced Biology Laboratory – W</td>
</tr>
<tr>
<td></td>
<td>• IB Biology I, II – W</td>
</tr>
<tr>
<td></td>
<td>• AICE Biology – W</td>
</tr>
<tr>
<td>Chemistry</td>
<td>• Chemistry I, Pre-AP Chemistry, IGCSE Chemistry, Pre-IB Diploma Programme Chemistry – V</td>
</tr>
<tr>
<td></td>
<td>• Chemistry II: Forensic Science and Chemical Analysis</td>
</tr>
<tr>
<td></td>
<td>• AP Chemistry-W</td>
</tr>
<tr>
<td></td>
<td>• Advanced Chemistry Laboratory – W</td>
</tr>
<tr>
<td></td>
<td>• AICE Chemistry – W</td>
</tr>
<tr>
<td></td>
<td>• IB Chemistry I, II – W</td>
</tr>
<tr>
<td>Physics</td>
<td>• SOL-Based Physics, IGCSE Physics</td>
</tr>
<tr>
<td></td>
<td>• AP Physics 1 – W</td>
</tr>
<tr>
<td></td>
<td>• AP Physics 2 – W</td>
</tr>
<tr>
<td></td>
<td>• AP Physics C – W</td>
</tr>
<tr>
<td></td>
<td>• Advanced Physics Laboratory – W</td>
</tr>
<tr>
<td></td>
<td>• AICE Physics – W</td>
</tr>
<tr>
<td></td>
<td>• IB Physics – W</td>
</tr>
</tbody>
</table>

Graduation requirements are located in the “General Information” section.
EARTH SCIENCE I
Grades: 9-12 Credit: 1
Prerequisite: Successful completion of Grade 8 Science
Earth Science is a laboratory-based, course that provides students with an opportunity to explore the various physical phenomena that affect the earth. This course, which encompasses research design concepts, helps students become more aware of their surroundings through the study of astronomy, space science, meteorology, oceanography, physical geology, and environmental resources. Students are required to take the Earth Science I Standards of Learning assessment at the end of this course.
Schools offering course: All

ADVANCED EARTH SCIENCE I
Grades: 9-12 Credit: 1
Prerequisite: Successful completion of Grade 8 Science; teacher recommendation
Advanced Earth Science I is lab-based, with a curriculum designed to give students a foundation in earth science concepts as well as the opportunity to utilize principles of experimental design in laboratory inquiry and on a required student project. Advanced Earth Science I includes the study of geology, oceanography, meteorology, astronomy, and space science but with extensions to each curriculum objective. This course is open to interested students and may be required of students in specialty programs throughout the county. Students are required to take the Earth Science I Standards of Learning assessment at the end of this course.
Schools offering course: 3, 6, 7, 8, 9, 11, 12

BIOLOGY I
Grades: 9-12 Credit: 1
Prerequisite: Successful completion of Grade 8 Science
Biology I 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 principle biological theories with an emphasis on critical thinking and science process skills.

Note: 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.

Students are required to take the Biology I Standards of Learning assessment at the end of this course.
Schools offering course: All

CHEMISTRY I
Grades: 10-12 Credit: 1
Prerequisite: Successful completion of one year of laboratory science; Algebra I and teacher recommendation
Co-requisite: Enrollment in Geometry
Chemistry I emphasizes the qualitative and quantitative study of substances and the changes that occur in them. Students will investigate using various lab techniques and apply mathematical skills with the use of chemical quantities in problem solving. A survey of concepts includes atomic structure, chemical bonding, formulas and equations, stoichiometry, and other calculations based on molar relationships, phases of matter and the kinetic theory, acid-base theory, and simple organic chemistry. This course is intended for college preparatory and general education purposes. Students are required to take the Chemistry I Standards of Learning assessment at the end of this course.
Schools offering course: All

SOL-BASED PHYSICS
Grades: 10-12 Credit: 1
Prerequisite: Successful completion of Algebra I; Geometry
Co-requisite: Enrollment in Algebra II or higher
SOL-Based Physics is a standard first year course that covers all topics as required by the Virginia Standards of Learning (SOL) for physics. Students will utilize mathematical calculations while applying scientific methodology to investigate Newtonian mechanics; fluids (hydrostatics and hydrodynamics); wave phenomena; electricity and magnetism; thermodynamics; and selected topics in modern physics. This course is fast paced, and students are expected to have strong study and mathematical skills. Students will be instructed on how to design, conduct, analyze, and interpret data and present results collected from investigation. Written, detailed laboratory reports are required. Students who desire to continue their study of Physics upon completion of this course should enroll in AP Physics II or AP Physics C.
Schools offering course: All

ADVANCED PLACEMENT COURSES

PRE-AP BIOLOGY
Grades: 9-12 Credit: 1
Prerequisite: Completion of grade 8 science; teacher recommendation
Pre-AP Biology is lab-based, 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 student project. Pre-AP Biology includes the same major areas of study as in Biology I but with extensions to each curriculum objective and associated specialty program. This course is open to interested students and may be required of students in specialty programs throughout the county.

Note: 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.

Students are required to take the Biology Standards of Learning assessment at the end of this course.
Schools offering course: 3, 6, 7, 8, 9, 11, 12

School Number Code:
1 – Brentsville 4 – Potomac 7 – Hylton 10 – Freedom
2 – Gar-Field 5 – Stonewall 8 – Forest Park 11 – Patriot
3 – Osbourn Park 6 – Woodbridge 9 – Battlefield 12 – Colgan
99 – Virtual
ADVANCED PLACEMENT BIOLOGY

Grades: 11-12  Credit: 1
Prerequisite: Successful completion of at least two laboratory sciences to include Biology I and Chemistry I; successful completion of Algebra and Geometry.  
Co-requisite: Advanced Biology Laboratory (except at school 8 and 3) and Algebra II

Advanced Placement 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. Primary emphasis of the course is on developing an understanding of concepts rather than on memorizing terms and technical details. Students are expected to take the Advanced Placement Biology examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level biology. 

Schools offering course: 3, 4, 6, 7, 8, 9, 10, 11, 12, 99

ADVANCED BIOLOGY LABORATORY

Grades: 11-12  Credit: 1
Prerequisite: Satisfactory completion of two laboratory courses from earth science, biology, chemistry, and/or physics  
Co-requisite: Enrollment in Advanced Placement Biology

This course complements the AICE and AP Biology programs and is a co-requisite for AICE Biology and AP Biology. Advanced Biology Laboratory supports the core lab hour requirements and activities for these courses by providing students opportunities to focus on the specialized laboratory investigations that are integral parts of these courses. Students also gain practical experience in accessing and utilizing scientific literature, employing advanced laboratory techniques, and increasing their ability to design and conduct in-depth independent research projects. 

Schools offering course: 6, 7, 8

PRE-AP CHEMISTRY

Grades: 10-12  Credit: 1
Prerequisite: Successful completion of one laboratory science; Algebra I; teacher recommendation

Pre-AP Chemistry provides the highly motivated, college-bound student with a rigorous first-year chemistry course. Students who elect to take this course must have a true desire to take AP Chemistry as a second-year course. Completion of this course will make the transition to AP Chemistry less difficult and improve test scores on the AP examination. The content of this course will include the following: matter and energy, atomic structure, bonding, periodic table, mathematics of chemistry, kinetics and equilibrium, acids and bases, redox and electrochemistry, organic chemistry, applications of chemical properties, nuclear chemistry, and laboratory activities as well as enriched objectives. Students will complete laboratory activities that emphasize the quantitative applications learned in class. Students are required to take the Chemistry Standards of Learning assessment at the end of this course. 

Schools offering course: 3, 6, 7, 8, 9, 10, 11, 12

ADVANCED PLACEMENT CHEMISTRY

Grades: 11-12  Credit: 1
Prerequisite: Successful completion of Chemistry I; at least Algebra II; teacher recommendation; at Osbourn Park HS offered to 10th graders with teacher recommendation  
Co-requisite: Advanced Chemistry Lab

Advanced Placement 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. Students enrolled in this course are encouraged to pursue an advanced mathematics sequence. Students are expected to take the Advanced Placement Chemistry examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level chemistry. This course is in compliance with the advanced placement course description of the College Board. 

Schools offering course: 3, 4, 6, 7, 8, 9, 10, 11, 12

ADVANCED CHEMISTRY LABORATORY

Grades: 11-12  Credit: 1
Prerequisite: Satisfactory completion of two laboratory courses from earth science, biology, chemistry, and/or physics; at Osbourn Park HS offered to 10th graders with teacher recommendation  
Co-requisite: Advanced Placement Chemistry or AICE Chemistry

This course complements the AICE and AP Chemistry programs and is a co-requisite for AICE Chemistry and AP Chemistry. Advanced Chemistry Laboratory supports the core lab hour requirements and activities for these courses by providing students opportunities to focus on the specialized laboratory investigations that are integral parts of these courses. Students also gain practical experience in accessing and utilizing scientific literature, employing advanced laboratory techniques, and increasing their ability to design and conduct in-depth independent research projects. 

Schools offering course: 4, 7, 8

ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE

Grades: 11-12  Credit: 1
Prerequisite: Successful completion of Biology I; Chemistry I; Algebra II

Advanced Placement 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. This course is in compliance with the Advanced Placement Environmental Science course description as set by the College Board. Since Earth Science I is not a mandated prerequisite for this course, students who have not taken Earth Science I will be required to take the Earth Science Standards of Learning assessment at the end of this course. Students are expected to take the Advanced Placement Environmental Science examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level environmental science. 

Schools offering course: 3, 4, 6, 7, 8, 9, 10, 11, 12

School Number Code: 
1 – Brentsville 4 – Potomac 7 – Hylton 10 – Freedom 99 – Virtual  
2 – Gar-Field 5 – Stonewall 8 – Forest Park 11 – Patriot  
3 – Osbourn Park 6 – Woodbridge 9 – Battlefield 12 – Colgan

125
ADVANCED PLACEMENT PHYSICS 1

Grades: 11-12
Prerequisite: Successful completion of Algebra II and Chemistry; successful completion of Trigonometry (or concurrent enrollment in Trigonometry with a teacher recommendation)
Co-requisite: Advanced Placement Physics 1 Laboratory

AP Physics 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 general areas: Newtonian mechanics; work, energy, and power; mechanical waves, and sound. Students are expected to take the Advanced Placement Physics 1 examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level physics. Students who have taken SOL Physics may not enroll in this course as much of the content is identical to the SOL based physics course. These students may enroll in either AP Physics 2 or AP Physics C. 

Schools offering course: 3, 6, 8, 10

ADVANCED PHYSICS C LABORATORY

Grades: 11-12
Prerequisite: Satisfactory completion of Algebra II and Chemistry; successful completion of Trigonometry (or concurrent enrollment in Trigonometry with a teacher recommendation)
Co-requisite: Advanced Physics Laboratory C

This course complements AP Physics programs and is a co-requisite for AP Physics C. Advanced Physics Laboratory supports the core lab hour requirements and activities for these courses by providing students opportunities to focus on the specialized laboratory investigations that are integral parts of these courses. Students also gain practical experience in accessing and utilizing scientific literature, employing advanced laboratory techniques, and increasing their ability to design and conduct in-depth independent research projects.

Schools offering course: 3, 6, 7, 8, 10

ADVANCED PLACEMENT PHYSICS 2

Grades: 11-12
Prerequisite: Successful completion of Algebra II and Chemistry; successful completion of Trigonometry (or concurrent enrollment in Trigonometry with a teacher recommendation)
Co-requisite: Advanced Placement Physics 2 Laboratory

AP Physics is an algebra-based course that is representative of topics covered in similar college physics courses, as determined by periodic surveys. The course covers five general areas: fluid mechanics; thermodynamics; electricity and magnetism; optics; atomic and nuclear physics. Students are expected to take the Advanced Placement Physics 2 examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level physics. While not a required pre-requisite, students taking this course will benefit from any previous course work in SOL Physics or AP Physics I.

Schools offering course: 3, 6, 8

ADVANCED PHYSICS C

Grades: 11-12
Prerequisite: Completion of Algebra II/Trigonometry or Functions/Analytic Geometry with teacher recommendation. Concurrent enrollment in Calculus is preferred but not required
Co-requisite: Advanced Physics Laboratory C

AP Physics C ordinarily forms the first part of a college sequence that serves as the foundation in physics for students interested in the physical sciences or engineering. The focus of this course is principally mechanics. Strong emphasis is placed on solving a variety of challenging problems, requiring some calculus that is presented to students during instruction. Students are expected to take the Advanced Placement Physics C examination in May. With a satisfactory score, students may be eligible to receive some credit for college-level physics.

Schools offering course: 3, 6, 7, 8, 11

ADVANCED PHYSICS 2 LABORATORY

Grades: 11-12
Prerequisite: Satisfactory completion of two laboratory courses from earth science, biology, chemistry, and/or physics
Co-requisite: Advanced Placement Physics 2

This course complements AP Physics programs and is a co-requisite for AP Physics 2. Advanced Physics Laboratory supports the core lab hour requirements and activities for these courses by providing students opportunities to focus on the specialized laboratory investigations that are integral parts of these courses. Students also gain practical experience in accessing and utilizing scientific literature, employing advanced laboratory techniques, and increasing their ability to design and conduct in-depth independent research projects.

Schools offering course: 6, 7, 10
**IGCSE BIOLOGY**

**Grades: 9-10  Credit: 1**

**Prerequisite:** Successful completion of Grade 8 Science; teacher recommendation

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.

*Note: 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.*

Students are required to take the Biology Standards of Learning assessment at the end of this course.

**Schools offering course: 1, 4**

---

**AICE BIOLOGY (AS LEVEL)**

**Grades: 11-12  Credit: 1**

**Prerequisite:** Completion of IGCSE Biology or Biology I; completion of IGCSE Chemistry or Chemistry I; completion of Algebra II or IGCSE Geometry; teacher recommendation

**Co-requisite:** Advanced Biology Laboratory at school 4 only and Algebra II or Algebra II/Trigonometry

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 an Advanced International Certificate of Education Diploma and an Advanced Placement qualification.

**Schools offering course: 1, 4**

---

**AICE BIOLOGY (A LEVEL)**

**Grades: 11-12  Credit: 1**

**Prerequisite:** Completion of AICE Biology (AS 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.

**School offering course: 1, 4**

---

**IGCSE CHEMISTRY**

**Grades: 10-11  Credit: 1**

**Prerequisite:** Completion of IGCSE Biology or Biology I and teacher recommendation; completion of IGCSE Algebra I or Algebra II and teacher recommendation; successful completion of English 9

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. Students are required to take the Chemistry Standards of Learning assessment at the end of this course.

**Schools offering course: 1, 4**

---

**AICE CHEMISTRY (AS LEVEL)**

**Grades: 11-12  Credit: 1**

**Prerequisite:** Completion of IGCSE Chemistry or Chemistry I; Algebra II or IGCSE Algebra II/Trigonometry; teacher recommendation

**Co-requisite:** Advanced Chemistry Laboratory at school 4 only

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 Advanced Placement qualification.

**Schools offering course: 1, 4**

---

**IGCSE PHYSICS**

**Grades: 10-11  Credit: 1**

**Prerequisite:** English 9, Algebra I, IGCSE Geometry or Geometry I and IGCSE Algebra II/Trigonometry; teacher recommendation

**Co-requisite:** Advanced Physics Laboratory at school 4 only

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 II/Trigonometry must have been successfully completed or the student must take IGCSE Algebra II/Trigonometry concurrently. Assessment measures will include external student examination and course evaluations by the teacher.

**Schools offering course: 1, 4**
AICE PHYSICS (AS LEVEL)
Grades: 11-12 Credit: 1
Prerequisite: IGCSE Physics or Physics I; IGCSE Algebra II/Trigonometry; IGCSE Chemistry or Chemistry I; Algebra II and Trigonometry

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 Advanced Placement qualification.
Schools offering course: 1, 4

AICE ENVIRONMENTAL MANAGEMENT (AS LEVEL)
Grades: 11-12 Credit: 1
Prerequisite: Successful completion of IGCSE Biology or Biology I; IGCSE Chemistry or Chemistry I; IGCSE Algebra II or Algebra II; teacher recommendation

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. Since Earth Science is not a mandatory prerequisite for taking this course, students taking this course may take the Earth Science SOL, should they wish so, in order to fulfill the requirement for verified credit in science. Students will be prepared to sit for an external examination leading to the AICE Diploma and an Advanced Placement qualification.
Schools offering course: 1, 4

IB ENVIRONMENTAL SYSTEMS AND SOCIETIES (SL)
Grades: 11-12 Credit: 1
Prerequisite: Completion of Pre-IB Biology; Pre-IB Chemistry

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. Since Earth Science is not a mandatory prerequisite for taking this course, students taking this course may take the Earth Science SOL, should they wish so, in order to fulfill the requirement for verified credit in science. 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 IV Project are required by the IBO.
Schools offering course: 2, 5

PRE-IB DIPLOMA PROGRAMME BIOLOGY I
Grades: 9-12 Credit: 1
Prerequisite: Successful completion of Grade 8 Science; teacher recommendation

Pre-IBDP 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.

Note: 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.

Students are required to take the Biology Standards of Learning assessment at the end of this course.
Schools offering course: 2, 5

INTERNATIONAL BACCALAUREATE SCIENCE COURSES

PRE-IB DIPLOMA PROGRAMME EARTH SCIENCE
Grades: 9-12 Credit: 1
Prerequisite: Enrollment in the IB Program and completion of Grade 8 Science

Pre-IBDP 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. Students are required to take the Earth Science Standards of Learning assessment at the end of this course.
Schools offering course: 2

School Number Code:

1 – Brentsville 4 – Potomac 7 – Hylton 10 – Freedom 99 – Virtual
2 – Gar-Field 5 – Stonewall 8 – Forest Park 11 – Patriot
3 – Osbourn Park 6 – Woodbridge 9 – Battlefield 12 – Colgan

128
IB BIOLOGY I (HL)
Grade: 11  Credit: 1
Prerequisite: Successful completion of Pre-IBDP Biology; Pre-IBDP Chemistry I; teacher recommendation

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. Students are required to submit written laboratory reports. 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.

Students are required to take the Chemistry Standards of Learning Course Test. Students are required to take the Standards of Learning End of Course Test.

Schools offering course: 2, 5

IB BIOLOGY II (HL)
Grade: 12  Credit: 1
Prerequisite: Completion of IB Biology I

IB Biology II is an introduction to advanced anatomy and physiology and plant biology. A review of IB Biology I 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.

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.

Schools offering course: 2, 5

PRE-IB DIPLOMA PROGRAMME CHEMISTRY
Grades: 10-12  Credit: 1
Prerequisite: Successful completion of one year of laboratory science; Algebra I and teacher recommendation

This course includes the major concepts of chemistry, including atomic structure and bonding, formulas and equations, stoichiometry, oxidation-reduction, thermodynamics, chemical equilibrium, acid-base theory, and simple organic chemistry. Students will use scientific research methods to investigate scientific principles. Laboratory experiments are designed to illustrate major concepts and to reinforce the IB Group 4 rubric. Students will be required to submit written laboratory reports. Students are required to take the Chemistry Standards of Learning assessment at the end of this course.

Schools offering course: 2, 5

IB CHEMISTRY I (HL)
Grade: 11  Credit: 1
Prerequisite: Successful completion of Pre-IBDP Chemistry I; teacher recommendation

IB Chemistry I is the first year of a survey course of the major principles of chemistry including the structure of matter, kinetic theory of gases, chemical equilibrium, chemical kinetics, thermodynamics, acid-base theory, and organic chemistry. Emphasis is on problem solving, proficiency in mathematical usage, and improvement and expansion of laboratory techniques as related to contemporary chemistry to include experimental design. Students will be required to submit written laboratory reports.

School offering course: 2

IB CHEMISTRY II (HL)
Grade: 12  Credit: 1
Prerequisite: Successful completion of IB Chemistry I and teacher recommendation

IB Chemistry is the second year of a survey course of the major principles of chemistry. Emphasis is on research techniques, advanced laboratory techniques, advanced problem solving and synthesis of prior knowledge to investigate IB option topics. With a satisfactory IB exam score, students may receive credit for introductory college chemistry. Students will be required to submit written laboratory reports.

School offering course: 2

Note: 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 PHYSICS (SL)
Grades: 11-12
Prerequisite: Successful completion of Pre-IBDP Physics; Pre-IBDP Algebra II/Trigonometry; teacher recommendation

IB Physics is an extremely fast-paced, rigorous course following the IB Standard Level curriculum. Building on their background from Pre-IBDP 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.

School offering course: 2

EARTH SCIENCE II: OCEANOGRAPHY
Grades: 11-12
Prerequisite: Successful completion of Earth Science; and either Biology I or Chemistry I; AP Environmental Science or IB Environmental Systems and Societies are appropriate alternative substitutes for the Earth Science prerequisite.

Note: Course work in Chemistry is recommended

Oceanography is a second level Earth Science course designed to be a more in-depth treatment of the oceanography concepts presented in first year Earth Science. 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.

Schools offering course: 1

EARTH SCIENCE II: ASTRONOMY
Grades: 11-12
Prerequisite: Successful completion of Earth Science; Algebra I; and either Biology I or Chemistry I

Astronomy is a second level Earth Science course designed to be a more in-depth, mathematical treatment of the astronomical concepts presented in introductory Earth Science. Topics such as the universe, universal laws, galaxies, stellar evolution, the solar system and its motion, and the exploration of space will be discussed.

Schools offering course: 2, 4, 5, 6, 7, 8, 9, 12, 99

EARTH SCIENCE II: PHYSICAL GEOLOGY
Grades: 11-12
Prerequisite: Successful completion of Earth Science; and either Biology I or Chemistry I; enrollment in Algebra I

Physical Geology is a second level Earth Science course designed to be a more in-depth treatment of the geology concepts presented in introductory Earth Science. 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.

Schools offering course: 3, 4, 7, 8

BIOLOGY II: SURVEY OF ADVANCED TOPICS IN BIOLOGY
Grades: 11-12
Prerequisite: Successful completion of Biology I and Chemistry I

Biology II: 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.

Schools offering course: 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12

BIOLOGY II: INTRODUCTION TO DNA SCIENCE AND BIOTECHNOLOGY
Grades: 11-12
Prerequisite: Completion of Biology I and Chemistry I; completion of Algebra I and Geometry; teacher recommendation

Co-requisite: Enrollment in Algebra II or higher

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 biotechniques. 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.

School offering course: 3

STANDARD SCIENCE ELECTIVE COURSES

BIOLOGY II: INTRODUCTION TO DNA SCIENCE AND BIOTECHNOLOGY
Grades: 11-12
Prerequisite: Successful completion of Biology I and Chemistry I; completion of Algebra I and Geometry; teacher recommendation

Co-requisite: Enrollment in Algebra II or higher

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 biotechniques. 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.

School offering course: 3

Note: 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 II: ECOLOGY**  
**Grades: 11-12**  
**Credit: 1**  
**Prerequisite: Successful completion of Biology; and either Earth Science, or Chemistry I**

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.  
**Schools offering course: 2, 5, 8, 10**

**LAB ASSISTANT – SCIENCE SEMINAR**  
**SCIENCE TEACHER’S AIDE**  
**Grades: 10-12**  
**Credit: 0.5 for Lab Assistant/Science Seminar; no credit for Science Teacher’s Aide**  
**Prerequisite: Successful completion of subject in which assisting; prior approval of supervising teacher**

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 for Lab Assistant, instructional objectives and evaluative criteria must be delineated as per Regulation 681-3, Section III.C.  
**Schools offering Lab Assistant/Science Seminar: 1, 2, 4, 5, 6, 7, 8, 12**  
**School offering Science Teacher’s Aide only: 3, 12**

**CHEMISTRY II: FORENSIC SCIENCE AND CHEMICAL ANALYSIS**  
**Grades: 10-12**  
**Credit: 1**  
**Prerequisite: Successful completion of Biology I; Chemistry I; successful completion of Algebra II; teacher recommendation**

In this college preparatory course, students will work toward a comprehensive understanding of forensic science. The foundation will include central concepts concerning the history of forensic science, the chemical analysis of forensic evidence, and crime scene management. Students will apply Locard’s Principle in the observation, acquisition, and analysis of forensic evidence. Major focus will be 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 will be 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.  
**School offering course: 9**

**INTRODUCTION TO MICROBIOLOGY AND BACTERIOLOGY**  
**Grades: 10-12**  
**Credit: 0.5**  
**Prerequisite: Successful completion of introductory Biology; teacher recommendation; successful completion of or concurrent enrollment in Chemistry I**

This half credit science elective course will give students the opportunity to learn about the immunological and biological properties of bacteria, viruses, and fungi. In this course students will be exposed to the tools required for a research career and study current issues in microbiology and immunology. Students will become acquainted with the dynamics of the host/parasite relationship, including host defense systems, and the relationship of microorganisms to disease.  
**School offering course: 10**

**INTRODUCTION TO FORENSIC SCIENCE**  
**Grades: 10-12**  
**Credit: 0.5**  
**Prerequisite: Successful completion of introductory Biology; teacher recommendation; successful completion of or concurrent enrollment in Chemistry I**

This half credit science elective course will give students the opportunity to examine how technology has revolutionized forensic science and how it is used to solve crimes; the principles that are applied in the collection, preservation, and analysis of evidence; what characterizes individual evidence and class evidence; how microscopic evidence is used in the study of crime; and what the role of experimentation is in teaching, explaining, and illustrating forensic concepts.  
**School offering course: 10**

**METHODS IN SCIENTIFIC INQUIRY**  
**Grade: 10**  
**Credit: 1**  
**Pre-requisite: Enrollment in the BIOTECH program; Successful completion of Biology I; Algebra 1; Concurrent enrollment in Chemistry I**

This course provides an introduction to research methods relevant to current biotechnology practices. This course will focus on an introduction to research design methods. In addition, the course will focus on providing a practical understanding of several statistical tools used in scientific research. The emphasis will be on asking answerable scientific questions, conducting independent research, and to communicating scientific findings. Students in this course will be introduced to literature review, experimental design, research, the scientific method, statistics, and a variety of laboratory techniques.  
**School offering course: 3**
<table>
<thead>
<tr>
<th>Number Code</th>
<th>School Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brentsville</td>
</tr>
<tr>
<td>2</td>
<td>Gar-Field</td>
</tr>
<tr>
<td>3</td>
<td>Osbourn Park</td>
</tr>
<tr>
<td>4</td>
<td>Potomac</td>
</tr>
<tr>
<td>5</td>
<td>Stonewall</td>
</tr>
<tr>
<td>6</td>
<td>Woodbridge</td>
</tr>
<tr>
<td>7</td>
<td>Hylton</td>
</tr>
<tr>
<td>8</td>
<td>Forest Park</td>
</tr>
<tr>
<td>9</td>
<td>Battlefield</td>
</tr>
<tr>
<td>10</td>
<td>Freedom</td>
</tr>
<tr>
<td>11</td>
<td>Patriot</td>
</tr>
<tr>
<td>12</td>
<td>Colgan</td>
</tr>
<tr>
<td>99</td>
<td>VirtualSchool</td>
</tr>
</tbody>
</table>

### GS College Physics I – GS College Physics I Lab
**GMU Phys 243 and Lab 244 – 4 Credits**
- **Grades:** 11-12
- **Credit:** 0.5 High School credit
- **Prerequisite:** Completion of Algebra II/Trig and Chemistry with a C or better

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.

**Offered ONLY at The Governor’s School @ Innovation Park**

### GS College Physics II – GS College Physics II Lab
**GMU Phys 245 and Lab 246 – 4 Credits**
- **Grades:** 11-12
- **Credit:** 0.5 High School credit each
- **Prerequisite:** Completion of Algebra II/Trig and Chemistry with a C or better

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.

**Offered ONLY at The Governor’s School @ Innovation Park**

### GS University Physics I – GS University Physics I Lab
**GMU Phys 160 and Lab 161 – 4 Credits**
- **Grades:** 12
- **Credit:** 0.5 High School credit
- **Prerequisite:** Completion of Physics 243-246 with a C or better
- **Corequisite Math 115-116**

Enrollment in this lab requires concurrent enrollment in GS University Physics I.

**Offered ONLY at The Governor’s School @ Innovation Park**

### GS University Physics II – GS University Physics II Lab
**GMU Phys 260 and Lab 261 – 4 Credits**
- **Grades:** 12
- **Credit:** 0.5 High School credit
- **Prerequisite:** Completion of PHYS 160 with a C or better
- **Corequisite Math 115-116**

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.

**Offered ONLY at The Governor’s School @ Innovation Park**

### GS General Biology I – GS General Biology I Lab
**GMU Biology 103 and Lab 105 – 4 Credits**
- **Grades:** 11-12
- **Credit:** 0.5 High School credit
- **Prerequisite:** Completion Pre-AP or Honors Biology with a C or better

Introductory Biology I 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.

**Offered ONLY at The Governor’s School @ Innovation Park**

### GS General Biology II – GS General Biology II Lab
**GMU Biology 103 and Lab 105 – 4 Credits**
- **Grades:** 12
- **Credit:** 0.5 High School credit
- **Prerequisite:** Completion Pre-AP or Honors Biology with a C or better
- **Corequisite Math 115-116**

Enrollment in this lab requires concurrent enrollment in GS General Biology I.

**Offered ONLY at The Governor’s School @ Innovation Park**
GS GENERAL BIOLOGY II (BIOLOGY 104 AND LAB 106 – 4 CREDITS)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: Completion of Biology 103 and lab 105 with a C or better

Topics in this course include animal (including human) structure, function, homeostatic mechanisms, organ systems, behavior, higher plant systems, and major concepts in ecology.

Offered ONLY at The Governor’s School @ Innovation Park

GS GENERAL BIOLOGY II LAB (BIOLOGY 104 AND LAB 106 – 4 CREDITS)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: Completion of Biology 103 and lab 105 with a C or better

Enrollment in this lab requires concurrent enrollment in GS General Biology II.

Offered ONLY at The Governor’s School @ Innovation Park

GS HUMAN ANATOMY AND PHYSIOLOGY (GMU BIOLOGY 124 – 4 CREDITS)
Grades: 12 Credit: 0.5 High School credit
Prerequisite: Completion of Biology 103, 104 with a C or better

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. We will discuss the chemical, cellular and tissue levels of organization in the human body and begin our 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.

Offered ONLY at The Governor’s School @ Innovation Park

GS MICROBIOLOGY (GMU BIOLOGY 245 – 4 CREDITS, LAB – ONLY HIGH SCHOOL CREDIT AVAILABLE)
Grades: 12 Credit: 0.5 High School credit
Prerequisite: Completion of Introductory Biology 103 and 104 with a C or better

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.

Offered ONLY at The Governor’s School @ Innovation Park

GS MICROBIOLOGY LAB (GMU BIOLOGY 245 – 4 CREDITS, LAB – ONLY HIGH SCHOOL CREDIT AVAILABLE)
Grades: 12 Credit: 0.5 High School credit
Prerequisite: Completion of Introductory Biology 103 and 104 with a C or better

Enrollment in this lab requires concurrent enrollment in GS Microbiology.

Offered ONLY at The Governor’s School @ Innovation Park

GS GENERAL CHEMISTRY I (GMU CHEM 211 AND LAB – 4 CREDITS)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: Completion of Pre-AP or Honors Chemistry with a C or better

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.

Offered ONLY at The Governor’s School @ Innovation Park

GS GENERAL CHEMISTRY I LAB (GMU CHEM 211 AND LAB – 4 CREDITS)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: Completion of Pre-AP or Honors Chemistry with a C or better

Enrollment in this lab requires concurrent enrollment in GS General Chemistry I.

Offered ONLY at The Governor’s School @ Innovation Park

GS GENERAL CHEMISTRY II (GMU CHEM 212 AND LAB – 4 CREDITS)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: Completion of Chemistry 211 with a C or better

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.

Offered ONLY at The Governor’s School @ Innovation Park

GS GENERAL CHEMISTRY II LAB (GMU CHEM 212 AND LAB – 4 CREDITS)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: Completion of Chemistry 211 with a C or better

Enrollment in this lab requires concurrent enrollment in GS General Chemistry II.

Offered ONLY at The Governor’s School @ Innovation Park

GS INTRODUCTION TO ORGANIC CHEMISTRY (GMU CHEM 104 AND LAB – 4 CREDITS)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: Completion of Chemistry 211, 212 with a C or better

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.

Offered ONLY at The Governor’s School @ Innovation Park

GS INTRODUCTION TO ORGANIC CHEMISTRY LAB
(GMU CHEM 104 AND LAB – 4 CREDITS)
Grades: 11-12 Credit: 0.5 High School credit
Prerequisite: Completion of Chemistry 211, 212 with a C or better

Enrollment in this lab requires concurrent enrollment in GS Introduction to Organic Chemistry.

Offered ONLY at The Governor’s School @ Innovation Park

GS ENVIRONMENTAL CHEMISTRY
(GMU CHEM 155 AND LAB – 3 CREDITS)
Grades: 12 Credit: 0.5 High School credit
Prerequisite: Completion of Chemistry 211, 212 with a C or better

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.

Offered ONLY at The Governor’s School @ Innovation Park
### SOCIAL STUDIES

Graduation requirements are located in the “General Information” section.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Approved Substitutes(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>World History and Geography to 1500 – V</td>
<td>• Pre-AP World History and Geography to 1500 – V</td>
</tr>
<tr>
<td></td>
<td>• Pre-IB Diploma Programme World History and Geography from 1500 – V</td>
</tr>
<tr>
<td></td>
<td>• Pre-AICE World History and Geography to 1500</td>
</tr>
<tr>
<td>World History and Geography from 1500 – V</td>
<td>• IB History II – W</td>
</tr>
<tr>
<td></td>
<td>• AP World History – W</td>
</tr>
<tr>
<td></td>
<td>• AICE World History – W</td>
</tr>
<tr>
<td></td>
<td>• IB Geography – V, W</td>
</tr>
<tr>
<td>Virginia &amp; U.S. History – V</td>
<td>• AP U.S. History – V, W</td>
</tr>
<tr>
<td></td>
<td>• AICE U.S. History – V, W</td>
</tr>
<tr>
<td></td>
<td>• IB History I – V, W</td>
</tr>
<tr>
<td></td>
<td>• Pre-IB Diploma Programme/AP Government and Politics: Comparative – W</td>
</tr>
<tr>
<td></td>
<td>• AP Government and Politics: Comparative – W</td>
</tr>
</tbody>
</table>

Courses indicating a “V” have an end-of-course SOL test and offer the possibility of a verified unit of credit. Courses designated with a “W” offer weighted credit if the student receives a grade of “C” or higher in the course. Students are required to complete the assessment of the course.
WORLD HISTORY AND GEOGRAPHY
TO 1500
Grade: 9 Credit: 1
Prerequisite: Assignment to Grade 9
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.
Schools offering course: All

WORLD HISTORY AND GEOGRAPHY
FROM 1500
Grade: 10 Credit: 1
Prerequisite: Assignment to Grade 10
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,
and independence movements and world religions and the
contemporary world.
Schools offering course: All

U.S. AND VIRGINIA HISTORY
Grade: 11 Credit: 1
Prerequisite: Assignment to Grade 11
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 II, the Cold War, Civil Rights
Movements and the Contemporary U.S.
Schools offering course: All

U.S. AND VIRGINIA GOVERNMENT
Grade: 12 Credit: 1
Prerequisite: Assignment to Grade 12
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.
Schools offering course: All

ADVANCED PLACEMENT
COURSES
PRE-AP WORLD HISTORY AND GEOGRAPHY
TO 1500
Grade: 9 Credit: 1
Prerequisite: Assignment to Grade 9
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.
Schools offering course: 3, 6, 7, 8, 9, 10, 11, 12

AP WORLD HISTORY
Grade: 10 Credit: 1
Prerequisite: Successful completion of World History and
Geography to 1500 or Pre-AP World History and Geography to
1500 is recommended
This college level course uses the College Board’s Advanced
Placement 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 Pre-AP 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.
In May, the students will take on Advanced Placement World
History Examination to qualify for advanced standing and/or
credit in college.
Schools offering course: 3, 6, 7, 8, 9, 10, 11, 12

School Number Code:
1 – Brentsville 4 – Potomac 7 – Hylton 10 – Freedom 99 – Virtual
2 – Gar-Field 5 – Stonewall 8 – Forest Park 11 – Patriot
3 – Osbourn Park 6 – Woodbridge 9 – Battlefield 12 – Colgan
**AP U.S. HISTORY**

Grade: 11  
Credit: 1  
Prerequisite: Assignment to Grade 11, AP World History is recommended

Advanced Placement 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. In May, the students will take an Advanced Placement U.S. History Examination to qualify for advanced standing and/or credit in college.

Schools offering course: 3, 4, 6, 7, 8, 9, 10, 11, 12

---

**AP GOVERNMENT AND POLITICS: U.S.**

Grade: 12  
Credit: 1  
Prerequisite: Assignment to Grade 12, AP U.S. History is recommended

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. In May, the students will take an Advanced Placement Government Examination to qualify for advanced standing and/or credit in college.

Schools offering course: 1, 3, 4, 6, 7, 8, 9, 10, 11, 12, 99

---

**AP GOVERNMENT AND POLITICS: COMPARATIVE**

Grades: 11-12  
Credit: 1  
Prerequisite: Virginia and U.S. History or Advanced Placement American History or concurrent enrollment

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. In May, the students will take an Advanced Placement Government Examination to qualify for advanced standing and/or credit in college.

Schools offering course: 5, 7, 8, 11

---

**CAMBRIDGE COURSES**

**PRE-AICE WORLD HISTORY AND GEOGRAPHY TO 1500**

Grade: 9  
Credit: 1  
Prerequisite: Assignment to Grade 9 and a pass advance on the Civics and Economics SOL test is recommended

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.

Schools offering course: 1, 4

---

**AICE WORLD HISTORY**

Grade: 10  
Credit: 1  
Prerequisite: Successful Completion of Pre-AICE World History and Geography to 1500, teacher recommendation, and a pass advance on the World History I SOL test is recommended

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 I and its aftermath, International Relations Since 1919, Russia: 1881-1939, the Rise of Fascism, Causes of WWII and the Final Peace Settlement, The Cold War, and World Issues. This course is required for those enrolled in the Cambridge program. Students will sit for AICE examinations.

Schools offering course: 1, 4

---

**AICE U.S. HISTORY**

Grade: 11  
Credit: 1  
Prerequisite: Successful Completion of English 10 or IGCSE English 10, IGCSE World Geography, World History and Geography from 1500

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.

Schools offering course: 1, 4
International Baccalaureate Courses

Pre-IB Diploma Programme World History and Geography from 1500

Grade: 9  
Credit: 1  
Prerequisite: Assignment to Grade 9

Pre-IBDP World History 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.

Schools offering course: 2, 5

Pre-IB Diploma Programme – AP Government and Politics: Comparative

Grades: 10-12  
Credit: 1  
Recommended prerequisite: Pre-IBDP English 9 and Pre-IBDP World History and Geography from 1500

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. In May, students take the AP Examination to qualify for advanced standing and/or credit in college. Students pursuing the IB Diploma take this course as sophomores. IB History certificate candidates take this course during their sophomore or junior year.

Schools offering course: 2, 5

Pre-IB Diploma Programme/AP Government and Politics: U.S.

Grades: 10-12  
Credit: 1  
Recommended prerequisite: Pre-IBDP English 9 and Pre-IBDP World History and Geography from 1500

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 course. In May, the students will take an Advanced Placement Government Examination to qualify for advanced standing and/or credit in college. Students pursuing the IB Diploma take this course as sophomores. IB History certificate candidates take this course during their sophomore or junior year.

Schools offering course: 5

IB Global Politics (SL)

Grades: 11 - 12  
Credit: 1

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.

Schools offering course: 2

IB History I: History of the Americas (HL)

Grades: 11-12  
Credit: 1

Prerequisite: Successful completion of Pre-IBDP World History and Geography from 1500, Pre-IBDP /AP Government and Politics: U.S. or Comparative

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.

Schools offering course: 2, 5

IB History II: Topics in Twentieth Century History (HL)

Grade: 12  
Credit: 1

Prerequisite: Successful completion of IB History I

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.

Schools offering course: 2, 5

School Number Code:

1 – Brentsville  
2 – Gar-Field  
3 – Osbourn Park  
4 – Potomac  
5 – Stonewall  
6 – Woodbridge  
7 – Hylton  
8 – Forest Park  
9 – Battlefield  
10 – Freedom  
11 – Patriot  
99 – Virtual
IB GEOGRAPHY (SL)
Grades: 11-12 Credit: 1
Prerequisite: Successful completion of Pre-IB Diploma Programme World History and Geography from 1500, and Virginia and U.S. History

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.
School offering course: 2, 5

AP HUMAN GEOGRAPHY
Grades: 11-12 Credit: 1
Prerequisite: Successful completion of World History from 1500

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. In May, the students will take an Advanced Placement Human Geography Examination to qualify for advanced standing and/or credit in college.
Schools offering course: 3, 6, 10, 11, 12

AP ECONOMICS
Grades: 11-12 Credit: 1
This course fulfills the Economics and Personal Finance graduation requirement.
Prerequisite: Teacher recommendation

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. In May, the students will take one or both Advanced Placement Economics Examinations (Microeconomics or Macroeconomics) to qualify for advanced standing and/or credit in college.
Schools offering course: 3, 6, 7, 8, 10, 11, 12

AP EUROPEAN HISTORY
Grades: 11-12 Credit: 1
Prerequisite: Successful completion of World History and Geography from 1500

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. In May, students take the AP Examination to qualify for advanced standing and/or credit in college.
Schools offering course: 1, 3, 6, 7, 8, 11, 12

AP SOCIAL STUDIES ELECTIVE COURSES

AP PSYCHOLOGY
Grade: 12 (Grades 11-12 at school 9 only) Credit: 1
Prerequisite: Teacher recommendation

The Advanced Placement 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. They will also learn about the ethics and methods psychologists use in their science and practice. In May, the students will take an Advanced Placement Psychology Examination to qualify for advanced standing and/or credit in college.
Schools offering course: 3, 4, 6, 7, 8, 9, 10, 11

IB ECONOMICS
Grade: 12 Credit: 1
This course fulfills the Economics and Personal Finance graduation requirement
Prerequisite: Pre-IBDP/AP Government and Politics: U.S. or Comparative and Algebra II

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.
Schools offering course: 2, 5

IB SOCIAL AND CULTURAL ANTHROPOLOGY (SL)
Grades: 11-12 Credit: 1
Prerequisite: Interest in the subject

IB Social and Cultural Anthropology is a college level comparative study of human societies and culture. It explores both the universal principals 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.

Schools offering course: 2, 5

IB PSYCHOLOGY
Grade: 12
Credit: 1
Prerequisite: None

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.

Schools offering course: 5

AICE ECONOMICS (AS – A LEVEL)
Grades: 10-12
Credit: 1
Prerequisite: Successful completion of Algebra I

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.

Schools offering course: 1, 4

AICE GLOBAL PERSPECTIVES
Grade: 11-12
Credit: 1
Prerequisite:

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.

Schools offering course: 1, 4

AICE INTERNATIONAL HISTORY 1945 – 1991
Grades: 11-12
Credit: 1
Prerequisite: A grade of “B” or better in U.S. History or AICE U.S. History, English 11 or AICE English 11, and teacher recommendation

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 I, the rise of Fascist powers and American neutrality before 1939, World War II, 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.

Schools offering course: 1, 4

AICE PSYCHOLOGY
Grade: 12
Credit: 1
Prerequisite: None

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.

Schools offering course: 1, 4

AICE SOCIOLOGY
Grades 11-12
Credit: 1
Prerequisite: Student must have previously taken any AICE course

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.

Schools offering course: 1
HANDS ON HISTORY: DISCOVERING PRINCE WILLIAM COUNTY’S PAST
 Grades: 10-12 Credit: 1
Prerequisite: None
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 ante-bellum 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, WWI, Quantico and WWII; and desegregation of local schools.
Schools offering course: 3, 6, 8, 12

PSYCHOLOGY
Grade: 12 Credit: 1
Prerequisite: Assignment to Grade 12
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.
Schools offering course: 2, 4, 6, 7, 8, 9, 11

SOCIOLOGY
Grade: 12 Credit: 1
Prerequisite: Assignment to Grade 12
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.
Schools offering course: 1, 2, 3, 6, 7, 8, 9, 10, 11

TWENTIETH CENTURY HISTORY
Grades: 11-12 Credit: 1
Prerequisite: Assignment to Grade 11
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.
Schools offering course: 1, 4, 6, 7, 8, 9, 11, 12

WORLD GEOGRAPHY
Grade: 10 Credit: 1
Prerequisite: Assignment to Grade 10 or above
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.
Schools offering course: 1, 2, 5, 6, 8, 12
SPECIAL EDUCATION

SPECIAL EDUCATION COURSES CAN FULFILL THE FOLLOWING GRADUATION REQUIREMENTS:

• Employ courses can fulfill Sequential Elective requirement and Career and Technical Education (CTE) completer sequence
• Elective

COMPENSATORY SKILLS I
COMPENSATORY SKILLS II
COMPENSATORY SKILLS III
COMPENSATORY SKILLS IV

Grades: 9-12 Credit: 1
Prerequisite: Any student whose Individualized Education Program (IEP) indicates the appropriateness of the compensatory skills course offering. Students can take Compensatory Skills each year up to four years
Compensatory Skills is designed to provide students with individualized remediation and compensatory skills in their specific academic area(s) of need as identified through the eligibility and IEP process.

Schools offering course: All

EMPLOY I

Grades: 9-12 Credit: 1
The focus of EMPLOY I is career awareness. Students will have opportunities to learn about their personal preferences, interests, and a variety of careers and occupations, and begin to build their self-advocacy skills.

Schools offering course: All

EMPLOY II

Grades: 10-12 Credit: 1
Prerequisite: It is recommended that a student complete EMPLOY I before enrolling in EMPLOY II
The focus of EMPLOY II is the development of employability and life management skills. Students are provided opportunities to develop communication skills, independent living skills, personal/social skills, and job search and retention skills.

Schools offering course: All

EMPLOY III & EMPLOY IV

Grades: 9-12 Credit: EMPLOY III – 1 credit and EMPLOY IV – 1 credit
Prerequisite: It is recommended that a student complete EMPLOY I and/or EMPLOY II before enrolling in EMPLOY III & EMPLOY IV
EMPLOY III and IV are taken concurrently during the same school year with classes scheduled back-to-back periods. The focus for EMPLOY III and EMPLOY IV is to reinforce and enrich the goals of EMPLOY I and EMPLOY II, as well as vocational exploration and the development of marketable job skills through the completion of an unpaid internship.

Schools offering course: All

EMPLOY V

Grades: 10-12 Credit: 1
Prerequisite: It is recommended that a student complete EMPLOY I and/or EMPLOY II before enrolling in EMPLOY V
The focus of EMPLOY V is to provide students with an opportunity to apply their self-awareness, employability, self-advocacy, and life management skills in order to obtain and retain employment. During the school year, students complete a minimum of 540 hours of competitive employment.

Schools offering course: All

LIFE SKILLS

Grades: 9-12 Credit: 1
Prerequisite: Any student who is receiving special education services and whose Individualized Education Program (IEP) indicates the appropriateness of the Life Skills course offering
The focus of Life Skills is to enhance the student’s social, emotional and academic success. Students will develop and enhance communication skills, organizational/study techniques, and social intervention skills. Stress management techniques will also be taught. The students will participate in the development of a transition plan and explore skills needed for employment/post-secondary education as well as for learning and self-advocacy.

Schools offering course: All

LEARNING STRATEGIES I

Grades: 9-12 Credit: 1
Prerequisite: Any student who is receiving special education services whose Individualized Education Program (IEP) indicates the appropriateness of the Learning Strategies I course offering
Learning Strategies I is designed to provide students with direct and explicit instruction on how to acquire new information, how to study, and how to express their thoughts. Students may begin to explore the formal Strategic Instruction Model (SIM), Kansas University Strategies and/or informal strategies that will enable the student to experience success in high school.

Schools offering course: All except school 9
LEARNING STRATEGIES II
Grade: 9-12
Learning Strategies II provides direct instruction utilizing the Strategic Instruction Model (SIM), or Kansas University Strategies, to enable students to experience success in high school. The focus of the course is to provide direct, explicit instruction in academic and cooperative thinking strategies.
Schools offering course: All except school 9

SOCIAL SKILLS I
Grades: 9-12
Prerequisite: Any student who is receiving special education services and whose Individualized Educational Program (IEP) indicates the appropriateness of the Social Skills I course offering
This course will provide students with direct instruction in specific social skills using the Skillstreaming and Prepare social skills programs. The purpose of this course is to increase academic achievement through the teaching and remediation of social skills. When completed, students will be able to demonstrate appropriate behavior in changing environments, effective communication skills, positive relationships with others, project a positive self-image, and utilize social skills in the learning process.
Schools offering course: All except school 9

SOCIAL SKILLS II
Grades: 10-12
Prerequisite: Any student who has completed Social Skills I and whose Individualized Educational Program (IEP) indicates the appropriateness of the Social Skills II course
This course will provide students with direct instruction in a higher level of specific social skills than introduced in Social Skills I, including, anger control, and decision making from the Prepare curriculum. The purpose of this course is to increase academic achievement through the teaching and refining of social skills. Students will be able to demonstrate appropriate behavior in changing environments, effective communication skills, positive relationships with others, project a positive self-image, and utilize social skills in the learning process.
Schools offering course: All except school 9

PHYSICAL EDUCATION ASSISTANT
Grades: 11-12
Prerequisite: Successful completion with a “B” average or better in Health and Physical Education I and II; approval of the department chairperson and the teacher being assisted
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.
Schools offering course: 1, 2, 3, 4, 6, 7, 8, 11, 12

LAB ASSISTANT – LIBRARY ASSISTANT
Grades: 10-12
Prerequisite: None
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.
Schools offering course: 3, 4, 7, 12

LAB ASSISTANT – SCIENCE SEMINAR
SCIENCE TEACHER’S AIDE
Grades: 10-12
Prerequisite: Successful completion of subject in which assisting and prior approval of supervising teacher
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 for Lab Assistant, instructional objectives and evaluative criteria must be delineated as per Regulation 681.3, Section III.C.
Schools offering Lab Assistant/Science Seminar: 1, 2, 4, 5, 6, 7, 8, 9, 12
Science Teacher’s Aide only: 3, 12
WEIGHTED COURSES

The courses listed below have been designated as weighted college level courses. In computing the grade point average of students who have successfully completed any of these courses, the following point values will be assigned to the course(s):

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5</td>
</tr>
<tr>
<td>B+</td>
<td>4.4</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
</tr>
<tr>
<td>C+</td>
<td>3.4</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
</tr>
<tr>
<td>D+</td>
<td>1.4</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
</tbody>
</table>

### Weighted Advanced Placement Courses (1.0W)

- AP English – Literature and Composition
- AP English – Literature and Composition VVAPS
- AP English – Language and Composition
- AP English – Language and Composition VVAPS
- AP Human Geography
- AP Human Geography VVAPS
- AP History – United States
- AP History – United States VVAPS
- AP World History
- AP World History VVAPS
- AP History – European
- AP History – European VVAPS
- AP Government and Politics: U.S.
- AP Government and Politics: U.S. VVAPS
- AP Government and Politics: Comp.
- AP Government and Politics: Comp. VVAPS
- AP Economics Micro and Macro
- AP Economics – Micro VVAPS
- AP Economics – Macro VVAPS
- AP Psychology
- AP Psychology VVAPS
- AP Calculus AB
- AP Calculus AB VVAPS
- AP Calculus BC
- AP Calculus BC VVAPS
- AP Capstone (Pilot at OPHS only)
- AP Computer Science A
- AP Computer Science A VVAPS
- AP Statistics
- AP Statistics VVAPS

- AP Environmental Science
- AP Environmental Science VVAPS
- AP Biology
- AP Biology VVAPS
- AP Chemistry
- AP Chemistry VVAPS
- AP Physics B
- AP Physics B VVAPS
- AP Physics C
- AP French Language
- AP German Language
- AP Italian
- AP Latin Vergil
- AP Latin Vergil VVAPS
- AP Spanish Language
- AP Spanish Language VVAPS
- AP Spanish Literature
- AP Studio Art – 2-D Design
- AP Studio Art – 3-D Design
- AP Studio Art – Drawing
- AP Art History
- AP Music Theory

VVAPS – Virginia Virtual Advanced Placement School
### Weighted International Baccalaureate Diploma Courses (1.0W)

<table>
<thead>
<tr>
<th>Course</th>
<th>Level</th>
<th>Course</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>IB English I (HL)</td>
<td>HL</td>
<td>IB Psychology (SL)</td>
<td>SL</td>
</tr>
<tr>
<td>IB English II (HL)</td>
<td>HL</td>
<td>IB Computer Science (SL)</td>
<td>SL</td>
</tr>
<tr>
<td>IB English II (SL)</td>
<td>SL</td>
<td>IB Computer Science (HL)</td>
<td>SL</td>
</tr>
<tr>
<td>IB Theatre Arts (SL)</td>
<td>SL</td>
<td>IB Mathematical Studies (SL)</td>
<td>SL</td>
</tr>
<tr>
<td>IB Theory of Knowledge</td>
<td></td>
<td>IB Mathematics I (HL)</td>
<td>SL</td>
</tr>
<tr>
<td>IB Geography (SL)</td>
<td>SL</td>
<td>IB Mathematics II (HL)</td>
<td>SL</td>
</tr>
<tr>
<td>IB History I (HL)</td>
<td>HL</td>
<td>IB Theory of Knowledge</td>
<td></td>
</tr>
<tr>
<td>IB Social and Cultural Anthropology</td>
<td>SL</td>
<td>IB History II (HL)</td>
<td>SL</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme/Pre-IB Diploma Programme/</td>
<td>SL</td>
<td>IB Social and Cultural Anthropology</td>
<td>SL</td>
</tr>
<tr>
<td>Government and Politics: US</td>
<td></td>
<td>Pre-IB Diploma Programme/</td>
<td></td>
</tr>
<tr>
<td>AP Government and Politics:</td>
<td></td>
<td>Pre-IB Diploma Programme/</td>
<td></td>
</tr>
<tr>
<td>Comparative</td>
<td></td>
<td>Pre-IB Diploma Programme/</td>
<td></td>
</tr>
<tr>
<td>IB Economics (SL)</td>
<td>SL</td>
<td>IB Economics (SL)</td>
<td>SL</td>
</tr>
<tr>
<td>IB Economics (HL)</td>
<td>HL</td>
<td>IB German IV (SL)</td>
<td>SL</td>
</tr>
</tbody>
</table>

### Weighted Advanced International Certificate Of Education Courses (1.0W)

<table>
<thead>
<tr>
<th>Course</th>
<th>Level</th>
<th>Course</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>AICE Economics</td>
<td></td>
<td>AICE Psychology (AS Level)</td>
<td>(A Level)</td>
</tr>
<tr>
<td>AICE English Literature (AS Level)</td>
<td></td>
<td>AICE Thinking Skills (AS Level)</td>
<td>(A Level)</td>
</tr>
<tr>
<td>AICE English Language and Composition (AS Level)</td>
<td></td>
<td>AICE Thinking Skills (AS Level)</td>
<td>(A Level)</td>
</tr>
<tr>
<td>AICE Global Perspectives</td>
<td></td>
<td>AICE Mathematics I (AS Level)</td>
<td>(A Level)</td>
</tr>
<tr>
<td>AICE Sociology</td>
<td></td>
<td>AICE Mathematics II (AS Level)</td>
<td>(A Level)</td>
</tr>
<tr>
<td>AICE U.S. History (AS Level)</td>
<td></td>
<td>AICE Mechanics (Level A)</td>
<td>(A Level)</td>
</tr>
<tr>
<td>AICE International History, 1945-1991 (AS Level)</td>
<td></td>
<td>AICE Computing (AS Level)</td>
<td>(A Level)</td>
</tr>
<tr>
<td>AICE Chemistry (AS Level)</td>
<td></td>
<td>AICE Biology (AS Level)</td>
<td>(A Level)</td>
</tr>
<tr>
<td>AICE Environmental Management (AS Level)</td>
<td></td>
<td>AICE Biology (A Level)</td>
<td>(A Level)</td>
</tr>
</tbody>
</table>

### Weighted Career And Technology Courses (1.0W)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering and Architecture (PLTW)</td>
<td>IT Database Design and Management</td>
</tr>
<tr>
<td>Computer Networking Hardware Operations I</td>
<td>IT Advanced Database Design and Management</td>
</tr>
<tr>
<td>Computer Networking Hardware Operations II</td>
<td>Principles of Engineering (PLTW)</td>
</tr>
<tr>
<td>Computer Networking Hardware Operations III</td>
<td>Virginia Teachers for Tomorrow</td>
</tr>
<tr>
<td>Computer Networking Hardware Operations IV</td>
<td></td>
</tr>
</tbody>
</table>
Weighted Career And Technology Courses (0.5W)

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Technology I – Dual Enrolled</td>
<td>Heating, Ventilation, and Air Conditioning II - Dual Enrollment</td>
</tr>
<tr>
<td>Automotive Technology II – Dual Enrolled</td>
<td>IT Programming – Dual Enrolled</td>
</tr>
<tr>
<td>Automotive Technology III – Dual Enrolled</td>
<td>IT Web Technologies – Dual Enrolled</td>
</tr>
<tr>
<td>Computer Systems Technology I - Dual Enrolled</td>
<td>IT Advanced Web Technologies – Dual Enrolled</td>
</tr>
<tr>
<td>Early Childhood Education and Services I – Dual Enrolled</td>
<td>Welding I – Dual Enrolled</td>
</tr>
<tr>
<td>Early Childhood Education and Services II – Dual Enrolled</td>
<td>Welding II – Dual Enrolled</td>
</tr>
<tr>
<td>Entrepreneurship – Dual Enrolled</td>
<td>Welding III – Dual Enrolled</td>
</tr>
<tr>
<td>Heating, Ventilation, and Air Conditioning I - Dual Enrollment</td>
<td>Advanced Computer Mathematics</td>
</tr>
</tbody>
</table>

Additional Weighted Courses (1.0W)

<table>
<thead>
<tr>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functions/Trigonometry</td>
</tr>
<tr>
<td>Functions/Analytic Geometry</td>
</tr>
<tr>
<td>Computer Science AB</td>
</tr>
<tr>
<td>Advanced Biology Laboratory</td>
</tr>
<tr>
<td>Advanced Chemistry Laboratory</td>
</tr>
<tr>
<td>Advanced Physics B Laboratory</td>
</tr>
<tr>
<td>Aviation Honors Ground School Program (AFJROTC)</td>
</tr>
</tbody>
</table>

**WEIGHTED COURSES (0.5W)**

The courses listed below have been designated as weighted prerequisite courses. In computing the grade point average of students who have successfully completed any of these courses, the following point values will be assigned to the course(s):

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.5</td>
</tr>
<tr>
<td>B</td>
<td>3.5</td>
</tr>
<tr>
<td>B+</td>
<td>3.9</td>
</tr>
<tr>
<td>C</td>
<td>2.5</td>
</tr>
<tr>
<td>C+</td>
<td>2.9</td>
</tr>
<tr>
<td>D</td>
<td>1.4</td>
</tr>
<tr>
<td>D+</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-AP French Language III</td>
<td>Pre-IB Diploma Programme French III</td>
</tr>
<tr>
<td>Pre-AP German Language III</td>
<td>IB AB Initio French II</td>
</tr>
<tr>
<td>Pre-AP Latin Language III</td>
<td>Pre-IB Diploma Programme German III</td>
</tr>
<tr>
<td>Pre-AP Russian Language III</td>
<td>Pre-IB Diploma Programme Spanish III</td>
</tr>
<tr>
<td>Pre-AP Spanish Language III</td>
<td>Pre-IB Diploma Programme Latin III</td>
</tr>
<tr>
<td>Pre-AP French Language IV</td>
<td>Pre-AP Algebra II/Trigonometry</td>
</tr>
<tr>
<td>Pre-AP German Language IV</td>
<td>IGCSE Algebra II/Trigonometry</td>
</tr>
<tr>
<td>Pre-AP Latin Language IV</td>
<td>Pre-IB Diploma Programme Algebra II/Trigonometry</td>
</tr>
<tr>
<td>Pre-AP Russian Language IV</td>
<td>Advanced Computer Mathematics</td>
</tr>
<tr>
<td>Pre-AP Spanish Language IV</td>
<td>NVCC Dual Enrollment U.S. and Virginia Government</td>
</tr>
<tr>
<td>IGCSE French III</td>
<td>NVCC Dual Enrollment English 12</td>
</tr>
<tr>
<td>IGCSE German III</td>
<td>NVCC Dual Enrollment Intro to Speech Communications</td>
</tr>
</tbody>
</table>
## Sample Course Schedules

### Sample Course Schedule for Advanced Studies Diploma
(26 standard units of credit required)

<table>
<thead>
<tr>
<th>Grade 8/9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade 8</strong></td>
<td><strong>English 10</strong></td>
<td><strong>English 11</strong></td>
<td><strong>English 12</strong></td>
</tr>
<tr>
<td>Foreign Language I</td>
<td>Algebra II/Trig</td>
<td>Functions/Analytic Geometry,</td>
<td>Calculus AB or BC</td>
</tr>
<tr>
<td>Algebra I</td>
<td>Biology</td>
<td>Chemistry, U.S. and Virginia,</td>
<td>Computer Science</td>
</tr>
<tr>
<td><strong>Grade 9</strong></td>
<td>World Geography</td>
<td>Foreign Language IV</td>
<td>Physics I</td>
</tr>
<tr>
<td>English 9</td>
<td>Foreign Language III</td>
<td>Economics and Personal Finance</td>
<td>U.S. and Virginia Government,</td>
</tr>
<tr>
<td>Geometry</td>
<td>HPE II</td>
<td></td>
<td>Foreign Language V</td>
</tr>
<tr>
<td>Earth Science</td>
<td>Elective: Fine Arts or Career and</td>
<td></td>
<td>Elective: Fine Arts or Career and Technical Education</td>
</tr>
<tr>
<td>World History to 1500</td>
<td>Technical Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign Language II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPE I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective: Fine Arts or Career and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grade 10</strong></td>
<td><strong>English 11</strong></td>
<td><strong>English 11</strong></td>
<td><strong>English 12</strong></td>
</tr>
<tr>
<td>English 10</td>
<td>Algebra II or Algebra,</td>
<td>Functions and Data Analysis</td>
<td>Calculus AB or BC</td>
</tr>
<tr>
<td>Geometry</td>
<td>World History from 1500</td>
<td></td>
<td>Computer Science</td>
</tr>
<tr>
<td>Biology</td>
<td>HPE II</td>
<td></td>
<td>Physics I</td>
</tr>
<tr>
<td>World History from 1500</td>
<td>Foreign Language, Fine Arts and/or</td>
<td></td>
<td>U.S. and Virginia Government,</td>
</tr>
<tr>
<td>HPE II</td>
<td>Career and Technical Education</td>
<td></td>
<td>Foreign Language V</td>
</tr>
<tr>
<td>Elective: Fine Arts or Career and</td>
<td></td>
<td></td>
<td>Elective: Fine Arts or Career and Technical Education</td>
</tr>
<tr>
<td>Technical Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grade 11</strong></td>
<td><strong>English 11</strong></td>
<td><strong>English 11</strong></td>
<td><strong>English 12</strong></td>
</tr>
<tr>
<td>English 11</td>
<td>Algebra II or Algebra,</td>
<td>Functions and Data Analysis</td>
<td>Calculus AB or BC</td>
</tr>
<tr>
<td>Functions and Data Analysis</td>
<td>World History from 1500</td>
<td></td>
<td>Computer Science</td>
</tr>
<tr>
<td>Chemistry</td>
<td>HPE II</td>
<td></td>
<td>Physics I</td>
</tr>
<tr>
<td>U.S. and Virginia History</td>
<td>Foreign Language, Fine Arts and/or</td>
<td></td>
<td>U.S. and Virginia Government,</td>
</tr>
<tr>
<td>Economics and Personal Finance</td>
<td>Career and Technical Education</td>
<td></td>
<td>Foreign Language V</td>
</tr>
<tr>
<td>Fine Arts or Career and Technical</td>
<td></td>
<td></td>
<td>Elective: Fine Arts or Career and Technical Education</td>
</tr>
<tr>
<td>Education as needed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*All Prince William County high schools operate under a standard seven-period A/B schedule.*

### Sample Schedule for Standard Diploma
(22 standard units of credit required)

<table>
<thead>
<tr>
<th>Grade 8/9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English 9</strong></td>
<td><strong>English 10</strong></td>
<td><strong>English 11</strong></td>
<td><strong>English 12</strong></td>
</tr>
<tr>
<td>Algebra I</td>
<td>Geometry</td>
<td>Functions and Data Analysis</td>
<td>Calculus AB or BC</td>
</tr>
<tr>
<td>Earth Science</td>
<td>Biology</td>
<td></td>
<td>Computer Science</td>
</tr>
<tr>
<td>World History to 1500</td>
<td>World History from 1500</td>
<td></td>
<td>Physics I</td>
</tr>
<tr>
<td>HPE I</td>
<td>HPE II</td>
<td></td>
<td>U.S. and Virginia Government,</td>
</tr>
<tr>
<td>Foreign Language, Fine Arts</td>
<td>Foreign Language, Fine Arts</td>
<td></td>
<td>Foreign Language V</td>
</tr>
<tr>
<td>and/or Career and Technical Education</td>
<td>and/or Career and Technical Education</td>
<td></td>
<td>Elective: Fine Arts or Career and Technical Education</td>
</tr>
</tbody>
</table>

*All Prince William County high schools operate under a standard seven-period A/B schedule.*
**Sequential Electives**

Any two credits, from the subject areas listed below, taken in sequence, that allow students to build upon and increase their knowledge of the academic subject will meet the sequential elective graduation requirement.

### Art
- Art 1-5

### Specialized Arts
- Art History
- Art Portfolio Preparation
- AP Studio Art (2-D Design)
- AP Studio Art (3-D Design)
- AP Art History
- Photography
  - Photography II
  - CFPA Art I
  - CFPA Art II
  - CFPA Painting I**
  - CFPA Sculpture I**
  - CFPA Studio Art**
  - CFPA Period Art**
- Computer Art
- IGCSE Art and Design
- AICE Art and Design (Level AS; Level A)
- IB Visual Arts I
- IB Visual Arts II
- IT Graphic Design
- IT Computer Graphics I
- IT Computer Graphics II
- IT Multimedia Software Des and Dev I
- IT Multimedia Software Des and Dev II
- IT Photography
- Scientific Illustration

### Math
- Advanced Computer Math
- AP Computer Science A
- Computer Science AB
- AICE Computing
- IB Computer Science SL/HL

### Performance Music
- Any two band, orchestra or choir performance classes

### Specialized Music
- AP Music Theory
- IB Music I and IB Music II
- Music Theory I
- Music Theory II

### Music Technology
- Advanced Music Technology
- A Survey of World Music
- Class Voice I
- Class Voice II
- Class Voice III
- IGCSE Music Studies
- AICE Music
- Pre-IB Diploma Programme Band
- Pre-IB Diploma Program Choir
- Pre-IB Diploma Programme Orchestra
- Class Piano
- Class Guitar

### Specialized English
- Short Story I **
- Short Story II **
- Script I **
- Script IIA **
- Script IIB **
- Poetry I **
- Poetry II**
- Nonfiction I**
- Nonfiction II**
- Novel**
- Creative Writing Publications**
- Creative Writing Seminar**
- Creative Writing Independent Study**
- Interdisciplinary Literary Arts**

### Foreign Language/ESOL
- Any two sequential foreign language courses
- Any two sequential ESOL courses from the list below:
  - ESOL I – Concepts of Language Arts
  - ESOL II – Language Arts
  - ESOL III – Language Arts
  - ESOL IV – Language Arts

### Military Science
- Naval Science 1-4
- Military Science 1 -4
- Leadership Education I-IV (MCJROTC)
- Aerospace Science and Leadership I – IV (AFJROTC)
- Aviation Ground School Program (AFJROTC)

### Career and Technical Education
- CTE sequential electives vary by course. Please see course descriptions in the Career and Technical Education section of this book.

### Special Education
- Compensatory Skills I-IV
- Employ I-IV

** - .5 credit courses. Students must be aware that 2 total credits must be earned in a sequence.
### COURSES

#### AGRICULTURE
- Horticulture Sciences
- Landscaping I
- Landscaping II
- Turf Grass Establishment and Maintenance

#### BUSINESS AND INFORMATION TECHNOLOGY
- Accounting
- Advanced Accounting
- Business Law
- Business Management
- Computer Information Systems
- Advanced Computer Information Systems
- Design, Multimedia, and Web Technologies
- Advanced Design, Multimedia and Web Technologies
- Economics and Personal Finance
- Entrepreneurship
- Principles of Business and Marketing
- Programming
- Advanced Programming
- IT Programming
- IT Database Design and Management (Oracle)
- IT Advanced Database Design and Management (Oracle)
- International Business and Marketing
- Information Technology Fundamentals
- IT Web Technologies
- IT Advanced Web Technologies

#### CAREER CONNECTIONS
- Career Interpretations II (New Directions only)

#### FAMILY AND CONSUMER SCIENCE
- Introduction to Culinary Arts
- Culinary Arts I
- Culinary Arts II
- Early Childhood Education and Services I
- Early Childhood Education and Services II
- Family Relations
- Introduction to Fashion Careers
- Grads
- Grads Work Focus
- Independent Living
- Individual Development
- Life Planning
- Nutrition and Wellness
- Child Development and Parenting
- Virginia Teachers for Tomorrow I
- Virginia Teachers for Tomorrow II
<table>
<thead>
<tr>
<th>COURSES</th>
<th>PAGE</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH AND MEDICAL SCIENCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Body Systems (PLTW)</td>
<td>69</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Principles of Biomedical Science (PLTW)</td>
<td>70</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Practical Nursing I (18 weeks)</td>
<td>70</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>• to Adult</td>
</tr>
<tr>
<td>Practical Nursing II (18 weeks)</td>
<td>70</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>• to Adult</td>
</tr>
<tr>
<td>Practical Nursing III – Adult</td>
<td>70</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>Adult</td>
</tr>
<tr>
<td>INTERNATIONAL BACCALAUREATE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB Business and Management</td>
<td>70</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>IB Information Technology in a Global Society</td>
<td>71</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>IB Personal and Professional Skills</td>
<td>71</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>MARKETING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fashion Marketing</td>
<td>71</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Advanced Fashion Marketing</td>
<td>71</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Opportunities in Hospitality and Tourism</td>
<td>71</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Hotel Management and Operations</td>
<td>71</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Marketing</td>
<td>71</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Advanced Marketing</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>Sports, Entertainment, and Recreation Marketing</td>
<td>72</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Advanced Sports, Entertainment, and Recreation Marketing</td>
<td>72</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>TECHNOLOGY EDUCATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architectural Drawing – Design – CAD</td>
<td>72</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Construction Technology</td>
<td>72</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Engineering Explorations I</td>
<td>73</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Engineering Explorations I – Robotics</td>
<td>73</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Engineering Analysis and Applications II – Robotics</td>
<td>73</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Engineering Analysis and Applications II</td>
<td>73</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Communication Systems</td>
<td>73</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Digital Visualization</td>
<td>73</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Engineering Drawing and Design – CAD</td>
<td>74</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Foundations of Technology</td>
<td>74</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Graphic Communications Systems</td>
<td>74</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Production Systems</td>
<td>74</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Power and Transportation Technology</td>
<td>74</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Sustainability and Renewable Technologies</td>
<td>74</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Technical Drawing</td>
<td>74</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Video and Media Technology</td>
<td>75</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>PROJECT LEAD THE WAY (PLTW)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Engineering and Architecture (PLTW)</td>
<td>75</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Digital Electronics (PLTW)</td>
<td>75</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Engineering Design and Development (PLTW)</td>
<td>75</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Introduction to Engineering Design (PLTW)</td>
<td>75</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Principles of Engineering (PLTW)</td>
<td>75</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>TRADE AND INDUSTRIAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Technology I</td>
<td>76</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Automotive Technology II</td>
<td>76</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Automotive Technology III</td>
<td>76</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>COURSES</td>
<td>PAGE</td>
<td>Grade 9</td>
<td>Grade 10</td>
<td>Grade 11</td>
<td>Grade 12</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>------</td>
<td>---------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Building Trades I</td>
<td>76</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Trades II</td>
<td>76</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabinetmaking I</td>
<td>76</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Systems Technology I</td>
<td>77</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Systems Technology II</td>
<td>77</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Networking Hardware Operations I</td>
<td>77</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Networking Hardware Operations II</td>
<td>77</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Networking Hardware Operations III</td>
<td>77</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Networking Hardware Operations IV</td>
<td>77</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosmetology I</td>
<td>78</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosmetology II</td>
<td>78</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criminal Justice I</td>
<td>78</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criminal Justice II</td>
<td>78</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heating, Ventilation, Air Conditioning, and Refrigeration I</td>
<td>78</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heating, Ventilation, Air Conditioning, and Refrigeration II</td>
<td>78</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television Production I</td>
<td>79</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television Production II</td>
<td>79</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television Production III – Practicum</td>
<td>79</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welding I</td>
<td>79</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welding II</td>
<td>79</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welding III</td>
<td>79</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGLISH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English 9</td>
<td>81</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English 10</td>
<td>81</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English 11</td>
<td>81</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English 12</td>
<td>81</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-AP English 9</td>
<td>81</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-AP English 10</td>
<td>81</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AP English Language and Composition</td>
<td>81</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AP Literature and Composition</td>
<td>82</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IGCSE English 9</td>
<td>82</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IGCSE English 10</td>
<td>82</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AICE English Language and Composition (AS)</td>
<td>82</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AICE English Literature (AS)</td>
<td>82</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AICE English Literature A Level</td>
<td>82</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-IB Diploma Programme English 9</td>
<td>83</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-IB Diploma Programme English 10</td>
<td>83</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB English I Literature Higher Level</td>
<td>83</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB English II Literature Higher Level</td>
<td>83</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB English II – Standard Level</td>
<td>83</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Introduction to Speech Communication</td>
<td>83</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Writing I (10th with permission)</td>
<td>84</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Writing II</td>
<td>84</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film Studies</td>
<td>84</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journalism I</td>
<td>84</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journalism II</td>
<td>84</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journalism III</td>
<td>84</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COURSES</td>
<td>PAGE</td>
<td>Grade 9</td>
<td>Grade 10</td>
<td>Grade 11</td>
<td>Grade 12</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
<td>---------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Photo Journalism – Yearbook</td>
<td>84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction to Speech Communication</td>
<td>84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrichment in Speech Communication</td>
<td>84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Connections in Multicultural Literature</td>
<td>84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSAT – SAT Verbal-Math Preparation Class</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Improvement</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English 9 Seminar – Assigned based on SOL Language Arts scores</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Writing Exploration</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short Story I – Genre Focus: Short Story I</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonfiction I – Genre Focus: Nonfiction I</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poetry I – Genre Focus: Poetry I</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Script I – Genre Focus: Script I</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short Story II – Advanced Genre Focus: Short Story II</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonfiction II – Advanced Genre Focus: Nonfiction II</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poetry II – Advanced Genre Focus: Poetry II</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Script IIA – Advanced Genre Focus: Scriptwriting for the Stage</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Script IIB – Advanced Genre Focus: Scriptwriting for the Screen</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Novel – Advanced Genre Focus: Novel</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Writing Publications</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Writing Seminar</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Writing Independent Study</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENGLISH LEARNERS (EL) PROGRAMS</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL I Concepts of Language Arts</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL II Language Arts</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL III Language Arts</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL IV Language Arts</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL IV Advanced Reading and Writing</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL I Concepts of Math</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL I Concepts of Social Studies</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL I Concepts of Science</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Sheltered Courses</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct English 9</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct English 10</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct English 11</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct Geometry</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct Algebra I</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct Earth Science</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct Biology</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct World History and Geography to 1500</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct World History and Geography from 1500</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESOL Adjunct U.S. and VA History</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THE FINE AND PERFORMING ARTS</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dance I Company</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dance II Corps</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dance III Ensemble</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dance IV Artist</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dance Composition I – Repertory</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COURSES</td>
<td>PAGE</td>
<td>Grade 9</td>
<td>Grade 10</td>
<td>Grade 11</td>
<td>Grade 12</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
<td>---------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Class Piano – Guitar</td>
<td>90</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Orchestra</td>
<td>90</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Music Theory I and II</td>
<td>91</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Music History</td>
<td>91</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>A Survey of World Music</td>
<td>91</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Choir</td>
<td>91</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Women’s Chorale</td>
<td>91</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Women’s Chamber Choir</td>
<td>91</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Class Voice I, II, III</td>
<td>91</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Band</td>
<td>92</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Marching Band</td>
<td>92</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Music Technology</td>
<td>92</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Advanced Music Technology</td>
<td>92</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>AP Music Theory</td>
<td>92</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>IB Music I (SL)</td>
<td>92</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>IB Music II (HL)</td>
<td>92</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>IGCSE Music Studies</td>
<td>93</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>AICE Music (AS – A Level)</td>
<td>93</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Theatre I: Introduction to Theatre</td>
<td>93</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Theatre II: An Exploration of Performance in Theatre</td>
<td>93</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Technical Theatre – Production</td>
<td>93</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Theatre III – IV</td>
<td>93</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>IB Theatre Arts (SL)</td>
<td>93</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Acting Shakespeare</td>
<td>94</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Musical Theatre</td>
<td>94</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Advanced Performance Theatre</td>
<td>94</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Directing for the Stage and Screen</td>
<td>94</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Art I – Basic Foundations – IBMYP Art I</td>
<td>94</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Art II</td>
<td>94</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Art III</td>
<td>94</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Art IV</td>
<td>94</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Art V</td>
<td>94</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Art Portfolio Preparation</td>
<td>95</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Photography</td>
<td>95</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Photography II</td>
<td>95</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Computer Art I</td>
<td>95</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Art History</td>
<td>95</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>Scientific Illustration</td>
<td>95</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>AP Studio Art (2-D Design)</td>
<td>95</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>AP Studio Art (Drawing)</td>
<td>96</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>AP Studio Art (3-D Design)</td>
<td>96</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>AP Art History</td>
<td>96</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>IGCSE Art and Design</td>
<td>96</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>AICE Art and Design</td>
<td>96</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>CFPA Art I – Basic Foundations</td>
<td>96</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>CFPA Art II</td>
<td>97</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>CFPA Painting I – Media and Design: Painting</td>
<td>97</td>
<td>・</td>
<td>・</td>
<td>・</td>
<td>・</td>
</tr>
<tr>
<td>COURSES</td>
<td>PAGE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFPA Sculpture I – Media and Design Sculpture</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFPA Studio Art – Studio Art Seminar</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFPA Period Art – Period Art Seminar</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB Visual Arts (SLA or SLB)</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB Visual Arts I (HL)</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IB Visual Arts II (HL)</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Graphic Design</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Computer Graphics I</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Computer Graphics II</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Multimedia Software Design and Development I: Academy of Multimedia I</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Multimedia Software Design and Development II: Academy of Multimedia II</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Photography</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOREIGN (WORLD) LANGUAGE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>French I</td>
<td>99</td>
</tr>
<tr>
<td>German I</td>
<td>99</td>
</tr>
<tr>
<td>Italian I</td>
<td>99</td>
</tr>
<tr>
<td>Korean I</td>
<td>100</td>
</tr>
<tr>
<td>Spanish I</td>
<td>99</td>
</tr>
<tr>
<td>Arabic I</td>
<td>100</td>
</tr>
<tr>
<td>Russian I</td>
<td>100</td>
</tr>
<tr>
<td>Chinese I (Mandarin)</td>
<td>100</td>
</tr>
<tr>
<td>French II</td>
<td>99</td>
</tr>
<tr>
<td>German II</td>
<td>99</td>
</tr>
<tr>
<td>Italian II</td>
<td>99</td>
</tr>
<tr>
<td>Korean II</td>
<td>100</td>
</tr>
<tr>
<td>Spanish II</td>
<td>99</td>
</tr>
<tr>
<td>Arabic II</td>
<td>100</td>
</tr>
<tr>
<td>Advanced French II</td>
<td>99</td>
</tr>
<tr>
<td>Advanced Spanish II</td>
<td>99</td>
</tr>
<tr>
<td>Russian II</td>
<td>101</td>
</tr>
<tr>
<td>French III</td>
<td>99</td>
</tr>
<tr>
<td>German III</td>
<td>99</td>
</tr>
<tr>
<td>Italian III</td>
<td>99</td>
</tr>
<tr>
<td>Spanish III</td>
<td>99</td>
</tr>
<tr>
<td>Arabic III</td>
<td>100</td>
</tr>
<tr>
<td>Russian III</td>
<td>101</td>
</tr>
<tr>
<td>French IV</td>
<td>99</td>
</tr>
<tr>
<td>German IV</td>
<td>99</td>
</tr>
<tr>
<td>Italian IV</td>
<td>99</td>
</tr>
<tr>
<td>Spanish IV</td>
<td>99</td>
</tr>
<tr>
<td>Arabic IV</td>
<td>100</td>
</tr>
<tr>
<td>French V</td>
<td>99</td>
</tr>
<tr>
<td>German V</td>
<td>99</td>
</tr>
<tr>
<td>Spanish V</td>
<td>99</td>
</tr>
<tr>
<td>American Sign Language I</td>
<td>101</td>
</tr>
<tr>
<td>American Sign Language II</td>
<td>101</td>
</tr>
<tr>
<td>American Sign Language III</td>
<td>101</td>
</tr>
<tr>
<td>COURSES</td>
<td>PAGE</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Latin I</td>
<td>101</td>
</tr>
<tr>
<td>Latin II</td>
<td>101</td>
</tr>
<tr>
<td>Latin III</td>
<td>101</td>
</tr>
<tr>
<td>Latin IV</td>
<td>102</td>
</tr>
<tr>
<td>Pre-AP French Language III</td>
<td>103</td>
</tr>
<tr>
<td>Pre-AP German Language III</td>
<td>103</td>
</tr>
<tr>
<td>Pre-AP Russian Language III</td>
<td>103</td>
</tr>
<tr>
<td>Pre-AP Spanish Language III</td>
<td>103</td>
</tr>
<tr>
<td>Pre-AP Latin Language III</td>
<td>103</td>
</tr>
<tr>
<td>Pre-AP French Language IV</td>
<td>103</td>
</tr>
<tr>
<td>Pre-AP German Language IV</td>
<td>103</td>
</tr>
<tr>
<td>Pre-AP Latin Language IV</td>
<td>103</td>
</tr>
<tr>
<td>Pre-AP Russian Language IV</td>
<td>103</td>
</tr>
<tr>
<td>Pre-AP Spanish Language IV</td>
<td>103</td>
</tr>
<tr>
<td>AP French Language</td>
<td>103</td>
</tr>
<tr>
<td>AP German Language</td>
<td>103</td>
</tr>
<tr>
<td>AP Italian Language</td>
<td>103</td>
</tr>
<tr>
<td>AP Russian Language</td>
<td>103</td>
</tr>
<tr>
<td>AP Spanish Language</td>
<td>103</td>
</tr>
<tr>
<td>AP Latin Vergil</td>
<td>103</td>
</tr>
<tr>
<td>AP Spanish Literature</td>
<td>104</td>
</tr>
<tr>
<td>IGCSE French III</td>
<td>104</td>
</tr>
<tr>
<td>IGCSE German III</td>
<td>104</td>
</tr>
<tr>
<td>IGCSE Italian III</td>
<td>104</td>
</tr>
<tr>
<td>IGCSE Spanish III</td>
<td>104</td>
</tr>
<tr>
<td>IGCSE Latin III</td>
<td>104</td>
</tr>
<tr>
<td>AICE Classical Studies I</td>
<td>104</td>
</tr>
<tr>
<td>AICE Latin V</td>
<td>104</td>
</tr>
<tr>
<td>AICE French IV (AS)</td>
<td>104</td>
</tr>
<tr>
<td>AICE Spanish IV (AS)</td>
<td>104</td>
</tr>
<tr>
<td>AICE French V (A) Literature</td>
<td>105</td>
</tr>
<tr>
<td>AICE German V (A) Literature</td>
<td>105</td>
</tr>
<tr>
<td>AICE Spanish V (A) Literature</td>
<td>105</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme French II</td>
<td>105</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Italian II</td>
<td>105</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Spanish II</td>
<td>105</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme French III</td>
<td>105</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Italian III</td>
<td>105</td>
</tr>
<tr>
<td>IB AB Initio French I</td>
<td>105</td>
</tr>
<tr>
<td>IB AB Initio Italian I</td>
<td>105</td>
</tr>
<tr>
<td>IB AB Initio Spanish I</td>
<td>105</td>
</tr>
<tr>
<td>IB AB Initio French II</td>
<td>105</td>
</tr>
<tr>
<td>COURSES</td>
<td>PAGE</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>IB AB Initio Italian II</td>
<td>105</td>
</tr>
<tr>
<td>IB AB Initio Spanish II</td>
<td>105</td>
</tr>
<tr>
<td>IB French IV (SL)</td>
<td>105</td>
</tr>
<tr>
<td>IB Italian IV (SL)</td>
<td>105</td>
</tr>
<tr>
<td>IB Spanish IV (SL)</td>
<td>105</td>
</tr>
<tr>
<td>IB French V (SL)</td>
<td>106</td>
</tr>
<tr>
<td>IB Italian V (SL)</td>
<td>106</td>
</tr>
<tr>
<td>IB Spanish V (SL)</td>
<td>106</td>
</tr>
<tr>
<td>IB French IV (HL)</td>
<td>106</td>
</tr>
<tr>
<td>IB Italian IV (HL)</td>
<td>106</td>
</tr>
<tr>
<td>IB Spanish IV (HL)</td>
<td>106</td>
</tr>
<tr>
<td>IB French V (HL)</td>
<td>106</td>
</tr>
<tr>
<td>IB Spanish V (HL)</td>
<td>106</td>
</tr>
<tr>
<td>IB Spanish A1 SL Language and Literature</td>
<td>106</td>
</tr>
<tr>
<td>IB Spanish A1 HL Language and Literature</td>
<td>106</td>
</tr>
<tr>
<td><strong>GENERAL CROSS-CURRICULAR</strong></td>
<td></td>
</tr>
<tr>
<td>IB Theory of Knowledge (TOK)</td>
<td>107</td>
</tr>
<tr>
<td>AICE Thinking Skills (Advanced Subsidiary) – AICE Thinking Skills (A level)</td>
<td>107</td>
</tr>
<tr>
<td>Leadership Seminar</td>
<td>107</td>
</tr>
<tr>
<td>AP Seminar</td>
<td>107</td>
</tr>
<tr>
<td>AP Research</td>
<td>107</td>
</tr>
<tr>
<td>IB Personal and Professional Skills</td>
<td>107</td>
</tr>
<tr>
<td><strong>GIFTED EDUCATION</strong></td>
<td></td>
</tr>
<tr>
<td>Gifted Education Multi-Disciplinary Seminar (GEMS)</td>
<td>108</td>
</tr>
<tr>
<td>Gifted Education Multi-Disciplinary Seminar (GEMS)</td>
<td>108</td>
</tr>
<tr>
<td><strong>HEALTH AND PHYSICAL EDUCATION</strong></td>
<td></td>
</tr>
<tr>
<td>Health and Physical Education I – Pre-IB Diploma Programme PE I</td>
<td>109</td>
</tr>
<tr>
<td>Health, Physical Education, and Classroom Driver Education II</td>
<td>109</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme HPE II</td>
<td>109</td>
</tr>
<tr>
<td>Driver Education (In-Car)</td>
<td>109</td>
</tr>
<tr>
<td>Physical Education Assistant</td>
<td>109</td>
</tr>
<tr>
<td>Advanced Physical Education – Personal Fitness</td>
<td>110</td>
</tr>
<tr>
<td>Advanced Physical Education – Weight Training</td>
<td>110</td>
</tr>
<tr>
<td>Prevention and Care of Athletic Injuries I (10th with permission from instructor)</td>
<td>110</td>
</tr>
<tr>
<td>Prevention and Care of Athletic Injuries II</td>
<td>110</td>
</tr>
<tr>
<td>Advanced Prevention and Care of Athletic Injuries</td>
<td>110</td>
</tr>
<tr>
<td><strong>JROTC</strong></td>
<td></td>
</tr>
<tr>
<td>Naval Science I (NJROTC)</td>
<td>111</td>
</tr>
<tr>
<td>Naval Science II (NJROTC)</td>
<td>111</td>
</tr>
<tr>
<td>Naval Science III (NJROTC)</td>
<td>111</td>
</tr>
<tr>
<td>Naval Science IV (NJROTC)</td>
<td>111</td>
</tr>
<tr>
<td>Naval Science – Challenge Course (NJROTC)</td>
<td>111</td>
</tr>
<tr>
<td>Military Science I (AJROTC)</td>
<td>111</td>
</tr>
<tr>
<td>Military Science II (AJROTC)</td>
<td>112</td>
</tr>
<tr>
<td>Military Science III (AJROTC)</td>
<td>112</td>
</tr>
<tr>
<td>Military Science IV (AJROTC)</td>
<td>112</td>
</tr>
<tr>
<td>Leadership Education I (MCJROTC)</td>
<td>112</td>
</tr>
<tr>
<td>COURSES</td>
<td>PAGE</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Leadership Education II (MCJROTC)</td>
<td>113</td>
</tr>
<tr>
<td>Leadership Education III (MCJROTC)</td>
<td>113</td>
</tr>
<tr>
<td>Leadership Education IV (MCJROTC)</td>
<td>113</td>
</tr>
<tr>
<td>Aerospace Science and Leadership I (AFJROTC)</td>
<td>113</td>
</tr>
<tr>
<td>Aerospace Science and Leadership II (AFJROTC)</td>
<td>114</td>
</tr>
<tr>
<td>Aerospace Science and Leadership III (AFJROTC)</td>
<td>114</td>
</tr>
<tr>
<td>Aerospace Science and Leadership IV (AFJROTC)</td>
<td>114</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td></td>
</tr>
<tr>
<td>Algebra I, Parts 1 and 2</td>
<td>116</td>
</tr>
<tr>
<td>Algebra I</td>
<td>116</td>
</tr>
<tr>
<td>Geometry, Parts 1 and 2</td>
<td>116</td>
</tr>
<tr>
<td>Geometry</td>
<td>116</td>
</tr>
<tr>
<td>Algebra, Functions, and Data Analysis</td>
<td>116</td>
</tr>
<tr>
<td>Algebra II</td>
<td>116</td>
</tr>
<tr>
<td>Advanced Mathematics</td>
<td>117</td>
</tr>
<tr>
<td>Pre-AP Algebra I</td>
<td>117</td>
</tr>
<tr>
<td>Pre-AP Geometry</td>
<td>117</td>
</tr>
<tr>
<td>Pre-AP Algebra II – Trigonometry</td>
<td>117</td>
</tr>
<tr>
<td>Functions – Trigonometry</td>
<td>117</td>
</tr>
<tr>
<td>Functions – Analytic Geometry</td>
<td>117</td>
</tr>
<tr>
<td>AP Statistics</td>
<td>117</td>
</tr>
<tr>
<td>AP Calculus AB</td>
<td>117</td>
</tr>
<tr>
<td>AP Calculus BC</td>
<td>118</td>
</tr>
<tr>
<td>IGCSE Geometry</td>
<td>118</td>
</tr>
<tr>
<td>IGCSE Algebra II – Trigonometry</td>
<td>118</td>
</tr>
<tr>
<td>AICE Mathematics I (AS Level)</td>
<td>118</td>
</tr>
<tr>
<td>AICE Mathematics II (A Level)</td>
<td>118</td>
</tr>
<tr>
<td>AICE Mechanics (Level A)</td>
<td>118</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Algebra I</td>
<td>119</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Geometry</td>
<td>119</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Algebra II</td>
<td>119</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Algebra II – Trigonometry</td>
<td>119</td>
</tr>
<tr>
<td>IB Mathematics SL I</td>
<td>119</td>
</tr>
<tr>
<td>IB Mathematics SL II</td>
<td>119</td>
</tr>
<tr>
<td>IB Mathematical Studies (SL)</td>
<td>119</td>
</tr>
<tr>
<td>IB Mathematics HL I</td>
<td>119</td>
</tr>
<tr>
<td>IB Mathematics HL II</td>
<td>120</td>
</tr>
<tr>
<td>Personal Living and Finance</td>
<td>120</td>
</tr>
<tr>
<td>Trigonometry</td>
<td>120</td>
</tr>
<tr>
<td>Discrete Mathematics</td>
<td>120</td>
</tr>
<tr>
<td>Probability and Statistics</td>
<td>120</td>
</tr>
<tr>
<td>Computer Mathematics</td>
<td>120</td>
</tr>
<tr>
<td>Advanced Computer Mathematics</td>
<td>121</td>
</tr>
<tr>
<td>AP Computer Science A</td>
<td>121</td>
</tr>
<tr>
<td>Computer Science AB</td>
<td>121</td>
</tr>
<tr>
<td>AICE Computing (AS Level)</td>
<td>121</td>
</tr>
<tr>
<td>IB Computer Science Standard Level (SL)</td>
<td>121</td>
</tr>
<tr>
<td>COURSES</td>
<td>PAGE</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>IB Computer Science High Level (HL)</td>
<td>121</td>
</tr>
<tr>
<td>Advanced Computer Studies</td>
<td>121</td>
</tr>
<tr>
<td>GS Pre-Calculus Fall</td>
<td>122</td>
</tr>
<tr>
<td>GS Calculus I, Part A</td>
<td>122</td>
</tr>
<tr>
<td>GS Calculus I, Part B</td>
<td>122</td>
</tr>
<tr>
<td>GS Calculus Fall</td>
<td>122</td>
</tr>
<tr>
<td>GS Calculus Spring</td>
<td>122</td>
</tr>
<tr>
<td>GS Multivariable Calculus Fall</td>
<td>122</td>
</tr>
<tr>
<td>GS Linear Algebra Spring</td>
<td>122</td>
</tr>
<tr>
<td>SCIENCE</td>
<td></td>
</tr>
<tr>
<td>Earth Science I</td>
<td>124</td>
</tr>
<tr>
<td>Advanced Earth Science I</td>
<td>124</td>
</tr>
<tr>
<td>Biology I</td>
<td>124</td>
</tr>
<tr>
<td>Chemistry I</td>
<td>124</td>
</tr>
<tr>
<td>SOL-Based Physics</td>
<td>124</td>
</tr>
<tr>
<td>Pre-AP Biology</td>
<td>124</td>
</tr>
<tr>
<td>AP Biology</td>
<td>125</td>
</tr>
<tr>
<td>Advanced Biology Laboratory</td>
<td>125</td>
</tr>
<tr>
<td>Pre-AP Chemistry</td>
<td>125</td>
</tr>
<tr>
<td>AP Chemistry</td>
<td>125</td>
</tr>
<tr>
<td>Advanced Chemistry Laboratory</td>
<td>125</td>
</tr>
<tr>
<td>AP Environmental Science</td>
<td>125</td>
</tr>
<tr>
<td>AP Physics 1</td>
<td>126</td>
</tr>
<tr>
<td>Advanced Physics 1 Laboratory</td>
<td>126</td>
</tr>
<tr>
<td>AP Physics 2</td>
<td>126</td>
</tr>
<tr>
<td>Advanced Physics 2 Laboratory</td>
<td>126</td>
</tr>
<tr>
<td>AP Physics C</td>
<td>126</td>
</tr>
<tr>
<td>Advanced Physics C Laboratory</td>
<td>126</td>
</tr>
<tr>
<td>IGCSE Biology</td>
<td>127</td>
</tr>
<tr>
<td>AICE Biology (AS Level)</td>
<td>127</td>
</tr>
<tr>
<td>AICE Biology (A Level)</td>
<td>127</td>
</tr>
<tr>
<td>IGCSE Chemistry</td>
<td>127</td>
</tr>
<tr>
<td>AICE Chemistry (AS Level)</td>
<td>127</td>
</tr>
<tr>
<td>IGCSE Physics</td>
<td>127</td>
</tr>
<tr>
<td>AICE Physics (AS Level)</td>
<td>128</td>
</tr>
<tr>
<td>AICE Environmental Management (AS Level)</td>
<td>128</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Earth Science</td>
<td>128</td>
</tr>
<tr>
<td>IB Environmental Systems and Societies (SL)</td>
<td>128</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Biology I</td>
<td>128</td>
</tr>
<tr>
<td>IB Biology I (HL)</td>
<td>129</td>
</tr>
<tr>
<td>IB Biology II (HL)</td>
<td>129</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme Chemistry</td>
<td>129</td>
</tr>
<tr>
<td>IB Chemistry I (HL)</td>
<td>129</td>
</tr>
<tr>
<td>IB Chemistry II (HL)</td>
<td>129</td>
</tr>
<tr>
<td>IB Chemistry I (SL)</td>
<td>129</td>
</tr>
<tr>
<td>IB Chemistry II (SL)</td>
<td>129</td>
</tr>
<tr>
<td>IB Physics (SL)</td>
<td>130</td>
</tr>
</tbody>
</table>
## COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth Science II: Oceanography</td>
<td>130</td>
</tr>
<tr>
<td>Earth Science II: Astronomy</td>
<td>130</td>
</tr>
<tr>
<td>Earth Science II: Physical Geology</td>
<td>130</td>
</tr>
<tr>
<td>Biology II: Survey of Advanced Topics in Biology</td>
<td>130</td>
</tr>
<tr>
<td>Biology II: Introduction to DNA Science and Biotechnology</td>
<td>130</td>
</tr>
<tr>
<td>Biology II: Ecology</td>
<td>131</td>
</tr>
<tr>
<td>Lab Assistant – Science Seminar or Science Teacher’s Aide</td>
<td>131</td>
</tr>
<tr>
<td>Chemistry II: Forensic Science and Chemical Analysis</td>
<td>131</td>
</tr>
<tr>
<td>Introduction of Microbiology and Bacteriology</td>
<td>131</td>
</tr>
<tr>
<td>Introduction to Forensic Science</td>
<td>131</td>
</tr>
<tr>
<td>Methods in Scientific Inquiry</td>
<td>131</td>
</tr>
<tr>
<td>THE GOVERNOR’S SCHOOL @ INNOVATION PARK</td>
<td></td>
</tr>
<tr>
<td>GS College Physics I</td>
<td>132</td>
</tr>
<tr>
<td>GS College Physics I LAB</td>
<td>132</td>
</tr>
<tr>
<td>GS College Physics II</td>
<td>132</td>
</tr>
<tr>
<td>GS College Physics II LAB</td>
<td>132</td>
</tr>
<tr>
<td>GS University Physics I</td>
<td>132</td>
</tr>
<tr>
<td>GS University Physics I LAB</td>
<td>132</td>
</tr>
<tr>
<td>GS University Physics II</td>
<td>132</td>
</tr>
<tr>
<td>GS University Physics II LAB</td>
<td>132</td>
</tr>
<tr>
<td>GS General Biology I</td>
<td>132</td>
</tr>
<tr>
<td>GS General Biology I LAB</td>
<td>132</td>
</tr>
<tr>
<td>GS General Biology II</td>
<td>133</td>
</tr>
<tr>
<td>GS General Biology II LAB</td>
<td>133</td>
</tr>
<tr>
<td>GS General Biology II LAB</td>
<td>133</td>
</tr>
<tr>
<td>GS General Biology II LAB</td>
<td>133</td>
</tr>
<tr>
<td>GS General Chemistry I</td>
<td>133</td>
</tr>
<tr>
<td>GS General Chemistry I LAB</td>
<td>133</td>
</tr>
<tr>
<td>GS General Chemistry II</td>
<td>133</td>
</tr>
<tr>
<td>GS General Chemistry II LAB</td>
<td>133</td>
</tr>
<tr>
<td>GS Introduction to Organic Chemistry</td>
<td>133</td>
</tr>
<tr>
<td>GS Introduction to Organic Chemistry Lab</td>
<td>134</td>
</tr>
<tr>
<td>GS Environmental Chemistry</td>
<td>134</td>
</tr>
<tr>
<td>GS Environmental Chemistry Lab</td>
<td>134</td>
</tr>
<tr>
<td>SOCIAL STUDIES</td>
<td></td>
</tr>
<tr>
<td>World History and Geography to 1500</td>
<td>136</td>
</tr>
<tr>
<td>World History and Geography from 1500</td>
<td>136</td>
</tr>
<tr>
<td>U.S. and Virginia History</td>
<td>136</td>
</tr>
<tr>
<td>U.S. and Virginia Government</td>
<td>136</td>
</tr>
<tr>
<td>Pre-AP World History and Geography to 1500</td>
<td>136</td>
</tr>
<tr>
<td>AP World History</td>
<td>136</td>
</tr>
<tr>
<td>AP U.S. History</td>
<td>137</td>
</tr>
<tr>
<td>AP Government and Politics: U.S.</td>
<td>137</td>
</tr>
<tr>
<td>AP Government and Politics: Comparative</td>
<td>137</td>
</tr>
<tr>
<td>Pre-AICE World History and Geography to 1500</td>
<td>137</td>
</tr>
<tr>
<td>AICE World History</td>
<td>137</td>
</tr>
</tbody>
</table>

### Grade 9

| GS College Physics I                                                 | ✔   |
| GS College Physics I LAB                                             | ✔   |
| GS College Physics II                                                | ✔   |
| GS College Physics II LAB                                            | ✔   |
| GS General Biology I                                                 | ✔   |
| GS General Biology I LAB                                             | ✔   |
| GS General Biology II                                                | ✔   |
| GS General Biology II LAB                                            | ✔   |
| GS General Chemistry I                                               | ✔   |
| GS General Chemistry I LAB                                           | ✔   |
| GS General Chemistry II                                              | ✔   |
| GS General Chemistry II LAB                                          | ✔   |
| GS Introduction to Organic Chemistry                                 | ✔   |
| GS Introduction to Organic Chemistry Lab                             | ✔   |
| GS Environmental Chemistry                                           | ✔   |
| GS Environmental Chemistry Lab                                       | ✔   |

### Grade 10

| GS College Physics I                                                 | ✔   |
| GS College Physics I LAB                                             | ✔   |
| GS College Physics II                                                | ✔   |
| GS College Physics II LAB                                            | ✔   |
| GS General Biology I                                                 | ✔   |
| GS General Biology I LAB                                             | ✔   |
| GS General Biology II                                                | ✔   |
| GS General Biology II LAB                                            | ✔   |
| GS General Chemistry I                                               | ✔   |
| GS General Chemistry I LAB                                           | ✔   |
| GS General Chemistry II                                              | ✔   |
| GS General Chemistry II LAB                                          | ✔   |
| GS Introduction to Organic Chemistry                                 | ✔   |
| GS Introduction to Organic Chemistry Lab                             | ✔   |
| GS Environmental Chemistry                                           | ✔   |
| GS Environmental Chemistry Lab                                       | ✔   |

### Grade 11

| GS College Physics I                                                 | ✔   |
| GS College Physics I LAB                                             | ✔   |
| GS College Physics II                                                | ✔   |
| GS College Physics II LAB                                            | ✔   |
| GS General Biology I                                                 | ✔   |
| GS General Biology I LAB                                             | ✔   |
| GS General Biology II                                                | ✔   |
| GS General Biology II LAB                                            | ✔   |
| GS General Chemistry I                                               | ✔   |
| GS General Chemistry I LAB                                           | ✔   |
| GS General Chemistry II                                              | ✔   |
| GS General Chemistry II LAB                                          | ✔   |
| GS Introduction to Organic Chemistry                                 | ✔   |
| GS Introduction to Organic Chemistry Lab                             | ✔   |
| GS Environmental Chemistry                                           | ✔   |
| GS Environmental Chemistry Lab                                       | ✔   |

### Grade 12

<p>| GS College Physics I                                                 | ✔   |
| GS College Physics I LAB                                             | ✔   |
| GS College Physics II                                                | ✔   |
| GS College Physics II LAB                                            | ✔   |
| GS General Biology I                                                 | ✔   |
| GS General Biology I LAB                                             | ✔   |
| GS General Biology II                                                | ✔   |
| GS General Biology II LAB                                            | ✔   |
| GS General Chemistry I                                               | ✔   |
| GS General Chemistry I LAB                                           | ✔   |
| GS General Chemistry II                                              | ✔   |
| GS General Chemistry II LAB                                          | ✔   |
| GS Introduction to Organic Chemistry                                 | ✔   |
| GS Introduction to Organic Chemistry Lab                             | ✔   |
| GS Environmental Chemistry                                           | ✔   |
| GS Environmental Chemistry Lab                                       | ✔   |</p>
<table>
<thead>
<tr>
<th>COURSES</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AICE U.S. History</td>
<td>137</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme World History and Geography from 1500</td>
<td>138</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme – AP Government and Politics: Comparative</td>
<td>138</td>
</tr>
<tr>
<td>Pre-IB Diploma Programme – AP Government and Politics: U.S.</td>
<td>138</td>
</tr>
<tr>
<td>IB Global Politics (SL)</td>
<td>139</td>
</tr>
<tr>
<td>IB History I: History of the Americas (HL)</td>
<td>138</td>
</tr>
<tr>
<td>IB History II: Topics in Twentieth Century History (HL)</td>
<td>138</td>
</tr>
<tr>
<td>IB Geography (SL)</td>
<td>139</td>
</tr>
<tr>
<td>AP Economics</td>
<td>139</td>
</tr>
<tr>
<td>AP European History</td>
<td>139</td>
</tr>
<tr>
<td>AP Human Geography</td>
<td>139</td>
</tr>
<tr>
<td>AP Psychology</td>
<td>139</td>
</tr>
<tr>
<td>IB Economics</td>
<td>139</td>
</tr>
<tr>
<td>IB Social and Cultural Anthropology</td>
<td>139</td>
</tr>
<tr>
<td>IB Psychology</td>
<td>140</td>
</tr>
<tr>
<td>AICE Economics (AS – A Level)</td>
<td>140</td>
</tr>
<tr>
<td>AICE Global Perspectives</td>
<td>140</td>
</tr>
<tr>
<td>AICE International History 1945-1991</td>
<td>140</td>
</tr>
<tr>
<td>AICE Psychology</td>
<td>140</td>
</tr>
<tr>
<td>AICE Sociology</td>
<td>140</td>
</tr>
<tr>
<td>Hands on History: Discovering Prince William County’s Past</td>
<td>141</td>
</tr>
<tr>
<td>Psychology</td>
<td>141</td>
</tr>
<tr>
<td>Sociology</td>
<td>141</td>
</tr>
<tr>
<td>Twentieth Century History</td>
<td>141</td>
</tr>
<tr>
<td>World Geography</td>
<td>141</td>
</tr>
<tr>
<td><strong>SPECIAL EDUCATION</strong></td>
<td></td>
</tr>
<tr>
<td>Compensatory Skills I, II, III, and IV</td>
<td>142</td>
</tr>
<tr>
<td>EMPLOY I</td>
<td>142</td>
</tr>
<tr>
<td>EMPLOY II</td>
<td>142</td>
</tr>
<tr>
<td>EMPLOY III and IV</td>
<td>142</td>
</tr>
<tr>
<td>EMPLOY V</td>
<td>142</td>
</tr>
<tr>
<td>Life Skills</td>
<td>142</td>
</tr>
<tr>
<td>Learning Strategies I</td>
<td>142</td>
</tr>
<tr>
<td>Learning Strategies II</td>
<td>143</td>
</tr>
<tr>
<td>Social Skills I</td>
<td>143</td>
</tr>
<tr>
<td>Social Skills II</td>
<td>143</td>
</tr>
<tr>
<td><strong>STUDENT ASSISTANTS</strong></td>
<td></td>
</tr>
<tr>
<td>Student Assistant for Special Education</td>
<td>143</td>
</tr>
<tr>
<td>Physical Education Assistant</td>
<td>143</td>
</tr>
<tr>
<td>Lab Assistant – Library Assistant</td>
<td>143</td>
</tr>
<tr>
<td>Lab Assistant – Science Seminar or Science Teacher’s Aide</td>
<td>143</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade</th>
<th>Grade</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

160
School Board
Mr. Ryan Sawyers
Chairman At-Large

Mrs. Lillie G. Jessie
Vice Chairman
Occoquan District

Mr. William J. Deutsch
Coles District

Ms. Diane L. Raulston
Neabsco District

Mrs. Alyson A. Satterwhite
Gainesville District

Mr. Gil Trenum
Brentsville District

Mr. Justin David Wilk
Potomac District

Ms. Loree Y. Williams
Woodbridge District

Superintendent of Schools
Dr. Steven L. Walts

Superintendent’s Staff
Ms. Rae E. Darlington
Deputy Superintendent

Mr. William G. Bixby
Associate Superintendent for Middle Schools

Mr. David S. Cline
Associate Superintendent for Finance and Support Services

Mr. R. Todd Erickson
Associate Superintendent for Central Elementary Schools

Mr. Craig H. Gfeller
Associate Superintendent for Eastern Elementary Schools

Mrs. Rita Everett Goss
Associate Superintendent for Student Learning and Accountability

Mrs. Jarcelynn M. Hart
Associate Superintendent for Western Elementary Schools

Mr. Keith A. Imon
Associate Superintendent for Communications and Technology Services

Mr. Keith J. Johnson
Associate Superintendent for Human Resources

Mr. Michael A. Mulgrew
Associate Superintendent for High Schools

Prince William County Public Schools (PWCS) does not discriminate in employment or in its educational programs and activities against qualified individuals on the basis of race, color, religion, national origin, sex, pregnancy, childbirth or related medical conditions, age, marital status, veteran status, or disability. PWCS provides equal access to the Boy Scouts and other designated youth groups. The following individual will handle inquiries regarding nondiscrimination policies, including Section 504 and Title IX:

Associate Superintendent for Human Resources
Prince William County Public Schools, P.O. Box 389, Manassas, VA 20108