

# Fluvanna County High School

## Program of Studies 2024 – 2025



*Planning for Success*

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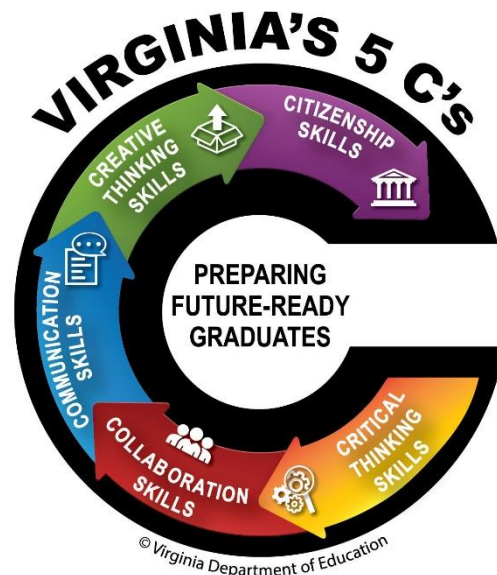
## PART I: EXPECTATIONS FOR PERFORMANCE

### PROFILE OF A VIRGINIA GRADUATE

The Profile of a Virginia Graduate describes the knowledge, skills, experiences and attributes that students must attain to be successful in college and/or the work force and to be “life ready.”

In developing the profile, the VA Board of Education determined that a life-ready Virginia graduate must:

- Achieve and apply appropriate academic and technical knowledge (content knowledge);
- Demonstrate productive workplace skills, qualities, and behaviors (workplace skills);
- Build connections and value interactions with others as a responsible and responsive citizen (community engagement and civic responsibility); and
- Align knowledge, skills and personal interests with career opportunities (career exploration).



In developing the profile, give due consideration to the “5 C’s”:

- Critical thinking
- Collaboration
- Creative thinking
- Communication
- Citizenship

## A. STANDARD DIPLOMA

Standard Diploma Course Requirements (8 VAC 20-131-50.B)		*Beginning with students entering ninth grade for the first time in 2018-2019	
Discipline Area	Standard Credits	Verified Credits	*Verified Credits
English	4	2	2
Mathematics <i>[Note 1]</i>	3	1	1
Laboratory Science <i>[Notes 2 &amp; 6]</i>	3	1	1
History & Social Sciences <i>[Notes 3 &amp; 6]</i>	3	1	1
Health & Physical Education	2		
Foreign Language, Fine Arts or Career & Technical Education <i>[Note 7]</i>	2		
Economics and Personal Finance	1		
Electives <i>[Note 4]</i>	4		
Student Selected Test <i>[Note 5]</i>		1	
<b>Total</b>	<b>22</b>	<b>6</b>	<b>5</b>

### Electives

#### Sequential Electives

Effective with the graduating class of 2003, students who wish to receive a Standard or Modified Standard Diploma must successfully complete two sequential electives.

\*Sequential electives may be in any discipline as long as the courses are not specifically required for graduation.

\*Courses used to satisfy the one unit of credit in a fine arts or career and technical education course may be used to partially satisfy this requirement.

\*An exploratory course followed by an introductory course may not be used to satisfy the requirement.

\*An introductory course followed by another level of the same course of study may be used.

\*Sequential electives do not have to be taken in consecutive years.

#### Fine Arts and Career and Technical Education

The Standard, Advanced Studies, and Modified Standard Diplomas each contain a requirement for one standard unit of credit in Fine Arts or Career and Technical Education.

Beginning with students entering ninth grade for the first time in 2013-2014, a student must also earn a board-approved career and technical education credential to graduate with a Standard Diploma and successfully complete one virtual course, which may be non-credit bearing.

#### **NOTE 1**

**For students entering the ninth grade for the first time in 2011-2012 and beyond:** Courses completed to satisfy this requirement 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. The Board shall approve courses to satisfy this requirement.

#### **NOTE 2**

**For students entering the ninth grade for the first time in 2011-2012 and beyond:** Courses completed to satisfy this requirement shall include course selections from at least two different science disciplines: earth sciences, biology, chemistry or physics or completion of the sequence of science courses required for the International Baccalaureate Diploma. The Board shall approve courses to satisfy this requirement.

#### **NOTE 3**

**For students entering the ninth grade for the first time in 2011-2012 and beyond:** Courses completed to satisfy this requirement shall include U.S. and Virginia History, U.S. and Virginia Government, and one course in either world history or geography or both. The Board shall approve courses to satisfy this requirement.

#### **NOTE 4**

Courses to satisfy this requirement shall include at least two sequential electives as required by the Standards of Quality.

#### **NOTE 5**

**For students entering the ninth grade for the first time in 2011-2012 and beyond:** 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 in 8 VAC 20-131-110.

#### **NOTE 6**

Students 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 acquires a professional license in a career and technical education field from the Commonwealth of Virginia may substitute the certification, competency credential or license for (1) the student selected verified credit and (2) 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 additional test to verify student achievement.

#### **NOTE 7**

**For students entering the ninth grade for the first time in 2011-2012 and beyond:** Pursuant to Section 22.1-253.13:4, *Code of Virginia*, credits earned for this requirement shall include one credit in fine or performing arts or career and technical education.

## B. ADVANCED DIPLOMA

Advanced Studies Diploma Course Requirements (8 VAC 20-131-50.C)		*Beginning with students entering ninth grade for the first time in 2018-2019	
Discipline Area	Standard Credits	Verified Credits	*Verified Credits
English	4	2	2
Mathematics [Note 1]	4	2	1
Laboratory Science [Note 2]	4	2	1
History & Social Sciences [Note 3]	4	2	1
Foreign Languages [Note 4]	3		
Health & Physical Education	2		
Fine Arts or Career & Technical Education	1		
Economics and Personal Finance	1		
Electives	3		
Student Selected Test [Note 5]		1	
<b>Total</b>	<b>26</b>	<b>9</b>	<b>5</b>

### Electives

#### Fine Arts and Career and Technical Education

The Standard, Advanced Studies, and Modified Standard Diplomas each contain a requirement for one standard unit of credit in Fine Arts or Career and Technical Education. The Standards of Accreditation do not require that courses used to satisfy the requirement of Fine Arts or Career and Technical Education be approved by the Board. Therefore, local school officials should use their own judgment in determining which courses students take to satisfy this requirement.

#### World Language

The Advanced Studies Diploma contains a requirement for either three years of one world language or two years of two languages. In March 1998, the Board of Education approved the provision of three years of instruction in American Sign Language (ASL) for world language credit toward an Advanced Studies Diploma; other world languages will satisfy this requirement as well. Details of this action are available in: Superintendent's Memo, Interpretive, #1, June 12, 1998.

Beginning with students entering ninth grade for the first time in 2013-2014, a student must successfully complete one virtual course, which may be non-credit bearing, to graduate with an Advanced Studies Diploma.

#### NOTE 1

**For students entering the ninth grade for the first time in 2011-2012 and beyond:** Courses completed to satisfy this requirement shall include at least three different course selections from among: Algebra I, Geometry, Algebra II, or other mathematics courses above the level of Algebra II. The Board shall approve courses to satisfy this requirement.

#### NOTE 2

**For students entering the ninth grade for the first time in 2011-2012 and beyond:** Courses completed to satisfy this requirement shall include course selections from at least three different science disciplines from among: earth sciences, biology, chemistry, or physics or completion of the sequence of science courses required for the International Baccalaureate Diploma. The Board shall approve courses to satisfy this requirement.

#### NOTE 3

**For students entering the ninth grade for the first time in 2011-2012 and beyond:** Courses completed to satisfy this requirement shall include U.S. and Virginia History, U.S. and Virginia Government, and two courses in either world history or geography or both. The Board shall approve courses to satisfy this requirement.

#### NOTE 4

Courses completed to satisfy this requirement shall include three years of one language or two years of two languages.

#### NOTE 5

**For students entering the ninth grade for the first time in 2011-2012 and beyond:** A student may utilize additional tests for earning verified credit in computer science, technology, career or technical education, economics or other areas as prescribed by the Board in 8 VAC 20-131-110.

## C. PROMOTION REQUIREMENTS

**Grade 9 to 10** – Have earned a total of 6 credits towards graduation, including English 9

**Grade 10 to 11** – Have earned a total of 12 credits towards graduation, including English 10

**Grade 11 to 12** – Have earned a total of 18 credits towards graduation, including English 11

## D. GRADING SYSTEM

A = 90 – 100

B = 80 – 89

C = 70 – 79

D = 65 – 69

F = 0 – 64

WF = Withdrawal Failing

## **PART II: OPTIONS AND ALTERNATIVES**

### **A. EARLY COLLEGE – PVCC**

The Early College Program through Piedmont Virginia Community College offers academically strong high school students the opportunity to complete college-level coursework, thereby obtaining college credit. Courses are taken either at the high school, online, or at the community college. There are three aspects to Early College:

#### **1. Dual Enrollment**

Dual Enrollment classes are classes taken in person at the high school through a cooperative agreement between PVCC and Fluvanna County High School. There is no tuition cost to the student. Instructors are current FCHS teachers who agree to teach using the standards and content required of the college-level course. Students accrue both college and high school credit toward graduation. Entrance standards for the classes apply. Parental/guardian permission is required. Credit for most classes transfers to other post-secondary institutions, including four-year universities both in Virginia and out-of-state.

#### **2. Dual Credit**

Dual Credit classes are taken either on-line or at the PVCC main campus. Students and their families are responsible for tuition and transportation. Some on-line classes can be scheduled during a student's high school day; in these cases, students report to the high school computer lab to independently work on these classes. Entrance standards for the classes apply. Permission must be obtained from parent/guardian and the school counseling director. Credit is not guaranteed to apply toward high school graduation requirements. Credit for most classes transfers to other post-secondary institutions, including four-year universities both in Virginia and out-of-state.

#### **3. Early College Credential**

Students may obtain either a General Education Certificate or Associate's Degree while in high school by taking a combination of Dual Enrollment and/or Dual Credit classes. Advanced Placement credits may also be used for up to 75 percent of the requirements for these credentials. The General Education Certificate signifies a student has completed one year of college as defined by the Virginia Community College System (VCCS). An Associate's Degree is equivalent to two years of college. Permission must be obtained from parent/guardian and the school counseling office. Credit is not guaranteed to apply toward high school graduation requirements. Credit for most classes transfers to other post-secondary institutions, including four-year universities both in Virginia and out-of-state.

Students who acquire either credential also receive the distinction of Early College Scholar from the State of Virginia and may choose to walk through PVCC Graduation if they so choose. Entrance standards for individual classes apply in the same manner as Dual Enrollment and Dual Credit.

### **B. GOVERNOR'S EARLY COLLEGE SCHOLARS**

The Early College Scholars program allows eligible high school students to earn at least 15 hours of transferable college credit while completing the requirements for an Advanced Studies Diploma. The result is a more productive senior year and a substantial reduction in college tuition. Students earning a college degree in seven semesters instead of eight can save an average of \$5,000 in expenses. To qualify for the Early College Scholars program, a student must:

- Have a "B" average or better;
- Be pursuing an Advanced Studies Diploma; and
- Take and complete college-level course work (i.e., Advanced Placement, International Baccalaureate, Cambridge, or dual enrollment) that will earn at least 15 transferable college credits.

### **C. VIRTUAL VIRGINIA**

Virtual Virginia, which includes the Virginia Virtual Advanced Placement curricular options, provides a variety of Advanced Placement (AP) and other high school courses, enabling students to earn college credit or take other high school classes not offered at FCHS, regardless of the high school's ability to offer college-level courses. Virtual classes require daily login and course activity.

## D. BLUE RIDGE VIRGINIA GOVERNOR'S SCHOOL (BRVGS)

Students in BRVGS must earn a specific set of credits in order to graduate from BRVGS with Virginia Governor's School Diploma Seal. The courses that BRVGS students must take are:

BRVGS World History I & II	2 credits	In 9th grade
BRVGS Advanced Placement Biology	2 credits	In 10th grade
3 BRVGS Online Courses (Note: <a href="#">Local Partner Courses</a> or BRVGS-approved <a href="#">Independent Courses</a> may substitute for up to 2 of these courses)	3 credits	In 11th and 12th grades
BRVGS Senior Project	1 credit	In 12th grade

If a student is enrolled in an **Associate's Degree Program** or other [BRVGS-approved certificate program](#), the minimum BRVGS courses requirements are:

BRVGS World History I & II	2 credits	In 9th grade
BRVGS Advanced Placement Biology	2 credits	In 10th grade
1 BRVGS Required Online Course	1 credit	In 11th grade
BRVGS Senior Project	1 credit	In 12th grade

**Other Courses:** BRVGS students must also take specific courses from their local school to meet requirements for the Advanced Studies Diploma.

- If courses have different levels, such as "General," "Honors," etc., BRVGS students must take the highest level available. AP or DE courses are NOT required for all subjects.
- BRVGS students must take 3 Advanced Placement (AP) or Dual Enrollment (DE) courses in addition to the BRVGS AP Biology course.

Courses	Credits	Notes
English	4	One English class in each year of high school
Mathematics	5	Must include AP or DE Calculus or Statistics, OR DE Math 161, 165 or 167, OR other BRVGS-approved Math course
Science	5	Includes 2 credits for BRVGS AP Biology
Social Studies	4	Include 2 credits for BRVGS World History I and II
Foreign Language	3 or 4	3 credits in one language or 2 credits each in 2 different languages.
Health/PE	2	
Fine Art or CTE	1	
Econ. and Personal Finance	1	This course is available as a BRVGS online summer course.
BRVGS Online or local partner course	1 - 3	Depends on whether student is in an Associate's Degree or other approved certificate program.



## E. ADVANCED PLACEMENT CAPSTONE GRADUATION PROJECT

AP Capstone™ is a diploma program based on two yearlong AP courses: AP Seminar and AP Research. These courses are designed to complement other AP courses that the AP Capstone student may take.

Instead of teaching specific subject knowledge, AP Seminar and AP Research use an interdisciplinary approach to develop the critical thinking, research, collaboration, time management, and presentation skills students need for college-level work.

The College Board developed the AP Capstone Diploma program at the request of higher education professionals, who saw a need for a systematic way for high school students to begin mastering these skills before college.

### Program Details

Students typically take AP Seminar in grade 10 or 11, followed by AP Research. Each course is yearlong, and AP Seminar is a prerequisite for AP Research. In both courses, students investigate a variety of topics in multiple disciplines. Students may choose to explore topics related to other AP courses they're taking. Both courses guide students through completing a research project, writing an academic paper, and making a presentation on their project.

Over the course of the two-year program, students are required to:

- Analyze topics through multiple lenses to construct meaning or gain understanding.
- Plan and conduct a study or investigation.
- Propose solutions to real-world problems.
- Plan and produce communication in various forms.
- Collaborate to solve a problem.
- Integrate, synthesize, and make cross-curricular connections.

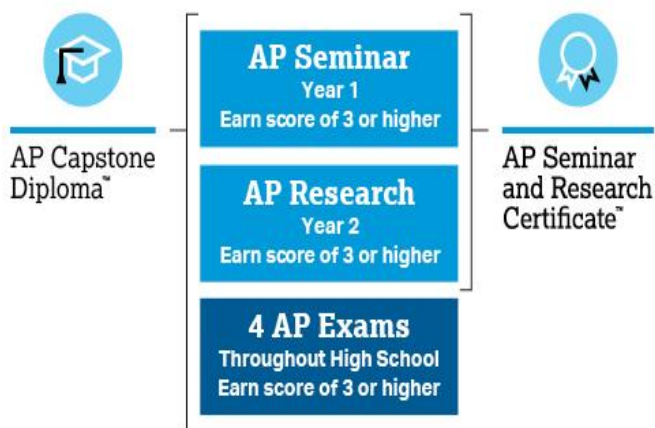
### Assessment

AP scores for both courses are based on teacher assessment of student presentation components and College Board scoring of student-written components plus an end-of-course exam (for AP Seminar only).

Visit the [AP Seminar Exam page](#) and the [AP Research Exam page](#) to learn more about the assessment of student work in AP Capstone courses.

### Awards

Students who earn scores of 3 or higher in AP Seminar and AP Research and on four additional AP Exams of their choosing receive the AP Capstone Diploma™. Students who earn scores of 3 or higher in AP Seminar and AP Research but not on four additional AP Exams receive the AP Seminar and Research Certificate™.



Students who earn these awards can view and print their diploma or certificate online. The award is also acknowledged on any AP score report that is sent to colleges after the award has been conferred.

**Note:** The AP Capstone Diploma and AP Seminar and Research Certificate are reported to colleges and universities as AP Scholar Awards and appear in Scholar Roster reports.

## F. ATHLETIC PARTICIPATION

Students must be enrolled in a minimum of three credits'-worth of classes each semester to be eligible to participate in VHSL activities. Students must have passed a minimum of three credits'-worth of classes the preceding semester. Seniors considering taking classes on the campus of PVCC are responsible for checking with their School Counselor or the Athletic Director to make certain that it will not affect athletic eligibility. Students enrolled in year-long classes that count as one credit for the entire year must be enrolled in two year-long and two one-semester classes to meet athletic eligibility requirements.



**G. SPECIAL OPPORTUNITIES****Office Aide**

Students who wish to work in the School Counseling Office, Library, or Main Office must meet the following criteria:

- Have the classification of Junior or Senior,
- Have not missed more than 20 total class periods of instruction the previous semester,
- Earned an industry credential, and
- Have not had any Out-of-School Suspensions the previous semester.

**PART III: PROGRAMS FOR IDENTIFIED STUDENTS****A. SPECIAL EDUCATION SERVICES**

Special Education Services are provided to students found eligible. Case Managers are assigned to facilitate the appropriate selection of courses to address academic needs and future goals.

**B. GIFTED PROGRAM**

Fluvanna County identifies students for the gifted program according to the guidelines approved by the State Department of Education. Students who wish to be screened should ask a School Counselor about the procedures.

**PART IV: SCHEDULING PROCEDURES****A. GENERAL SCHEDULING PROCEDURES**

Students and parents should consider course selection carefully. During course request meetings between students and their school counselors, students will be expected to choose 8 credits and 3 alternate elective choices. While efforts are made to help students get their top elective choices, it is not always possible, so alternate elective choices will be used to complete student schedules.

**Courses identified in this Program of Studies are offered subject to sufficient student demand and adequate availability of faculty resources.**

Students and parents will have access to the PowerSchool Student Portal and Parent Portal to review student course requests, and changes in those class requests may be made through a pre-announced date in early May. Changes after that established date cannot be guaranteed. All final course selection change requests must be submitted no later than the publicized deadline in order to be considered for the upcoming school year.

**B. SCHEDULE CHANGE POLICY**

The FCHS comprehensive schedule is developed -- and teaching assignments are made -- according to the courses that students request. This is the purpose of collecting student course requests months before the start of the new school year. Before the end of the school year, students and parents may review student course requests for the upcoming school year in PowerSchool and seek changes to certain course requests.

If a student believes that they have an **incorrect** class after schedules have been created, the student or parent should contact School Counseling immediately. An example of an incorrect class scenario would be a student who was scheduled for Spanish II but had not completed Spanish I yet, or a student who was scheduled for English 10 but had not completed English 9 yet.

***Special Exceptions***

- Students who are enrolled in a higher level course have through the fifth day of class to request to move to a lower level of the same class (e.g., moving from Honors Algebra II to standard Algebra II, or from PVCC MTH 167 Pre-calculus to Probability/Statistics)

**A class dropped after the fifth day of class could result in a "WF" (Withdraw Failing), which may be recorded on the student's transcript.**

## **PART V: COURSES**

### **ENGLISH – CORE**

#### **LANGUAGE ARTS 8 YEARLONG (21108)**

##### **Grade Level: 8**

This course is designed for eighth graders and focuses on the English SOLs, including the study of grammar, writing, vocabulary, reading skills, and literary forms. Creative projects and dramatic arts may be incorporated into the program. This class will prepare students for the challenges of English 9.

***\*An SOL test will be taken at the end of this course***

#### **LANGUAGE ARTS 8 (21120H)**

##### **Grade Level: 8**

This single-semester course is for eighth grade students who have strong reading, writing, and critical thinking skills. Students will have extensive reading during the class and daily homework; they will read a variety of prose and poetry, including both contemporary and classic literature. The writing curriculum will focus on expository and persuasive papers, including critical writing and documentation. The course will include a study of grammar, writing, vocabulary, and literary forms to prepare for the Grade 8 Writing SOL and Grade 8 Reading SOL tests. This is the first step toward eventual AP English or Dual-Enrollment courses.

***Prerequisite: 7<sup>th</sup> grade test scores and performance***

***\*An SOL test will be taken at the end of this course***

#### **ENGLISH 9 (11130)**

##### **Grade Level: 9**

This course is designed for ninth graders and focuses on the English SOLs including the study of grammar, writing, vocabulary, reading skills, and literary forms. This course will build on the skills taught in Academic English 8 in preparation for the End of Courses Standards of Learning (reading and writing SOL) taken in English 11. Students will study a genre-based curriculum, which includes drama, poetry, nonfiction, and fiction (novel and short story)

***Prerequisite: Language Arts 8***

#### **HONORS ENGLISH 9 (11136)**

##### **Grade Level: 9**

This course is for ninth grade students who have strong reading, writing, and critical thinking skills. Along with grammar, writing, vocabulary, and reading skills for the SOLS, students will study a genre-based curriculum, which includes drama, poetry, nonfiction, and fiction (novel and short story). Honors/PRE-AP students will be expected to write formal and in-class persuasive and analytical papers and to read a variety of texts independently. Students interested in this course should be highly motivated and prepared for a challenging workload. This course is preparation for the AP English courses.

***Prerequisite: Recommended: A or B in Language Arts 8 Honors.***

#### **ENGLISH 10 (11140)**

##### **Grade Level: 10**

This course is designed for tenth graders and focuses on the English SOLs including the study of grammar, writing, vocabulary, reading skills, and literary forms. This course will build on the skills taught in Academic English 9 in preparation for the End of Course Standards of Learning (reading and writing SOL) taken in English 11. Students will study a genre-based curriculum, which includes drama, poetry, nonfiction, and fiction (novel and short story).

***Prerequisite: English 9***

#### **HONORS ENGLISH 10 (11146)**

##### **Grade Level: 10**

This course is for tenth grade students who have strong reading, writing, and critical thinking skills. Along with grammar, writing, vocabulary, and reading skills for the SOLS, students will study a genre-based curriculum, which includes drama, poetry, nonfiction, and fiction (novel and short story). Honors/PRE-AP students will be expected to write formal and in-class persuasive and analytical papers and to read a variety of texts independently. Students interested in this course should be highly motivated and prepared for a challenging workload. This course is for students interested in taking the AP English courses for their junior and/or senior year.

***Prerequisite: Recommended: A or B in the Honors/Pre-AP English 9 course***

**ENGLISH 11 (11150)****Grade Level: 11**

This course is designed for eleventh grade students and focuses on skills for the reading and writing SOLs, which are taken during this course. Students must pass these SOLs to receive their high school diploma. Along with building grammar, writing, vocabulary, and reading skills, students will study American literature through a variety of genres including fiction, nonfiction, drama, and poetry.

**Prerequisite: English 10**

**\*An SOL test will be taken at the end of this course**

**HONORS ENGLISH 11 (11150H)****Grade Level: 11**

This course is designed for eleventh grade students and focuses on the English SOLs along with college preparatory material. Students will take the Reading and Writing SOLs, which they must pass to receive their high school diploma. Along with grammar, writing, vocabulary, reading skills, and literary forms, students should be prepared to read independently and write academic papers. Students will study American literature through a variety of genres including fiction, nonfiction, drama, and poetry. Students may choose to move to English 12 or a PVCC Dual- Enrollment course (111/112). This course is for a student who is motivated and wants to prepare for college.

**Prerequisite: English 10**

**\*An SOL test will be taken at the end of this course**

**AP LANGUAGE AND COMPOSITION (11196)****Grade Level: 11**

This course is designed for eleventh grade students interested in a college level course. Overall, students should expect frequent writing and reading assignments in and out of class. The course will focus on rhetorical modes; extensive writing of analytical, persuasive, and synthesis essays; vocabulary; grammar; and critical thinking skills. A survey of American literature will also be studied. The end of course reading and writing SOLs will be reviewed and given during this course. Students interested in this course should possess strong writing and reading skills and be prepared for a challenging workload. Students are encouraged to take the AP exam administered in May to determine eligibility for possible college credit.

**Prerequisite: Recommended: A or B in English 10 Pre-AP/Honors**

**\*An SOL test will be taken at the end of this course**

**ENGLISH 12 (11160)****Grade Level: 12**

This course is designed for seniors. Students will chronologically study British literature along with developing reading, writing, and research skills in alignment with Virginia Standards of Learning. Students will also be expected to read independently, write final essays, write practical pieces such as resumes, complete a research paper, increase vocabulary, and actively participate in class. Students need this course to graduate.

**Prerequisite: English 11**

**PVCC COMPOSITION AND LITERATURE (11177)****Grade Level: 12**

This is a dual enrollment course affiliated with Piedmont Virginia Community College. This course is divided into two classes. ENG 111 introduces students to critical thinking and the fundamentals of academic writing. It involves frequent practice and guidance to write, reread, rewrite, edit, and proofread, with the goal of independence and success as a college writer. ENG 112 continues to develop college writing with increased emphasis on critical essays, argumentation, and research. ENG 112 requires students to locate, evaluate, integrate, and document sources as well as effectively edit for style and usage. This course can convey 6 college credits. If students earn less than 70% in ENG 111, they will not proceed to ENG 112.

**Prerequisites: PVCC enrollment requirements must be met, which includes a minimum 3.0 GPA.**

**PVCC SURVEY OF ENGLISH LITERATURE (DE122H)****Grade Level: 12**

This is a dual enrollment course affiliated with Piedmont Virginia Community College. ENG 245 samples English Literature from the Anglo-Saxon Period to the present and is a writing intensive course. As this course is college sophomore-level, students should be prepared for a large amount of critical reading on a daily basis. Students will also demonstrate their knowledge through literary and critical analysis in formal essays, presentations, discussions (both in person and digitally), and personal response essays. This course can convey 3 college credits..

**Prerequisites: 11th grade AP Language/Composition with an AP Exam score of 3 or higher.**

## AP CAPSTONE PROGRAM (11<sup>th</sup> and 12<sup>th</sup> grade)

### AP SEMINAR: RESEARCH AND ARGUMENT (EN500H)

**Grade Level: 11<sup>th</sup> Grade (taken in addition to AP Language)**

The first course in the AP Capstone experience, AP Seminar is a rigorous and fast-paced course; applicants must be highly motivated, be especially strong in writing, as well as reading, and be prepared for public speaking. The course explores the complexities of academic and real-world issues by analyzing diverse perspectives. Using an inquiry model, students analyze articles, research studies, and foundational, literary, and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students will synthesize information from multiple sources, develop their own perspectives through essays, and deliver oral and visual presentations, both individually and as a team. ***AP Research: (Note: AP Seminar is a prerequisite for AP Research. Completing AP Seminar and all of its required assessment components is necessary for students to develop the skills to be successful in AP Research.)***

### AP RESEARCH (EN510H)

**Grade Level: 12<sup>th</sup> grade (taken in addition to 12<sup>th</sup> grade Dual Enrollment or AP English class)** The second course in the AP Capstone experience, AP Research allows students to explore deeply an academic topic, problem, issue, or idea of individual interest. Students design, plan, and implement a yearlong investigation to address a research question. Through this inquiry, they further the skills they acquired in the AP Seminar course by learning research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information. Students reflect on their skill development, document their processes, and curate the artifacts of their scholarly work through a process and reflection portfolio. The course culminates in an academic paper of 4,000–5,000 words (accompanied by a performance, exhibit, or product where applicable) and a presentation with an oral defense. **Because this class meets yearlong, every-other-day, students should choose a yearlong Virtual Virginia class (of any level in any subject area) to pair with it.**

***Prerequisite: Successful completion of AP Seminar and all of its required assessment components is necessary for students to develop the skills to be successful in AP Research.***

## SOCIAL STUDIES – CORE

### SOCIAL STUDIES 8 (22220)

**Grade Level: 8**

This course focuses on mastery of SOLs in Civics and Economics. Students examine the roles of citizens in the political, governmental, and economic systems in the United States. They study the U.S. and Virginia Constitution, as well as the structure and operation of government at the local, state, and national levels. Students investigate the process by which decisions are made in the American market economy and explain the government's role in it. Students will practice the intellectual and practical skills required for responsible citizenship.

***\*An SOL test will be taken at the end of this course***

### WORLD HISTORY/GEOGRAPHY I (12219)

**Grade Level: 9**

This course explores history and geography from the beginning of time until 1500 AD

***\*\*An SOL test will be taken at the end of this course***

### WORLD HISTORY/GEOGRAPHY I HONORS (12219H)

**Grade Level: 9**

This course is an in-depth study of history and geography from the beginning of time to 1500 AD. Students will research topics related to the time period and interpret historical documents in context with their studies. Emphasis will be placed on the people, places, and events of the time period using the needed vocabulary. Students who wish to prepare for more advanced courses in Social Studies are encouraged to take this course.

***Prerequisite: A or B in the last social studies course taken***

***\*An SOL test will be taken at the end of this course***

**BRVGS TECHNOLOGY THROUGH THE AGES (2 credits, 12351)****Grade Level: 9**

While the past, by definition, consists of data that nothing in the future can change, knowledge of the past is progressive and constantly being transformed and perfected. Students will study the history of our world through the eyes of historians, with a focus on the development, ethics and implications of technology. Students learn real-world skills of collaboration, time management, ethics, problem-solving, communication, and research, writing and public presentation through project-based learning. This course meets and exceeds the requirements set forth in the Virginia Standards of Learning for World History I and World History II. Students take SOLs in World History I and II to receive verified credits towards graduation.

***\*An SOL test will be taken at the end of this course***

**WORLD HISTORY/GEOGRAPHY II (12221)****Grade Level: 10**

This course explores history and geography from 1500 AD until the present.

***\*An SOL test will be taken at the end of this course if a high school Social Studies SOL has not been passed already.***

**WORLD HISTORY/GEOGRAPHY II HONORS (12221H)****Grade Level: 10**

This course is an in-depth study of history and geography from 1500 AD to the present. Students will write research papers on events and people of the period as well as analyze and interpret historical documents. Students who wish to take a more advanced study of World History are encouraged to take this course.

***Prerequisite: A or B in World History I***

***\*An SOL test will be taken at the end of this course if a high school Social Studies SOL has not been passed already.***

**UNITED STATES AND VIRGINIA HISTORY (12360)****Grade Level: 11**

This course presents a survey of history from the Colonial Period through the early 1990's.

***\*An SOL test will be taken at the end of this course if a high school Social Studies SOL has not been passed already.***

**UNITED STATES AND VIRGINIA HISTORY HONORS (SS211H)****Grade Level: 11**

This course surveys the history of the United States and Virginia from first European contact to the present. Topics to be covered include:

- European Exploration and Colonization (c. 1492-1787)
- The new Constitution, Federalism, and Jeffersonian Democracy (1787-1828)
- Jacksonian Democracy and Antebellum America (1828-1860)
- The Civil War and Reconstruction (1860-1877)
- The "Gilded Age", the Progressive Era, and World War I (1877-1920)
- The Roaring '20s, the Great Depression and World War II (1920-1945)
- The Cold War and Civil Rights Movements (1945- present)

Students taking US and Virginia History—Honors will be expected to explore in more depth and detail the topics and issues covered in this course. Students will be required to complete more primary source readings and engage in more independent learning than those students enrolled in a regular US and Virginia History course. Students will also be required to complete at least one or more research based projects as well as the Virginia Standards of Learning examination. Successful completion of this class awards a student one high school credit.

**PVCC UNITED STATES AND VIRGINIA HISTORY (12362)****Grade Level: 11-12**

Students taking U.S. and Virginia History I & II Dual Enrollment will be expected to explore more in-depth and detailed topics and issues covered in this course. Students will be required to use more primary source readings and participate in more independent learning than those students enrolled in a regular US and Virginia History course. Students will also be required to complete at least one research based project during each semester as well as the Virginia Standards of Learning examination and a final exam or project each semester (to meet PVCC Dual Enrollment requirements). Successful completion of this class awards a student one high school credit and 6 hours of college credit (3 hours per semester).

***Prerequisites: Must meet PVCC dual enrollment admission requirements, parental permission.***



**AP UNITED STATES AND VIRGINIA HISTORY (2319)****Grade Level: 11**

AP U.S. History is designed to develop the analytical skills and factual knowledge necessary to deal critically with the problems and materials concerning the history of the United States. The class prepares students for intermediate college courses by demanding skills equivalent to those acquired in a full-year introductory college program. Students will learn to assess historical material according to relevance, reliability, and importance by weighing the evidence presented in historical scholarship. AP U.S. History develops the skills necessary to arrive at conclusions based on informed judgment and the ability to present evidence clearly and persuasively in essay format. This course includes materials from discovery and settlement to present day America.

***Students will be required to take the Advanced Placement Examination or a cumulative final exam that will count as 20 percent of the final grade, no exam exemptions. Student earning a score of 3 or higher be eligible to receive college credit.***

**UNITED STATES AND VIRGINIA GOVERNMENT (12440)****Grade Level: 12**

This course presents an in-depth study of the foundation of United States and Virginia Government and examines local, state, and national levels of government.

***Prerequisite: US and VA History***

**PVCC UNITED STATES AND VIRGINIA GOVERNMENT (12441)****Grade Level: 12**

This course teaches the structure, operation, and process of national, state, and local governments. It includes an in-depth study of the three branches of the government and of public policy. Successful completion of this course conveys one high school credit and six college credits from Piedmont Virginia Community College (PLS 135 & 136). These college credits may or may not be transferable depending upon the college the student will be attending.

***Prerequisite: PVCC Assessment Test or PSAT/SAT scores***

**AP U.S. AND VIRGINIA GOVERNMENT (12445)****Grade Level: 12**

This is a course designed for the student who accepts the challenge of an advanced class in government. Students will be expected to master all of the objectives of the Curriculum Framework for Virginia and U.S. Government. 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.

***Prerequisite: Successful completion of AP U.S. History or PVCC U.S. History***

***Students will be required to take the Advanced Placement Examination or a cumulative final exam that will count as 20 percent of the final grade; no exam exemptions. Students earning a score of 3 or higher are eligible to receive college credit.***

**MATHEMATICS – CORE****PRE-ALGEBRA 8 YEARLONG (23112YL)**

This course is designed to help students understand the basic structure of algebra, as well as to learn the essential skills of Math 8. Students will acquire proficiency in applying algebraic concepts and skills. Topics include functions and graphs of lines, multi-step equations, inequalities, and word problems in one or two variables. Students apply transformations to geometric figures, apply volume and surface area problems to any three-dimensional shape, use matrices to organize and interpret data as well as apply the Pythagorean Theorem. Students use scientific calculators as tools to assist in problem solving.

***\*The Math 8 SOL test will be taken at the end of this course***

**ALGEBRA I, PART I (13131)**

This course is the first of a two-part sequence. This one semester course includes equations, inequalities, systems of equations, and graphing. After successful completion of this course, a student will take Algebra I, Part II. For students with approved Credit Accommodations, this course will count as a Math credit, for all other students, this course will count as an elective credit.



**ALGEBRA I, PART II (13132)**

This course is the second of a two-part sequence. This course includes functions, relations, expressions, and operations, factoring, and statistics. After successful completion of this course, a student will take Geometry.

***Prerequisite: Algebra I, Part I***

***\*An SOL test will be taken at the end of this course***

**ALGEBRA I (13130)**

This one semester course includes equations, inequalities, systems of equations, graphing, functions, relations, expressions and operations, factoring and statistics. After successful completion of this course, a student will take Geometry.

***Prerequisite: A, B, or C in Pre-Algebra and pass the Math 8 SOL test***

***\*An SOL test will be taken at the end of this course***

**ALGEBRA I HONORS (13130H)**

This one semester course includes a rigorous approach to equations, inequalities, systems of equations, graphing, functions, relations, expressions and operations, factoring and statistics. This course is designed for students preparing for college. After successful completion of this course, a student can take Geometry honors.

***Prerequisite: A or B in Pre-Algebra in the 7<sup>th</sup> grade and pass Math 8 SOL***

***\*An SOL test will be taken at the end of this course***

**GEOMETRY (13143)**

This one semester course includes lines and angles, triangles, polygons and circles, area, volume, and transformation. After successful completion of this course, a student can take Computer Math (satisfies the standard diploma), Algebra Functions and Data Analysis, or Algebra II (satisfies advanced diploma math credit).

***Prerequisite: Pass Algebra I***

**GEOMETRY HONORS (13143H)**

This one semester course includes a rigorous approach to line and angles, triangles, polygons and circles, area, volume, and transformations. This course is designed for students preparing for college. After successful completion of this course, a student can take Computer Math, Algebra II, or Algebra II honors.

***Prerequisite: A in Algebra I or an A or B in Algebra I Honors and pass Algebra I SOL***

**ALGEBRA, FUNCTIONS, AND DATA ANALYSIS (AFDA) (3134)**

This course serves as a preparatory class for Algebra II by exploring Algebra I topics at a deeper level and preparing students for success in Algebra 2. The course centers around connecting mathematical ideas to real world problems. Topics are centered around connecting mathematical ideas to real world problems, functional algebra to statistics, and standardizing and analyzing real-life data using mathematical models. Any student wishing to take Algebra II who either earned a D in Algebra I and/or Geometry or took Algebra I in a yearlong setting is highly encouraged to take this class. This class may count as the third math credit for the Standard Diploma or may count as one of the four math credits for the Advanced Diploma, provided it is taken prior to Algebra II.

***Prerequisite: Algebra I and Geometry***

**ALGEBRA II (13135)**

This one semester course is a continuation of Algebra I and focuses on equations and inequalities, functions and graphing, systems, sequence and series, and conic sections. Under special circumstances, students may select to take this class prior to Geometry.

***Prerequisite: Recommended: A, B, or C in Algebra I and Geometry and passing scores on both SOL tests.***

**ALGEBRA II HONORS (13135H)**

This one semester course is a rigorous approach to equations and inequalities, functions and graphing, systems, sequence and series, and conic sections. Students may select to take this class before Geometry under special circumstances.

***Prerequisite: A, B, or C in Algebra I Honors and Geometry Honors and teacher recommendation***

***\*An SOL test will be taken at the end of this course***

**PROBABILITY AND STATISTICS (13190)**

This course includes the basic counting principle; the basic rules of probability- permutation, combinations, the binomial distribution, and normal distributions; descriptive statistics, which include numerical and descriptive data; frequency tables; stem-and-leaf plots; histograms; and the measures of central tendency.

***Prerequisite: Algebra II***

**PROBABILITY AND STATISTICS HONORS (MA350H)**

This more rigorous and in-depth Probability/Statistics course involves exploring data, planning a study, probability, and statistical inference based on data. This course includes active learning experiences with collecting and analyzing data using calculators and computers. In addition, there will be a focus on presentation of statistical information in a formal setting. The course is designed to prepare students for a college statistics course.

***Prerequisite: Successful completion of Algebra II Honors or Algebra II***

**ADVANCED MATH (13160)**

This course involves the study of advanced algebra topics of linear, quadratic, exponential, logarithmic, and polynomial equations and inequalities, functions, and advanced graphing. The trigonometry portion of this course includes right triangle trigonometry, oblique triangles, identities, circular functions, trigonometric graphs.

***Prerequisite: Algebra II***

**PVCC MATH 167 Pre-calculus with Trigonometry (13163)**

This one semester course in Pre-calculus mathematics designed for students in math, science, and engineering programs planning to enroll in MATH 173. The purpose of this course is to discuss and master topics in algebra and trigonometry necessary for entry in to a calculus course. Topics to be studied include: college algebra; analytic geometry; trigonometry; and polynomial, rational, exponential, and logarithmic functions.

***Prerequisite: PVCC requires a minimum GPA of 3.0 and at least a C in Algebra II, and successful completion of Advanced Math and School Counselor approval are recommended.***

**PVCC MTH 263 Calculus with Analytic Geometry I (4 PVCC credits) (13173P)**

This course presents analytic geometry and the calculus of algebraic and transcendental functions including the study of limits, derivatives, differentials, and the introduction of integration along with their applications. This course is designed for mathematical, physical, and engineering science programs.

***Prerequisites: Satisfactory completion of Math 167***

**PVCC MTH 264 Calculus with Analytic Geometry II (4 PVCC credits) (13174P)**

This course continues the study of analytic geometry and the calculus of algebraic and transcendental functions including rectangular, polar, and parametric graphing, indefinite integrals, methods of integration, and power series along with applications. This course is designed for mathematical, physical, and engineering science programs.

***Prerequisite: PVCC Math 263 \*\*The offering of this course depends on having sufficient student requests for it and the availability of adequate staffing.***

**BRVGS ADVANCED PLACEMENT STATISTICS**

**(1 high school credit)**

***Prerequisite:*** Students must have successfully completed Algebra II with a grade of “B-” or higher. This course presents an overview of statistics, including descriptive statistics, elementary probability, probability distribution, estimation, hypothesis testing, and correlation and regression. Students will learn and practice the skills of Statistics through online instruction and real-world, project-based problem solving.

**BRVGS FINITE MATH (VCCS MTH 165)**

**(3 college credits - local credits are determined by the student’s local high school)**

The purpose of this Dual Enrollment college/high school course is to expose students to the use of mathematics as a tool for solving applied problems as well as for modeling mathematical relationships. Developing problem-solving and critical thinking abilities is also emphasized and applied. Students will be working with systems of equations, matrices, and linear programming. These structures will be applied to solving problems in economics, finance, business, and the life and social sciences. To successfully complete the course, students will complete a project demonstrating broad knowledge of course content and applying appropriate technology.

## **SCIENCE – CORE**

### **SCIENCE 8 (24125)**

This course focuses on mastery of eighth-grade science SOLs. Students will study the field of Physical Science. Topics will include the periodic table; physical and chemical changes; nuclear reactions; temperature, sound, light electricity and magnetism; and work, force, and motion. Students will continue to build skills in systematic investigation and conduct research involving both classroom experimentation and literature reviews. Students will share their work using written reports and other presentations.

***\*An SOL test will be taken at the end of this course***

### **BIOLOGY I (14310), 9<sup>th</sup> Grade**

This introductory course places emphasis on the relationship between living things and their environment. Topics studied include the following: the biosphere, cell structure, reproduction, heredity, functions and adaptations of organisms, and theories on origins and diversity of organisms.

***\*An SOL test will be taken at the end of this course***

### **BIOLOGY HONORS (14310H), 9<sup>th</sup> Grade**

This course is designed for the academically motivated student seeking to be challenged and to learn biological concepts at a deeper level of understanding. The course will require the student to work independently and at an accelerated pace. Laboratory investigations will be more rigorous and require in-depth analysis of data and graphing.

***\*An SOL test will be taken at the end of this course***

### **EARTH SCIENCE (14210), 10<sup>th</sup> Grade**

A strong element in basic science education must be the study of the earth sciences. Meteorology, geology, astronomy, and oceanography are included in this study of the earth and its immediate neighborhood.

***\*Students who have not passed the Biology SOL will be required to take the Earth Science SOL.***

### **BRVGS AP BIOLOGY (2 CREDITS) (BR4370)**

The Biotechnology Industry Organization (BIO) defines biotechnology to be 'the application of biological knowledge and techniques to develop products and services.' Today, our constantly-evolving understanding of DNA, cell function and our ability to manipulate their genetic content is being used in medicine, agriculture, criminal justice, the pharmaceutical industry and many other areas. This course offers the student an opportunity to experience the basics of microbiology, human genetics, biotechnology, and exploration of bioethical issues. Students continue to learn and practice college-readiness skills in multiple experiments and project. This course meets and exceeds the requirements set forth for Advanced Placement Biology. Those who score a 3 or better on the AP Biology exam may receive up to 6 college credits (as determined by the college of attendance).

***Prerequisite: BRVGS Student and completion of Biology***

***Students in the course are required to take the AP Biology exam***

### **ENVIRONMENTAL SCIENCE (4245)**

Environmental Science is a scientific study of the natural world and how it is influenced by people. Major topics include: food, energy, human population, biodiversity and global change. Using the scientific method, students will investigate the environment; ecology; energy flow; ecological structures; earth systems; the atmospheric, land, and water. Topics also include the management of natural resources and analysis of private and governmental decisions involving the environment.

### **OCEANOGRAPHY (14250)**

This class will study marine geology and biology. Included in this study will be tides, sea ice, temperatures, marine ecosystems, coral reef, salt water fish, and coastal zones. The study of careers will also be explored. Typically this course is taken after Biology is completed for standard diploma students.

***Prerequisite: Earth Science***

### **CHEMISTRY (14410)**

This is an introduction to basic principles of chemistry, such as structure, matter, and energy. Laboratory skills are learned through use of equipment and instruments.

***Prerequisite: Algebra II must be taken prior to the is class or concurrently***

**HONORS CHEMISTRY (14410H)**

This one-credit course includes the following topics: matter and change, scientific measurement, atomic structure and quantum mechanics, bonding (ionic, covalent, and metallic), reaction classification, stoichiometry, solutions, acids and bases, reaction kinetics, thermochemistry, equilibrium and nuclear chemistry. This course is designed for students preparing for college; particularly those students interested in scientific or medical careers. The course is highly recommended for students who plan to take PVCC Chemistry.

***Prerequisite: A, B, or C in Biology and Algebra II***

**PVCC CHEMISTRY 111 (DE 4700)**

This is the first part of a two-semester sequence in college chemistry offered by Piedmont Virginia Community College. It covers the fundamental chemical concepts and the application of the fundamental laws of chemistry to real life situations. This includes understanding chemical formulas, chemical equations, basic rules of chemical bonding, an understanding of the periodic table, the gas laws, and the first Law of thermodynamics. Mathematical calculations are utilized as the basis of proof and prediction of chemical phenomena. The integrated laboratory course requires the performance of experiments and the writing of reports pertinent to the work done.

***Prerequisite: PVCC Math 167 and an A in Chemistry or an A or B in Honors Chemistry***

**PVCC CHEMISTRY 112 (DE 4701)**

This is the second half of the Piedmont Virginia Community College Chemistry series. This course focuses on complex chemical concepts, including complex equilibria, electrochemistry and nuclear chemistry. These concepts will be discussed in the context of modern questions and issues. Mathematical calculations are utilized as the basis of proof and prediction of chemical phenomena. The laboratory course integrates experimental performance and report writing with pertinent topics from the lecture.

***Prerequisite: PVCC Chem 111 \*\*The offering of this course depends on having sufficient student requests for it and the availability of adequate staffing.***

**PHYSICS (4510)**

Physics is the study of matter and energy, focusing on their behaviors and interactions. This course is an algebra-based introductory survey course. Topics include one- and two-dimensional kinematics, forces, energy, momentum, waves and sound, optics, electricity, and modern physics. ***Prerequisite: A or B in Algebra II***

**PHYSICS HONORS (SC480H)**

This course covers a broad range of topics in physics including, but not restricted to, kinematics, dynamics, work and energy, waves, simple harmonic motion, optics, electric fields and electric circuits. Laboratory experiences are used to introduce and reinforce basic physics concepts, centering on engineering projects and application of physics formulas and concepts to real-world examples. Due to the emphasis on mathematical rigor, this course is weighted as 5.0 credits.

***Prerequisite: Algebra II***

**AP BIOLOGY (03056)**

The AP Biology course is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes, energy and communication, genetics, information transfer, ecology, and interactions. Students should be able to describe how to collect data, use data to form conclusions, and apply their conclusions to larger biological concepts. Students should report recorded data and quantitative conclusions drawn from the data with appropriate precision (i.e., significant figures). Students should also develop an understanding of how changes in the design of the experiments would impact the validity and accuracy of their results. Many questions on the AP exam are written in an experimental context, so these skills will prove invaluable for both concept comprehension and exam performance.

***Prerequisite: Successful completion of Biology and Chemistry.***

**AP ENVIRONMENTAL SCIENCE (4270)**

This course provides students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Students will explore ecologically respectful living, seafloor spreading, earthquakes, coastal erosion, invasive species, air pollution, climate change, water pollution, waste disposal, sustainability, nutrient depletion, human population dynamics, energy resources, and specific ecosystems.

***Prerequisite: Preparedness to take an AP course and successful completion of at least Algebra I.***

## **HEALTH AND PHYSICAL EDUCATION – CORE**

### **PHYSICAL EDUCATION 8 (27200)**

The health program includes units on family life, drugs, physical and mental wellness, teen safety, first aid, and online safety and awareness. Physical education activities provide opportunities to develop skills in physical fitness, team and individual sports, and recreational games. ***Athletic clothing and shoes required.***

### **HEALTH AND PHYSICAL EDUCATION 9 (17300)**

Students are introduced to a variety of physical activities ranging from team sports to individual exercise. From the first day of class, students are required to participate in all activities. A second aspect of this class is Health Education, which covers the areas of disease, mental health awareness, first aid and family life education. A minimum of 40% of the class must be devoted to health topics. ***Athletic clothing and shoes required.***

### **HEALTH AND PHYSICAL EDUCATION 10 (17405)**

Students will build upon those skills developed in Health and Physical Education I. Classroom Driver Education composes a minimum of 36 hours of this course. This component of the class prepares the student to obtain a Driver's License from the State of Virginia. Drug and alcohol education is also a part of the instruction in this class. This class may be taken only after the successful completion of Health and Physical Education 9. ***Athletic clothing and shoes required.***

## **ECONOMICS AND PERSONAL FINANCE**

### **ECONOMICS AND PERSONAL FINANCE (6120)**

#### **Grade Level: 10 – 12**

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 will also study basic occupational skills and concepts in preparation for entry-level employment in the field of finance. This course may also be taken through Virtual Virginia also.

***Industry Credential: WISE – Working in Support of Education Financial Literacy Assessment***

## **WORLD LANGUAGES**

**8th grade prerequisite for French and Spanish world language classes: A final grade of “B” or better in Language Arts 7.**

### **FRENCH I (15110)**

**Grade Level: 8 – 12**

This introductory course to the French language and culture develops listening comprehension, speaking, reading and writing skills. Classroom emphasis is on listening and speaking through activities such as question/answer exercises, dialogues, and games. Reading and writing are practiced in textbook exercises, cooperative learning activities, and puzzles done in class, along with daily assignments done at home. Class participation and homework constitute a major portion of the course grade. Evaluation is also based on projects, quizzes, and tests.

### **FRENCH II (15120)**

**Grade Level: 9 – 12**

The main goal of this course is to help each student attain proficiency in the skill of listening comprehension, speaking, reading, and writing within the framework of French culture. There is a greater emphasis on grammar than in French I, but classroom activities, assignments, and evaluation are essentially similar.

***Prerequisite: Recommended: A, B, or C in French I***

### **FRENCH III (15130)**

**Grade Level: 9 – 12**

The main objective of this course is to refine and expand the students' knowledge of grammar and vocabulary in order to further improve their skills in both oral and written French. Basic grammar is reviewed. Activities and assignments are comparable to those in the earlier levels, and the basis for evaluation is similar. Students also watch a five episode “soap opera” and do activities related to it.

***Prerequisite: Recommended: A, B, or C in French II***

### **FRENCH IV (15140)**

**Grade Level: 11- 12**

At this advanced level of French there will be a study of literature as well as grammar, with emphasis especially on listening comprehension and speaking proficiency. The entire class is conducted in French.

***Prerequisite: A final grade of at least B in French III***

### **SPANISH I (15510)**

**Grade Level: 8 – 12**

This course provides an introduction to Spanish language and culture, and develops listening comprehension, speaking, reading, and writing skills. There is a thorough study of Spanish grammar; however, emphasis is placed upon the oral, “survival” use of the language in contextually appropriate settings. In addition, the course includes an introduction to Hispanic culture through the study of customs.

### **SPANISH II (15520)**

**Grade Level: 9 – 12**

This course will provide the student the opportunity to build on the main concepts of Spanish I. Its primary goal is to help students attain proficiency within the framework of the Hispanic culture. There is a greater emphasis on grammar than in Spanish I, and students are given both written and oral tests to assess verbal skills, listening comprehension, reading, and writing.

***Prerequisite: Recommended: A, B, C or better in Spanish I***

### **SPANISH III (15530)**

**Grade Level: 9 – 12**

The main objectives of this course are to refine and expand the students' knowledge of grammar and vocabulary in order to further improve their skills in both oral and written Spanish. Basic grammar is reviewed and students are introduced to several new verb tenses and grammatical concepts. Students may also read, discuss, and write about short stories or novels and plays; and further develop their understanding and appreciation of Hispanic culture through a variety of activities.

***Prerequisite: Recommended: A, B, C or better in Spanish II***



**SPANISH IV (15540)****Grade Level: 11 – 12**

In this course, students continue to perfect their language skills: listening, comprehension, speaking, reading, and writing. There is an extensive grammar/vocabulary review, and the finer points of Spanish grammar are studied in greater detail. The students continue to develop their communicative abilities through various activities and record many oral assignments on tape to gain valuable practice speaking. In addition students are responsible for keeping a journal. Cultural awareness will continue to be stressed.

***Prerequisite: Recommended: A final grade of at least B in Spanish III***

## **ELECTIVES – ACADEMIC**

**AFRICAN-AMERICAN STUDIES (12390)****Grade Level: 9 – 12**

This course will challenge students to explore primary and secondary sources documenting the African American experience. The content will include opportunities for students to develop the skills and attributes known as Virginia's Five C's (critical thinking, creativity, collaboration, communication, and citizenship) as they connect what they have learned to local history and issues. By the end of the semester, students will be able to identify and understand the African origins and developments of the Black experience in North America; evaluate how African Americans have shaped, contributed, and have been shaped by the institutions, policies, and laws established by federal, state, and local governments; evaluate and interpret the various paths of civic responsibility that led to quests for equality, justice, and freedom for individuals and communities facing barriers and oppression based on race, class, and gender; and analyze and understand how the institution of slavery in the United States shaped beliefs about race and the supremacy of one race over another and influenced America's economy and politics

**AP PSYCHOLOGY (12456)****Grade Level: 10 -- 12**

The AP Psychology course introduces students to the systematic and scientific study of human behavior and mental processes. While considering the psychologists and studies that have shaped the field, students explore and apply psychological theories, key concepts, and phenomena associated with topics such as the biological bases of behavior, sensation and perception, learning and cognition, motivation, developmental psychology, testing and individual differences, treatments of psychological disorders, and social psychology. Throughout the course, students employ psychological research methods, including ethical considerations, as they use the scientific method, evaluate claims and evidence, and effectively communicate ideas. This is a college-level course that prepares students for the AP Psychology exam. While there are no specific prerequisites for the class, students should be able to read a college-level textbook and write grammatically correct, complete sentences. It is recommended for juniors and seniors.

**CREATIVE WRITING (11171)****Grade Level: 9 – 12**

Do you like to write? Do you want to let your imagination fly as you explore your creative side in a fun and supportive, non-judgmental environment (with no tests)? Then Creative Writing is for you. You will learn techniques and tips for writing short stories, free writes, and poems. You will also be able to explore your creativity through practicing different writing genres and styles (horror, sci fi, fairy tales, 2-sentence comedies, poetry, etc.). This class uses a variety of media including watching and critiquing movies and art, as well as group projects to help you bring out your inner writer. Even if you don't think you're a good writer, you will become a better one after this class! You will also have the opportunity to submit your work for possible publication in the FCHS Literary Magazine.

**HANDS-ON HISTORY (22996)****Grade Level: 9-12**

The focus of this class is the exploration of local history (Fluvanna County and Central Virginia) by stepping outside of the textbook to discover the area where we live through hands-on, local experiences that create lasting memories while encountering the personal stories that make us who we are by viewing history face-to-face in the areas near our home. The class combines classroom discussions, research, guest speakers, field trips, and project and portfolio assignments to support student development of a local historical perspective.

**JOURNALISM I (11200); Level II (11210); Level III (11211); Level IV (11212)****Grade Level: 9 – 12**

Join the most innovative, unique, and fun class at FCHS! If you are self-motivated, responsible, enjoy being part of a creative team, like to write and/or take pictures, work on the student website or literary magazine, and learn to be on the cutting edge of computer design technology, the Journalism team is looking for you! This is NOT your boring, everyday class with lessons-- Journalism is a work place where you have a real job and a boss (the Journalism Adviser) and help design and publish the FCHS Yearbook, work on [www.theflucobeat.com](http://www.theflucobeat.com) and the FCHS Literary Magazine, plus have opportunities to get published! Students may take Journalism for a single semester or all year for several years. Advanced students may earn senior positions, such as Yearbook Editor, Seniors Editor, Photography Editor, Website Editor, and more! Active participation in Journalism looks amazing on college applications and resumes!

**Prerequisite: Social Media & You or Creative Writing, or Teacher Approval**

**SOCIAL MEDIA & YOU (11516)****Grade Level: 9 – 12**

Want to watch and share the latest viral posts, videos and news stories and then make your own? Want to make your own TV broadcast, discuss social media apps from TikTok to Instagram, write movie reviews, and “invent” and publish crazy new products? In this fun, interactive, creative and project-based elective, you will explore the ever-expanding world of social media, journalism and media technology, and maybe get published online! Responsible students who show a motivation to excel may have the freedom to act as roving reporters and photographers. Those with a continuing interest in the field may take Journalism I where you can work on the FCHS Yearbook and student website, [www.theflucobeat.com](http://www.theflucobeat.com).

**MYTHOLOGY (11161)****Grade Level: 9 – 12**

Students will mainly study Classical mythology of the Greeks and Romans with brief studies of various world myths. Emphasis will be placed upon the fact that mythology provides allusions for literary works of all centuries. Therefore, selections from a wide variety of literary periods may be included in the course readings: Homer’s Iliad; Sophocles’ Oedipus the King; Euripides’ Medea; and Shakespeare’s A Midsummer Night’s Dream. Edith Hamilton’s Mythology will be used as a sourcebook for the course. Students will have an opportunity to do both creative writing and projects.

**SPEECH FUNDAMENTALS (11301)****Grade Level: 8 – 12**

The purpose of this course is to train students in the basic principles of public speaking. After developing an understanding of the communication model, students will learn the six basic steps in speech preparation. Specific emphasis is given to organizing a speech, writing introductions and conclusions, and locating supporting material through research to develop the speech. Additional emphasis is given to use of bodily action in speaking, including eye contact, gestures, movement, and facial expressions. Proper use of voice in public speaking is discussed in detail. Students have the opportunity to develop these areas of content and delivery by presenting speeches to inform, persuade, and entertain. This is a performance and academic course, and students are tested over all material presented.

**ADVANCED SPEECH (1302)****Grade Level: 10 – 12**

The purpose of this course is to apply the skills learned in Fundamentals of Speech, and to further the students’ speaking abilities. Focus will be placed on incorporating individual speaking styles into group speeches through different formats. Debate, panel discussions, symposiums, and competitive speech formats will be discussed and used, including: Prose, Poetry, Storytelling, Dramatic Interpretation, Humorous Interpretation, Extemporaneous and Impromptu formats. This is a performance and academic course, and students are tested over all material presented.

**Prerequisite: Successful completion of Speech Fundamentals**

**SGA LEADERSHIP I (19091); Level II (19092); Level III (19093)****Grade Level: 11 – 12 *Students will need to fill out an application prior to beginning the class***

This class is designed to help create student leaders for today as well as community leaders for tomorrow. Students will develop interpersonal skills that will stay with them for life. Activities will allow students to practice leadership skills including public speaking, team building, decision making, goal setting, and organization skills. In addition to

developing leadership skills, students will organize school activities such as homecoming, pep rallies, and Hands on Fluvanna: A Day of Community Service.

### **SOCIOLOGY (12500)**

**Grade Level: 11 – 12**

Sociology is a generalized investigation and analysis of human relationships. The study is activity-oriented and includes an understanding of the influence of culture, organization of society, basic social institutions (including the family) and social problems.

### **EDUCATION FOR EMPLOYMENT I (EFE) (19085)**

**Grade Level: 9 – 12**

This course is designed for students with an IEP. Students explore independent living and workplace skills by identifying individual assets, interests, aptitudes, talents, and current occupational abilities. Through practical experience related to daily living and work, students determine strategies to improve their assets and ways to emphasize their strength at home, school, and in the workplace. This course maybe offered to 9th grade students during the second semester.

***Entrance into this course is by IEP only***

***Industry Credential: National Career Readiness Exam***

### **EDUCATION FOR EMPLOYMENT II (EFE) (19087)**

**Grade Level: 10 – 12**

This course is designed for students with an IEP. Students begin to make the transition from school to work by gaining technical skills, conducting a job search, and maintaining successful employment by demonstrating positive work traits and attitudes and continuing to develop.

***Entrance into this course is by IEP only***

***Industry Credential: Virginia Workplace Readiness Test***

### **WEIGHT TRAINING AND CONDITIONING I (7640)**

**Grade Level: 11 – 12**

WTC I is for students that are new to a weight room environment. Students will learn basic spotting techniques and weight room safety. Students will be expected to do basic lifts, know muscular anatomy and design an introductory strength program. Cardiovascular endurance and flexibility are also components of this course. This is a very active course which requires a school uniform and tennis shoes.

### **WEIGHT TRAINING AND CONDITIONING II (7650)**

**Grade Level: 12**

WTC II will review spotting and safety techniques while continuing to perform the basic lifts and introducing more advanced lifts and auxiliary lifts. Students will be expected to design and implement a full strength and conditioning program to include but not be limited to the five areas of fitness; muscular strength, muscular endurance, flexibility, cardiovascular endurance and agility. This is a very active course which requires a school uniform and tennis shoes.

***Prerequisite: Successful completion of Weight Training and Conditioning I***

### **ESOL I/II**

**Grade Level: 9-12**

This course is designed for students with beginning levels of English proficiency. Students will practice listening, speaking, reading, and writing everyday vocabulary and essential academic English. Students will gain the necessary English skills to succeed in the high school instructional setting and surrounding community. Students will be expected to participate in multi-modal projects throughout the year.

***Prerequisite: Placement is based on a body of evidence to include WIDA ACCESS for ELLs scores, SOL scores, and teacher input. 1 Credit for each semester enrolled***

### **ESOL III/IV**

**Grade Level: 9-12**

This is a high school course intended for English Language Learners (ELLs). The course will offer content-based instruction, designed to develop both oral and written language, with additional focus on building background knowledge and academic vocabulary related to WIDA Language standards and Virginia SOLs.

***Prerequisite: Placement determined by current WIDA ACCESS for ELLs scores or W-APT score and teacher recommendation. 1 Credit for each semester enrolled***

## **GRADE 8 GENERAL ELECTIVE OFFERINGS**

With the exception of Art I, Digital Applications, and Speech Fundamentals, elective courses that follow do not convey high school credit.

### **ART I (19120)**

**Grade Level: 8 – 12**

This course is an introductory visual art course. Emphasis is on exploration of media and concepts as well as the elements and principles of Art. Units include design, sculpture, drawing, painting, printmaking and Art History. This course is a prerequisite for all of the other visual art courses.

### **DESIGN AND MODELING 8 (84768)**

Students apply the design process to solve problems and understand the influence of creativity and innovation in their lives. They work in teams to design a playground and furniture, capturing research and ideas in their engineering notebooks. Using Autodesk® design software, students create a virtual image of their designs and produce a portfolio to showcase their innovative solutions.

### **DIGITAL APPLICATIONS (16617)**

**Grade Level: 8 – 10**

This course is designed for secondary school students to develop and enhance touch skills for entering alphabetic, numeric, and symbol information on a keyboard. Students compose and produce a variety of personal, educational, and professional documents. *Industry Credential: Virginia Workplace Readiness Test, MOS Word*

### **DRAMA & CHORUS PERFORMANCE 8 (11390)**

This is an 8<sup>th</sup> grade class that combines Drama and Chorus. Students will work with the Drama teacher and the Chorus teacher throughout the semester to produce a musical/cabaret show by the end of the semester. Students will gain experience in both

### **EARTH AND SPACE 8 (SC802E)**

This course will introduce students to historical and current interactions between humans, Earth, and Space. Through modeling, computer investigations, laboratory experiments, and research projects, students will explore current issues impacting our universe and how science is being used to further understanding and propose solutions. Students will become familiar with new and exciting scientific milestones in Geology and Astronomy.

### **GEOGRAPHY & TRAVEL 8 (2995)**

From the deepest jungles of Africa, to the high wind swept mountain tops of the Himalayas, to lazy pacific atolls, to your own backyard including the national park System. Explore the world around you. Become your own travel agent to gain information to help plan a vacation to the areas you explore. Adventure. Fun. Excitement.

### **INVENTIONS AND INNOVATIONS 8 (8454)**

Students make models of significant inventions that have advanced society. After studying these developments, they explore contemporary technological problems facing them, their community, or the world, and apply a systematic procedure to invent new products or innovations as solutions.

### **SPEECH FUNDAMENTALS (11301)**

**Grade Level: 8 – 12**

The purpose of this course is to train students in the basic principles of public speaking. After developing an understanding of the communication model, students will learn the six basic steps in speech preparation. Specific emphasis is given to organizing a speech, writing introductions and conclusions, and locating supporting material through research to develop the speech. Additional emphasis is given to use of bodily action in speaking, including eye contact, gestures, movement, and facial expressions. Proper use of voice in public speaking is discussed in detail. Students have the opportunity to develop these areas of content and delivery by presenting speeches to inform, persuade, and entertain. This is a performance and academic course, and students are tested over all material presented.

### **WORLD LANGUAGE 8 (5700)**

Students will learn about a variety of languages and the cultures of the civilizations they represent. Students will learn to identify by sight and sound the most widely used world languages of today and also indicate geographically

on a world map where they are spoken. Participants will try their hand at writing a variety of foreign alphabets such as Greek, Arabic, Hebrew, Japanese, Chinese, and Russian, and also learn about the history, architecture, religion, and traditional music that are characteristic of their cultures.

## **VIRTUAL VIRGINIA COURSES**

**This is a sampling of Virtual Virginia courses. The Virtual Virginia catalog may be viewed at [www.virtualva.org](http://www.virtualva.org). Access to Virtual Virginia classes is limited and determined by statewide demand for seats.**

### **AP ART HISTORY (9151V) – Virtual Virginia Course**

The Advanced Placement offering in Art History is designed to provide the student with an understanding and knowledge of architecture, sculpture, painting, and other art forms within diverse historical and cultural contexts. Students examine and critically analyze major forms of artistic expression from the past and the present from a variety of cultures. While visual analysis is the fundamental tool of the art historian, art history also emphasizes understanding works in context, considering such issues as patronage, gender, and the functions of and effects of works of art. Student work will be required outside of class time.

***Prerequisite: Prior success in other courses such as history and literature and in any of the studio arts.***

### **ECONOMICS B (2804V) – Virtual Virginia Course (½ Credit)**

**Grade Level: 10 – 12**

Whether you are buying a car or renting a movie, your financial transactions affect you and the world around you. How all this buying and selling creates an economy will become clear when you enter the virtual world of Econ City. In Econ City, you will learn how government, business and the individual consumer influence our economic system. In the shopping mall, you will see how your buying decisions influence the kind of products stores decide to sell. At corporate headquarters, you will examine how businesses compete for your dollar. At the bank, you will find out how wealth is measured. And when you consult with your financial advisor, you will discover how much you are worth and how to spend what you have wisely. The purpose of this semester course is to help you become a more informed consumer, producer, investor and taxpayer and to serve as an excellent introduction to Advanced Placement Macroeconomics and Advanced Placement Microeconomics. This course cannot be used to meet the new Economics and Personal Finance course graduation requirement for a Standard, Advanced Studies, Standard Technical, or Advanced Technical Diploma. Student work will be required outside of class time.

***\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\****

### **PSYCHOLOGY (2903V) – Virtual Virginia Course (½ Credit)**

**Grade Level: 10 – 12**

What do you feel? How do you behave? What are your thoughts? Feelings, actions and thoughts are closely related, and in this Psychology course, you will see how! Do you wonder things like why you learn the way you do, how you forget, and what makes you remember? Are you curious about mental disorders and what traditional and non-traditional therapy is all about? If experiments, role-plays, and dream interpretations sound interesting, then this is the class for you. In this semester course you will learn more about yourself and others including how to break a habit and how to cope with stress. The purpose of this course is to introduce you to the psychological facts, principles, and phenomena associated with each of the subfields within psychology. It will provide a strong foundation to the full credit Advanced Placement Psychology course. Student work will be required outside of class time.

***\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\****

### **AP PSYCHOLOGY (12901) – Virtual Virginia Course**

**Grade Level: 11 – 12**

This course is for very independent learners in their 11th or 12th grade years and provides an overview of current psychological research methods and theories. This is a one-semester course and is taught over the internet. Students will explore the therapies used by professional counselors and clinical psychologists and examine the reasons for normal human reactions: how people learn and think the process of human development and human aggression, altruism, intimacy, and self-reflection. They will study core psychological concepts, such as the brain and sense functions, and learn to gauge human reactions, gather information, and form meaningful syntheses.



Along the way, students will also investigate relevant concepts like study skills and information retention. The equivalent of a 100-level college survey course, AP Psychology prepares students for the AP Exam in May and for further studies in psychology and life sciences.

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP HUMAN GEOGRAPHY (12211) – Virtual Virginia Course**

**Grade Level: 10 – 12**

This course is for very independent learners in 10th – 12th grade and introduces students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students will study diverse peoples and areas organized around concepts that include location and place, scale, pattern, spatial organization, and regionalization. They will also learn about the methods and tools geographers use in their science and practice.

**Prerequisite: Recommended: World History I and II Honors**

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP GOVERNMENT – COMPARATIVE (12450) – Virtual Virginia Course**

**Grade Level: 11 – 12**

Students are introduced to fundamental concepts used by political scientists to study the processes and outcomes of politics in a variety of settings. The course aims to illustrate the rich diversity of political life, to show available institutional alternatives, to explain differences in processes and policy outcomes, and to communicate the importance of global political and economic changes. This course does NOT substitute for U.S. Government under the Virginia Standards of Learning. Student work will be required outside of class time.

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP EUROPEAN HISTORY (2399) – Virtual Virginia Course**

**Grade Level: 10 – 12**

The study of European history since 1450 AD 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, goals of the course are to develop a) an understanding of some of the principal themes in modern European history, b) an ability to analyze historical evidence and historical interpretation, and c) an ability to express historical understanding in writing. Summer assignments are required and students must take the Advanced Placement exam.

**Prerequisite: World History I and English grade of B or better**

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP MACROECONOMICS (12803) – Virtual Virginia Course (½ Credit)**

**Grade Level: 11 – 12**

Students learn why and how the world economy can change from month to month, how to identify trends in our economy, and how to use those trends to develop performance measures and predictors of economic growth or decline. The equivalent of a 100 level college-level class, this course prepares students for the AP exam and further study in business, political science, and history.

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP MICROECONOMICS (12802) – Virtual Virginia Course (½ Credit)**

**Grade Level: 11 – 12**

This course studies the behavior of individuals and businesses as they exchange goods and services in the market place. Students will learn why the same product costs different amounts at different stores, in different cities, at different times. The equivalent of a 100 level college-level class, this course prepares students for the AP exam and further study in business, political science, and history.



**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP CALCULUS AB (13177) – Virtual Virginia Course**

**Grade Level: 11 – 12**

Advanced Placement Calculus AB develops the students' understanding of the concepts of calculus and provides experience with its methods and applications. The course emphasizes a multi representational approach to calculus, with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. Four years of secondary mathematics including courses in which algebra, geometry, trigonometry, analytic geometry, and elementary functions are taught. These functions include those that are linear, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric, and piece-wise defined. Student work will be required outside of class time. Students must be familiar with the properties of functions, the algebra of functions, and the graphs of functions and an understanding of the language of functions (domain and range, odd and even, periodic, symmetry, zeroes, intercepts, and so on) is essential. The values of trigonometric functions and their common angles (0,  $\pi/6$ ,  $\pi/4$ ,  $\pi/3$ ,  $\pi/2$ ...) must be known.

**Prerequisites: Required: Four years of secondary mathematics including Algebra I, Geometry, Algebra II/Trigonometry; Recommended: Pre-Calculus/Mathematical Analysis**

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP CALCULUS BC (3178V) – Virtual Virginia Course**

**Grade Level: 11 – 12**

Calculus BC is a full-year course in the calculus of functions of a single variable. It includes all topics covered in Calculus AB plus additional topics. Both courses represent college-level mathematics for which most colleges grant advanced placement and credit. The content of Calculus BC is designed to qualify the student for placement and credit in a course that is one course beyond that granted for Calculus AB. Before studying calculus, students must be familiar with the properties of functions, the algebra of functions, and the graphs of functions. Students must also understand the language of functions (domain and range, odd and even, periodic, symmetry, zeroes, intercepts, and so on) and know the values of the trigonometric functions of the numbers 0,  $\pi/6$ ,  $\pi/4$ ,  $\pi/3$ ,  $\pi/2$ , and their multiples.

**Prerequisite: Four years of secondary mathematics including Algebra I, Geometry, Algebra II/Trigonometry and recommended Pre-Calculus/Mathematical Analysis and Advanced Placement Calculus AB**

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP COMPUTER SCIENCE A (YEAR LONG ONLY) (13185) – Virtual Virginia Course**

**Grade Level: 12**

The purpose of AP Computer Science A is to lay the foundation for object-oriented programming. The course aims at teaching the students computer science concepts. Java is used as the vehicle to teach them. The focus is more on the concepts and abstract ideas rather than on the syntax. The course is about design of classes, algorithms, programming techniques and introduction to data structures like arrays and array lists. Students will spend 2 to 3 days a week studying the course materials and the textbook and the rest of the week working on the lab. Student work will be required outside of class time.

**Prerequisite: Algebra II or Algebra II/Trigonometry and recommended Computer Mathematics or Computer Programming**

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP ENVIRONMENTAL SCIENCE (14270) – Virtual Virginia Course**

**Grade Level: 11 – 12**

Advanced Placement Environmental Science is designed to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these

problems, and to examine alternative solutions for resolving or preventing them. Student work will be required outside of class time.

**Prerequisite: Algebra I, Earth Science, and two years of high school laboratory science - one year of life science and one year of physical science (Biology or Chemistry)**

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **AP PHYSICS (4570) – Virtual Virginia Course**

**Grade Level: 11 – 12**

This non-calculus survey course covers five general areas: Newtonian mechanics, thermal physics, electricity and magnetism, waves and optics, and atomic and nuclear physics. Students will gain an understanding of physics' core principles and then apply them to problem-solving exercises. This is the equivalent of an introductory college-level course, AP Physics B prepares students for the AP Exam and for further study in science and engineering.

**Prerequisite: Algebra II, Math Analysis or Trigonometry and an Introductory Physics course**

**\*\*Students must be participating in the Early College Scholars Program through a signed agreement and submit all appropriate applications prior to enrollment into this course if taking the course virtually through the Virginia Virtual School\*\***

### **LATIN I (15310)**

**Grade Level: 10 – 12**

Students begin to develop the cultural understanding, attitudes, and linguistic performance skills necessary to experience the life style and the culture of the Classical World. Students gain greater perspective on the present as they find the roots of their own culture and language in areas of Roman life such as history, government, literature, art, architecture, philosophy, religion, military, and linguistics.

**Prerequisite: Overall B average**

**\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\***

### **LATIN II (15320)**

**Grade Level: 11 – 12**

Students continue to develop an understanding of the cultural attitudes and linguistic performance skills. They increase their awareness of the contributions of Roman civilization to our Western civilization, increase their knowledge of vocabulary, improve their reading skills, and improve their mastery of the Latin structural system.

**Prerequisite: Latin I and overall B average**

**\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\***

### **LATIN III (15330)**

**Grade Level: 11 – 12**

Building upon lessons from Latin II, this course continues to develop the linguistic skills of the language, an understanding of the history of the Greco-Roman civilizations, and an appreciation of the cultural developments of the classical world. Students will expand their knowledge of Latin grammar, strengthen their comprehension and translation skills, enhance their oral and written language, and enrich their English vocabulary. Additionally, students will increase their awareness of the contributions of classical civilization to the Western world and broaden their perspective on life and language. Student work will be required outside of class time.

**Prerequisites: Latin I and Latin II and overall B average**

**\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\***

### **LATIN IV (5340V)**

**Grade Level: 12**

Continuing the exploration of Latin literature and culture, students explore various literary styles and become acquainted with several Latin authors through a survey of Latin literature, a review of major grammatical forms, and continued study of English derivatives. This course will prepare students for the AP Latin Literature course. Student work will be required outside of class time.

**Prerequisites: Latin I, Latin II, and Latin III and overall B average**

**\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\***

**ARABIC I (15010)****Grade Level: 10 – 12**

This course will enable students to: develop the ability to communicate through listening, speaking, and reading and writing; explore traditions, dress, foods, holidays and customs of Arabic countries; compare Arabic cultures with their own environment; and create a language portfolio. This class is taught via the Governor's Virtual School.

***\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\****

**ARABIC II (5020)****Grade Level: 11 – 12**

In this course, students continue to develop their communicative competence by interacting orally and in writing with other Arabic learners and speakers, understanding Arabic oral and written messages, and making oral and written presentations in the Arabic. They will begin to show a greater level of accuracy when using basic language structures, and they are exposed to more complex features of the language. They will continue to focus on communicating about their immediate world and daily activities. Students will read material on familiar topics and write short, directed compositions. The emphasis will continue to be placed on the use of authentic materials to learn about the Arabic culture.

***Prerequisite: Arabic I and overall B average***

***\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\****

**CHINESE I (5810V)****Grade Level: 10 – 12**

Students develop the ability to communicate about themselves and their immediate environment using simple sentences containing basic language structures. This communication is evidenced in all four language skills – listening, speaking, reading and writing – with emphasis on the ability to communicate orally and in writing. Students begin to explore and study the themes of Personal and Family Life, School Life, Social Life, and Community Life. Student work will be required outside of class time.

***Prerequisites: Recommended: Survey of World Language and Culture and overall B average***

***\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\****

**CHINESE II (5820V)****Grade Level: 11 – 12**

Students continue to develop the ability to communicate about themselves and their immediate environment using simple sentences containing basic language structures. This communication is evidenced in all four language skills – listening, speaking, reading and writing – with emphasis on the ability to communicate orally and in writing. At Intermediate-Low proficiency level, Students begin to expand their study on new themes of Personal and Family Life, School Life, Social Life, and Community Life while some familiar themes and topics from level I may reoccur at the same time. However, the spiral character of the theme-based instruction requires students to demonstrate their communicative skills and sophistication at a new developmental level. Student work will be required outside of class time.

***Prerequisites: Chinese I and overall B average***

***\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\****

**CHINESE III (5830V)****Grade Level: 11 – 12**

Students continue to develop and refine their proficiency in all four language skills - listening, speaking, reading, and writing - with emphasis on the ability to interact orally and in writing. They communicate using more complex language structures on a variety of topics, moving from concrete to more abstract concepts. At this level, students comprehend the main ideas of the authentic materials that they read and hear, and they are able to identify significant details when the topics are familiar. Students gain a deeper understanding of the world around them while studying Rights and Responsibilities, Future Plans and Choices, Teen Culture, Environment, and Humanities, while some familiar themes and topics from levels I and II may reoccur at the same time. The spiral character of the theme-based instruction requires students to demonstrate their communicative skills and sophistication at a new developmental level. Student work will be required outside of class time.

***Prerequisites: Chinese I and II and overall B average***

***\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\****

**CHINESE IV (5840V)****Grade Level: 11 – 12**

Students continue to develop and refine their proficiency in all four language skills - listening, speaking, reading, and writing - with emphasis on the ability to interact orally and in writing. They communicate using more complex language structures on a variety of topics, focusing on abstract concepts. At this level, students comprehend the main ideas of the authentic materials that they read and hear, and they are able to identify significant details when the topics are familiar. Students gain a deeper understanding of the world around them while studying Beijing, facets of China's traditional culture, social life, hobbies, the environment, work and college while some familiar themes and topics from levels I, II, and III may reoccur at the same time. However, the spiral character of the theme-based instruction requires students to demonstrate their communicative skills and sophistication at a new developmental level. Students will be introduced to the Advanced Placement Chinese Language course and the College Board examination. Student work will be required outside of class time.

**Prerequisites: Chinese I, Chinese II, and Chinese III and overall B average**

**\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\***

**AP CHINESE LANGUAGE & CULTURE (5860V)****Grade Level: 12**

This course is designed to prepare high school students for the AP® exam in May. It is a rigorous college level course equivalent to a fourth semester college course in Mandarin Chinese. Students will: demonstrate proficiency in presentational, interpersonal, and interpretive communication through listening, speaking, and reading and writing; explore contemporary and historical Chinese cultures; study a variety of themes related to the Chinese Language and Culture as outlined by the College Board; and broaden their global perspectives and compare Chinese cultures with their own environment. Student work will be required outside of class time.

**\*\*Students who are enrolled in a Virtual Virginia World Language course will be required to take a nationally recognized examination in their language as part of this course\*\***

**WORLD MYTHOLOGY (1165) - Virtual****Grade Level: 10 – 12**

The purpose of this class is to introduce students to major themes, stories, and characters in the mythologies of several different cultures. The course will concentrate on Greek and Roman mythology, but will also include material from Norse, Celtic, Native American, and African and Egyptian mythology. The course will be taught using an interdisciplinary approach that considers literary and artistic themes from diverse perspectives including theology, sociology, anthropology, and history. Student work will be required outside of class time.

**Prerequisite: Students must be a candidate for the Early College Scholar Program and have an overall 3.0 GPA. All required paperwork must be signed and submitted prior to registering for this course.**

**FINE AND PERFORMING ARTS****VISUAL ARTS****ART I (19120)****Grade Level: 8 – 12**

This course is an introductory visual art course. Emphasis is on exploration of media and concepts as well as the elements and principles of Art. Units include design, sculpture, drawing, painting, printmaking and Art History. This course is a prerequisite for all of the other visual art courses.

**ART II (19130)****Grade Level: 9 – 12**

This course builds on the knowledge and experiences of Art I. Emphasis is on furthering skills with a variety of media and techniques. Students are also encouraged to further develop proficiency and continue their exploration of previous concepts learned in Art I (design, drawing, painting and sculpture).

**Prerequisite: Art I**

**ART III (19140)****Grade Level: 10 – 12**

This course is for the serious art student who is interested in a more in-depth exploration of art media and concepts. Units will cover a wide range of art processes in a variety of disciplines

***Prerequisite: Art II*****ART IV (19145)****Grade Level: 11 – 12**

This course is for the serious, self-motivated art student. Emphasis is on the development of a personal style and point of view. Projects are a little more open ended to allow for more personal interpretation.

***Prerequisite: Art III*****COMPUTER GRAPHIC ART I (19180)****Grade Level: 10 – 12**

This course is designed to introduce students to the use of the computer as an art tool. The first level is an introductory course covering terms, tools, and techniques for creating vector based illustrations and altering digital images. We will be using Adobe Illustrator CC and Adobe Photoshop CC.

***Prerequisite: Art I*****COMPUTER GRAPHIC ART II (19181)****Grade Level: 11 – 12**

This course takes the knowledge of Adobe Photoshop CC and Illustrator CC from Computer Art Graphics One and applies it to “real world” commercial art works. Some of the projects are logo design, album cover art, and book illustration.

***Prerequisite: Computer Art Graphics I*****COMPUTER GRAPHIC ART III (19182)****Grade Level: 12**

In this course students will have the choice of continuing their exploration of Adobe Photoshop CC and Illustrator CC to create artworks. We will also learn the basics of Adobe Animate CC. We will cover everything from Storyboards to Keyframes. We will also cover more in depth about how these three programs work together.

***Prerequisite: Computer Art Graphics II*****DIGITAL PHOTOGRAPHY I (19193)****Grade Level: 10 – 12**

This is an introduction to photography as an art form and what a “good photo” consists of. Students will study the history of photography, functions of the different parts of the camera, and composition of the photograph. We will focus on editing with both Adobe Photoshop CC and Lightroom CC. It is recommended that students bring in their own digital camera if they have one (must have some control over aperture and shutter speed).

***Prerequisite: Art I*****DIGITAL PHOTOGRAPHY II (19194)****Grade Level: 11 – 12**

This course is for the student who wants to continue the study of photography as an art tool. Emphasis is on continuing to learn how to master the camera controls to take pictures in a variety of situations. We will continue our knowledge of both Adobe Photoshop CC and Lightroom CC when it comes to editing and creating artworks. Students will discover the kind of photography in which they are most interested.

***Prerequisite: Photography Digital Arts I Students must provide their own digital camera*****DIGITAL PHOTOGRAPHY III (19195P)****Grade Level: 12**

This course is designed for the serious and self-motivated art student who wants to pursue photography in more depth. The course is a collection of teacher designed and student designed projects. Emphasis is on the development of a personal style. Students will act as if they are professional photographers, running their own website/blog. The course is a collection of teacher designed and student designed projects. Emphasis is on the development of a personal style.

***Prerequisite: Photography Digital Arts II Students must provide their own digital camera***

**CRAFTS AND DECORATIVE ARTS I (19160)****Grade Level: 10 – 12**

This course is designed to focus on crafts and handmade arts. The students will explore several fiber art projects as well as 3 dimensional arts. The students will also study world cultures associated with some of these crafts.

***Prerequisite: Art I*****CRAFTS AND DECORATIVE ARTS II (9161)****Grade Level: 11 – 12**

This is the second level of Crafts and Decorative Arts. Students will continue their exploration of fiber arts, handmade art, and 3 dimensional media. Emphasis is on taking the skills learned in Crafts 1 to the next level.

***Prerequisite: Crafts and Decorative Arts I*****AP ART HISTORY (19000)****Grade Level: 10 -- 12**

This is an introductory college-level art history course. Students cultivate their understanding of art history through analyzing works of art and placing them in historical context as they explore concepts like culture and cultural interactions, theories and interpretations of art, the impact of materials, processes, and techniques on art and art making, and understanding purpose and audience in art historical analysis.

***Prerequisite:*** Successful completion of at least one prior high school fine arts class and preparedness to take a college-level class.**MUSIC****GUITAR (9245): IN-PERSON ONLY (NOT A VIRTUAL CLASS)****Grade Level: 10 – 12**

Students will select to learn to play either the guitar or bass. Students will have to provide their own instrument to take this course.

**PIANO LAB I (9255)****Grade Level: 10 – 12**

Students will learn to play the piano/keyboard. There will be coursework in music theory, scales, and the history of the piano. This course will include at least one mandatory recital performance.

**PIANO LAB II (9256)****Grade Level: 11 – 12**

The purpose of this course is to further develop keyboard skills. Piano lab II students will perform more advanced repertoire, learn more major and minor scales, and continue to study advanced music theory. This course will include at least one mandatory recital performance.

***Prerequisite: Successful completion of Piano Lab I*****CHOIR (mixed) (19260)****Grade Level: 9 – 12**

This course focuses on singing and singing techniques with an emphasis on fundamental music theory and sight singing.

**MODERN MADRIGALS (19280)****Grade Level: 11 – 12**

This class will represent the high level of soprano, alto, tenor, and bass choral music at FCHS. Open to only juniors and seniors, this ensemble will be comprised of the most motivated and musically talented singers. Students will focus and perform primarily a cappella repertoire in a variety of music styles. Public performances will be a major part of grading and evaluation.

***Prerequisite: Choir and Teacher Recommendation***



**CRYSTAL CLEAR I (19284)****Grade Level: 10 – 12**

Crystal Clear: Soprano and Alto Voices – Crystal Clear is one of the advanced level choirs at FCHS. Students will continue to learn correct choral singing, harmony, sight-singing, and music theory while learning and performing challenging SSA – SSAA choral literature. The repertoire will include a variety of music styles. Public performances will be a major part of grading and evaluation.

**Requirement: Successful completion of Choir I and recommendation of the choir director after interview / audition.**

**BEGINNING SYMPHONIC BAND 8 (9235)****Grade Level: 8**

This course is designed for 8th grade students who have completed 7th grade band. Students will continue their instrumental musical studies and will participate in several required concerts throughout the year including graduation. Students who have never played an instrument before and wish to join band may sign up for this course, but should understand that it is not a beginning level course.

**SYMPHONIC BAND (INTERMEDIATE) (19234)****Grade Level: 9 – 12**

These intermediate level courses are designed for 9th – 11th grade students. It is the intermediate step between Symphonic Band 8/9 and 11<sup>th</sup>/12th grade Wind Ensemble. Students can expect to continue to study performance on their instrument and strive to audition for Wind Ensemble. Students will participate in several required concerts throughout the year including graduation.

**ADVANCED WIND ENSEMBLE (9252)****Grade Level: 11 – 12**

These courses are the advanced ensembles at FCHS. They are designed to provide the highest level of performance experience for students. Younger students must audition to be considered.

**MARCHING BAND (½ Credit) (9214)****Grade Level: 8 – 12**

Marching band is a specialty instrumental ensemble at FCHS. The purpose of marching band is to expose students to the musical, physical, and mental challenge of perfecting a competition level field show. This class requires students to participate in summer practices (band camp) and regular practices outside of the school day. The band requires participation in performances at all home football games as well as 4 Saturday competitions and the Gordonsville Veterans Day parade. This course is open to students in grade 8-12 who play a wind or percussion instrument or wish to participate in color guard. All wind and percussion students are required to schedule a regular band class from any of the school's offerings (guard is excluded from this requirement).

**MUSIC THEORY (5113)**

This course will introduce music history and aural training skills, including rhythmic, harmonic, and melodic dictation and sight singing. The course takes a beginning approach to the concepts of theory and analysis, with references to historical context.

**Prerequisite: Successful completion of a previous music course.**

## **DRAMATIC ARTS**

**DRAMA I (11410)****Grade Level: 9 – 12**

An introductory course designed for the beginning drama student. Improvisation, pantomime, speech, and stage movement are integral parts of the program. Through daily participation in a variety of activities, students will be encouraged to explore their own creative potential in a supportive, yet challenging, learning environment.

**Students will be required to perform in a One-Act production.**

**ACTING I (11420); Level II (1448); Level III (1423)****Grade Level: 10 – 12**

An advanced course designed for the second-year drama student. This is a performance-based course, focusing on the Fall One-Act for the VHSL Theatre Festival. Students will be afforded the opportunity to further develop basic skills through class work in movement, voice, improvisation, and scene study.

***Prerequisite: Drama I (VHSL regulations do not apply to this course however participation in the Theatre Festival does)***

**THEATRE PRODUCTION I (11430); Level II (1430); Level III (1436)****Grade Level: 10 – 12**

An advanced course designed for the second-year drama student offered in the spring. This is a performance-based course, focusing on all aspects of producing the Spring Play. Theatre Production students hone their skills as designers and technicians for theatre. Activities include sound design, costuming, lighting, make-up, directing, stage managing set design and construction.

***Prerequisite: Drama I***

**ADVANCED THEATRE ARTS (11440)****Grade Level: 12**

A course designed to allow serious students of theatre an outlet for sharing their skills. Advanced Theatre students develop workshops and plays that are performed at county schools. Activities include college portfolio and audition planning, scripting, workshops and demonstrations, and one-act play rehearsal and performance.

***Prerequisite: Drama I, Acting, Theatre Production***

**INTERNSHIPS**

**APPRENTICESHIP– WORK/STUDY (00050)** – This program is designed to support seniors' long-range education and career goals. This program provides the opportunity to experience "first-hand" a particular career or career field by interning with professionals in the community or a faculty member at the high school. Students enhance their academic and technical skills as well as become more informed about certain career field expectations and requirements before entering college and/or the workforce. Typical internships can be developed in areas of medicine, architecture, law, television production, law enforcement, journalism, finance, accounting, veterinary medicine, business management, computer technology, engineering, and many more. All students complete the application packet. Internships should be the career area that you are considering pursuing after graduation. See your school counselor for more information. **12th grade only.**

**BRVGS SENIOR PROJECT (1 credit) (0128)****Grade Level: 12**

The overall purpose of the senior internship is for students to make an in-depth exploration of their individual interests and talents, and to find a meaningful way to explore connections between "real world" experience, research and service. The internship and service will take as many diverse forms as we have students. Students combine rigorous research with a **minimum of 10 hours** of interaction with an expert in their field of interest. Students construct, research and write about a "burning question" related to their internship topic. In addition, students serve a **minimum of 10 hours** of community service, in which they apply the knowledge gained through their internship and research to service of school or community. **Overall, students must serve a combined 30 hours for both internship and community service.** Throughout their internship work, students will reflect on leadership and their potential to make a difference in our world. The course culminates in public presentations showcasing the results of students' experiences, learning and service. **Students in schools with 4X4 block schedules**

## **CAREER AND TECHNICAL EDUCATION**

### **AGRICULTURE**

#### **INTRODUCTIONS TO PLANT SYSTEMS (8007)**

**Grade Level: 9 – 11**

Students develop competencies in each of the major areas of the Plant Systems career pathway including applied botany, plant propagation, plant care and selection. Instructional content also includes an introduction to the various divisions of the plant systems industry. Students learn agricultural mechanics applicable to plant systems. As with all agriculture courses, students will be exposed to principles of leadership and opportunities within student organizations, along with Supervised Agricultural Experiences opportunities.

**Industry Credential: Virginia Workplace Readiness Test, Pesticide Test**

#### **HORTICULTURE SCIENCES (8031)**

**Grade Level: 10 – 12**

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 practices and leadership development.

**Prerequisite: Introduction to Plant Systems**

**Industry Credential: Virginia Workplace Readiness Test, Pesticide Test**

#### **GREENHOUSE PLANT PRODUCTION AND MANAGEMENT (8035)**

**Grade Level: 11 – 12**

Students enrolled in this course learn the operating procedures for a greenhouse. Units of instruction include developing plant production facilities, science application in plant production, and identification of plants. Business management and marketing skills are emphasized to prepare students for careers in the greenhouse plant production and management industry. Leadership development is offered through participation in FFA.

**Prerequisite: Horticulture Science**

**Industry Credential: Plant Science Certification Exam**

#### **AGRICULTURAL FABRICATION AND EMERGING TECHNOLOGIES (8037)**

**Grade Level: 10 – 12**

Students will receive instruction in metal fabrication, including cutting, welding, and cold metalworking processes, for agricultural applications. The course will also include the investigation of emerging technologies used within the field of agriculture. Leadership and career skills will be incorporated throughout.

**Prerequisite: Introduction to Plant Systems**

## **ARCHITECTURE AND CONSTRUCTION**

#### **CARPENTRY I (18601)**

**Grade Level: 10 – 11**

Carpentry I introduces students to skills essential to success in the profession. Students use hand and power tools to cut stock; learn to read blueprints; build and install foundations, trusses, doors, windows, stairs, and finishes; and frame walls, floors, ceilings, roofs, decks, and porches. All students will obtain a required OSHA 10 Safety Credential in the class. This is a one block, one semester class.

**Industry Credential: Virginia Workplace Readiness Test**

#### **CARPENTRY II (18602)**

**Grade Level: 11 – 12**

Carpentry II completes students' secondary training for the carpentry profession. Students study blueprints; build and install foundations, trusses, doors, windows, stairs, and finishes; and frame walls, floors, ceilings, roofs, decks, and porches. In addition, students are introduced to basic rigging, learn to estimate and select building materials, and install cabinets. The cooperative education method is available for this course. Students combine classroom

instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year.

**Prerequisite:** *Carpentry I and OSHA 10 Safety Credential*

**Industry Credential:** *Skills USA*

## **ARTS, AUDIO/VIDEO TECH/COMMUNICATIONS**

### **TELEVISION PRODUCTION I (18688)**

**Grade Level:** 10 – 11

An introductory course designed for students interested in Broadcast Communications. Students will gain experience and skills necessary to function individually or in groups as a crewmember in a television studio. Students learn to operate equipment such as TV cameras, video tape recorders, microphones, audio mixers, and audio/video editing systems. They practice skills related to production, direction, and scripting of programs. Students also study control room procedures and responsibilities.

**Industry Credential:** *Virginia Workplace Readiness*

### **TELEVISION PRODUCTION II (18689) YEARLONG, 2 CREDITS OR SINGLE-SEMESTER, 1 CREDIT**

**Grade Level:** 11 – 12

An advanced course in television production focuses on even more creative telecommunications activities and skills needed in the film industry. Students will create projects involving special effects, electronic graphics, video editing and producing/directing original programming. This course will provide an opportunity to develop writing skills in the variety of formats used in broadcasting and filmmaking. Individuals and groups will write their own news, weather, sports, editorials, and commercials. This class is offered as a year-long 90 minute course or as a single-semester, 90 minute course.

**Prerequisite:** *Television I*

**Industry Credential:** *NOCTI*

### **TELEVISION PRODUCTION III (18690) YEARLONG, 2 CREDITS OR SINGLE-SEMESTER, 1 CREDIT**

**Grade Level:** 12

Intended for third year telecommunication students, this course is designed to allow serious students of telecommunication an outlet for sharing their skills. Students will continue to develop writing and camera skills for broadcasting using a variety of formats. Students will typically work independently in this class writing, filming and editing their own weekly segments for school broadcast. In addition, students will be expected to complete a major project as approved by the instructor. This class is offered as a year-long 90 minute course or as a single-semester, 90 minute course.

**Prerequisite:** *Television II*

## **BUSINESS, MANAGEMENT AND ADMINISTRATION**

### **DIGITAL APPLICATIONS (16617)**

**Grade Level:** 8 – 10

This course is designed for secondary school students to develop and enhance touch skills for entering alphabetic, numeric, and symbol information on a keyboard. Students compose and produce a variety of personal, educational, and professional documents. **Industry Credential:** *Virginia Workplace Readiness Test, MOS Word*

### **COMPUTER INFORMATION SYSTEMS (CIS) (16612)**

**Grade Level:** 9 – 12

Students will apply problem-solving skills to real-life situations through word processing, spreadsheets, and database software, and through integrated software activities.

**It is recommended strongly that students complete Digital Applications prior to CIS or that they possess strong keyboarding skills and Microsoft Office skills.**

**Industry Credential:** *MOS Word*

**ADVANCED COMPUTER INFORMATION SYSTEMS (16613)****Grade Level: 10 – 12**

Students apply problem-solving skills to real-life situations through advanced integrated software applications, including 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. The cooperative education method is available for this course. Students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year.

**Prerequisite: Computer Information Systems (CIS)****Industry Credential: MOS Excel or Access Certification Test****BUSINESS MANAGEMENT (BM200E)****Grade Level: 10 – 12**

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. Student leadership skills may be enhanced by participation in school-based or virtual enterprises.

**Industry Credential: National Career Readiness Certificate Assessment****BUSINESS LAW (6131)****Grade Level: 10 – 12**

Students examine the foundation of the American legal system and learn the rights and responsibilities of citizens. Students gain practical knowledge and life skills by exploring economic and social concepts related to laws governing business and individuals. Focus areas include contracts, consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and career in the legal profession.

**Industry Credential: Virginia Workplace Readiness Test****EDUCATION AND TRAINING****TEACHER CADET I (VA TEACHERS 4 TOMORROW) (12998)****Grade level: 11 – 12**

This is a course for students who want to learn more about teaching as a profession. The course begins with readings and discussions about the development of human personality, human growth and development, and education as an institution. Teacher Cadets spend time observing teachers in neighboring schools. Students then work under the guidance of a facilitating teacher-mentor to assist students individually and in small groups, aid the classroom teacher, and teach mini-units within the assigned class.

**Industry Credential: Education Fundamental Test or Para Pro****TEACHER CADET II (VIRGINIA TEACHERS 4 TOMORROW) (9072)**

Students will continue their study of teaching as a profession. Part of the course will involve research and part will involve practice in a classroom setting.

**Prerequisite: Teacher Cadet I****Industry Credential: Education Fundamental Test or Para Pro****HEALTH SCIENCES****INTRODUCTION TO HEALTH AND MEDICAL SCIENCES (18302)****Grade Level: 9 – 11**

This is a survey course designed to introduce students to the field of Health and Medical Science. Topics covered include human body systems, alternative medicine, the healthcare system, cultural diversity in the medical setting, history of health care, clean and healthy environment, and others. Class is a mixture of lecture, individual, and group projects, and research.

**Industry Credential: Virginia Workplace Readiness Test**

**NURSE AIDE I (83601)****Grade Level 11 – 12**

Nurse Aide I is a two-block class in the CTE division. Students study human anatomy, physiology, and pathophysiology, medical terminology, and learn related medical skills. Successful Nurse Aide students are organized, able to absorb large amounts of information in a relatively short period of time, and apply this knowledge to practical situations. Nurse Aide 1 is an excellent foundation for students who plan to pursue a career in any health care related field. This class will be two blocks one semester.

**Prerequisites: Recommendation: Biology and/or Chemistry**

**Industry Credential: Virginia Workplace Readiness Test or National Career Readiness Certificate**

**NURSE AIDE II (8362)****Grade Level: 12**

Nurse Aide II is a two-block class in the CTE division. Students learn the care of elderly or disabled patients and nurse aide skills such as feeding, toileting, transferring, and dressing. Students study industry protocols and geriatric issues. Successful students demonstrate appropriate and professional behavior in the workplace. Completion of the course requirements allows these students to sit for the Certified Nurse Aide license administered by the Virginia Board of Nursing. Students must be 16-years-old. This class will be two blocks one semester.

**Prerequisite: Nurse Aide I**

**Industry Credential: VA Board of Nursing Certified Nurse Aide License**

**EMERGENCY MEDICAL TECHNICIAN I/II (EMT I/II) (MS8333)****Grade Level: 10 – 12 (students must be 16 on the first day of class to participate)**

The EMT program will prepare students to pass the National Registry Emergency Medical Technician certification exam. Students will train to become skilled in identifying and managing emergencies such as bleeding, fractures, airway obstruction, cardiac arrest, and numerous medical complaints. Instruction emphasizes the use of critical thinking skills to perform accurate patient assessment and identify proper treatment protocols. Supervised clinical training on an in-service ambulance and/or in a hospital Emergency Department is a required part of the program, and must be completed outside of class time. **There will be an informational session held prior to the beginning of the school year to answer any additional questions.**

**Prerequisite: 16 years old at the start of the program.**

**Co-requisite: Certification in CPR**

**Industry Credential: National Registry Emergency Medical Technician Certification Exam**

**EMERGENCY MEDICAL TECHNICIAN III (MS8335)****Grade Level: 11 – 12**

This course is intended for students who have completed Emergency Medical Technician (EMT) I and II, obtained instructor approval, and who may have obtained EMT certification from the Virginia Office of Emergency Medical Services (OEMS). Students will strengthen the skills mastered in the basic courses as they acquire skills to assist advanced life support (ALS) providers, build on the foundations of emergency medical services (EMS) education, and meet education requirements for certification or recertification. Students also learn to coordinate with other public health and safety services, such as fire control, law enforcement, and emergency

**Prerequisite: Emergency Medical Technician I/II**

**SPORTS MEDICINE/ATHLETIC TRAINING (7660)****Grade Level: 9 – 12**

The Sports Medicine course will introduce students to the field of athletic training. Topics such as anatomy, first aid, athletic injuries, injury prevention, rehabilitation, nutrition, and administration will be the core of course work. Hands-on activities as well as student athletic training with the high school's sports teams will provide a great opportunity to learn the basics of athletic training. By the end of this class, students should have the knowledge and skills necessary to be a competent and helpful student athletic trainer.

**Industry Credential: Virginia Workplace Readiness Test**

**SPORTS MEDICINE INTERNSHIP (7670)****Grade Level: 11– 12**

Students who successfully complete the Sports Medicine class may be eligible to work directly with the FCHS Athletic Trainer in support of student-athletes in a Sports Medicine Internship. Students must be approved by the Athletic Trainer for participation in this opportunity.

**Prerequisite: Successful completion of Sports Medicine/Athletic Training**



## HUMAN SERVICES

### COSMETOLOGY I (18528)

#### **Grade Level: 10**

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

The course includes the study of hair, scalp, and skin. Students study and prepare in a clinical lab setting, using mannequins and live models for manipulative practice. The program emphasizes safety and sanitation, communication, and management skills. Related areas of study include psychology, ethics, and professional image. Competency completions prepare the students to work or apprentice in a local barber shop or beauty salon.

***Industry Credential: Virginia Workplace Readiness Test***

### COSMETOLOGY II (18529)

#### **Grade Level: 11**

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.

Students apply their knowledge and skills in a clinical lab setting, using mannequins and live models for manipulative practice. The program emphasizes safety and sanitation, communication skills, and management of a barber shop or beauty salon. Related areas of study include psychology, ethics, and professional image. Competency completions prepare the student for the Virginia state-licensing exam.

***Prerequisite: Cosmetology I***

***Industry Credential: Virginia Workplace Readiness Test***

### COSMETOLOGY III (85293)

#### **Grade Level: 12**

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.

Students apply their knowledge and skills in a clinical lab setting, using mannequins and live models for manipulative practice. The program emphasizes safety and sanitation, communication skills, and management of a barber shop or beauty salon. Related areas of study include psychology, ethics, and professional image.

Competency completions prepare the students for the Virginia state licensing exam.

***Prerequisite: Cosmetology II***

***Industry Credential: VA State Cosmetology License***

## HOSPITALITY AND TOURISM

### INTRODUCTION TO CULINARY ARTS (18250)

#### **Grade level: 9 – 10**

The Introduction to Culinary Arts curriculum provides students with opportunities to explore career options and entrepreneurial opportunities within the food service industry. Students investigate food safety and sanitation, explore culinary preparation foundations, practice basic culinary skills, explore diverse cuisines and service styles,

investigate nutrition and menu development, and examine the economics of food. The curriculum places a strong emphasis on science and mathematics knowledge and skills.

**Industry Credential: Virginia Workplace Readiness Test**

### **CULINARY ARTS I (18524)**

**Grade level: 10 – 11**

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. Teachers highlight the basic skills of mathematics, science, and communication when appropriate in content. The cooperative education method is available for this course. Students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year.

**Prerequisite: Successful completion of Introduction to Culinary Arts**

**Industry Credential: ServSafe Food Managers Exam**

### **CULINARY ARTS II (18525)**

**Grade level: 11 – 12**

This is the second level of Culinary Arts and prepares students for gainful employment and/or entry into post-secondary education in the food production and service industry. Content provides students the opportunity to acquire marketable skills by demonstrating the principles of safety and sanitation, food preparation skills, and teamwork to manage an environment conducive to quality food production and service operations. Laboratory facilities and experiences, which simulate commercial food production and service operations, offer school-based learning and work-based learning opportunities. The program is open to the possibilities of internships and externships.

**Prerequisite: Culinary Arts I**

**Industry Credential: ServSafe Food Managers Exam**

## **BUSINESS AND INFORMATION TECHNOLOGY**

### **DESIGN, MULTIMEDIA, AND WEB TECHNOLOGIES (16630)**

**Grade level: 9 – 11**

Students develop proficiency in Microsoft Office PowerPoint along with practice presenting their work verbally. They incorporate principles of layout and design in completing their publications and projects. Along with the PP curriculum, students will also work on resumes, cover letters, Internet safety and basic Web design using industry standard application software.

**Recommended Prerequisite: Digital Applications**

**Industry Credential: MOS PowerPoint**

### **ADVANCED DESIGN, MULTIMEDIA, AND WEB TECHNOLOGIES (16631)**

**Grade level: 10 – 12**

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.

**Prerequisite: Design, Multimedia, and Web Technologies**

**Industry Credential: CIW-Web Design Test**

## **MARKETING, SALES AND SERVICES**

### **INTRODUCTION TO MARKETING (8111)**

**Grade level: 9 – 11**

This course will help students gain an understanding of marketing and its importance, as well as developing fundamental, social, economic, mathematics, marketing, job search and occupational decision-making skills necessary for successful initial employment in retail, wholesale or service businesses.

**Industry Credential: Virginia Workplace Readiness Test**

**PRINCIPLES OF BUSINESS AND MARKETING (6115)****Grade level: 10 – 12**

Students explore the roles of business and marketing in a free enterprise system and the global economy. They study how the American economy operates and prepare to make decisions as consumers, wage earners, and citizens.

**Industry Credential: Virginia Workplace Readiness Test****SPORTS, ENTERTAINMENT, AND RECREATION MARKETING (BM227E)****Grade level: 10 – 12**

This course is designed to introduce students to a major element of our modern economy—sports, entertainment, and recreational fields generate billions of dollars each year for our society. Students will develop an understanding of the knowledge and skills necessary to be successful in this field. The following topics will be addressed: economics, marketing, business structure, market research, communications, interpersonal relationships, product planning, promotion, selling, sponsorship development, developing public relations publicity programs, advertising, branding, developing an idea/event, dealing with agents, personal managers, and product licensing. Academic skills in the areas of mathematics and English, as well as history/social science and science, related to the content are a part of this course.

**Prerequisite: Introduction to Marketing****Industry Credential: NRF Customer Service****SCIENCE, TECHNOLOGY, ENGINEERING AND MATH**

Students enrolled in the courses below will take the Project Lead the Way end-of-course exam. Students may, if the test is passed, request to see if College Credits may transfer to interested post-secondary institutions.

**INTRODUCTION TO ENGINEERING DESIGN (18439)****Grade level: 8 – 11**

Have you ever tried to design something new or draw up an idea you wanted to share with your friends and wondered how you could communicate your idea? Then Introduction to Engineering Design is the course for you. The major focus of the course is learning how to take an idea through a design process that will eventually be manufactured or produced. As you learn about various aspects of engineering and engineering design, such as how engineers communicate through drawing, you will apply what you learn through various activities, projects, and problems. In addition, you will use Autodesk Inventor, which is a state of the art 3D design software package to help you design solutions to different design projects. Working in teams and as an individual, you will learn about documenting your solutions, solving problems, and communicating your solutions to other students and members of the professional community of engineering. All topics learned in this course will be used in future courses. Students may also earn college credit after completing this course.

**Prerequisite: A, B, or C in Algebra 1****Industry Credential: PLTW Exam****PRINCIPLES OF ENGINEERING (POE) (18441)****Grade level: 9 – 12**

Principles of Engineering uses student activities, projects, and problems to explore the wide variety of careers in engineering and technology and examine various technology systems and manufacturing processes. POE students use a variety of different hands on activities to explore the Engineering world. Some of the projects include a Marble Sorter, sort light and dark color marbles; Bridge Design, designing a Truss Bridge and then test it to failure in our stress analyzing tester; egg drop vehicles to help explore what steps automotive designers go through in designing automobiles; and more. Students will continue to use Autodesk Inventor, but will also use MDSolids, West Point Bridge Building program and Fisherteknics. Students may also earn college credit after completing this course.

**Prerequisite: Introduction to Engineering Design****Industry Credential: PLTW Exam**

**AEROSPACE ENGINEERING (18487)****Grade level: 11 – 12**

Students learn about the history and impact of automation and robotics as they explore mechanical systems, energy transfer, machine automation, and computer control systems. Using the VEX Robotics platform, students apply what they know to design and program traffic lights, robotic arms, and more. Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills. High-quality work-based learning (HQWBL) will provide experiential learning opportunities related to students' career goals and/or interests, integrated with instruction, and performed in partnership with local businesses and organizations. **This class is offered every-other year, alternating with Computer Integrated Manufacturing.**

**Prerequisite: Introduction to Engineering Design, Principles of Engineering****Industry Credential: PLTW Exam****BLUE RIDGE VIRGINIA GOVERNOR'S SCHOOL (BRVGS) ELECTIVES*****These offerings are subject to change based on BRVGS curriculum updates.*****Please see the BRVGS Program of Studies for the latest course offerings:**<https://sites.google.com/brvgs.k12.va.us/brvgs-program-of-studies/brvgs-courses>**BRVGS Computer Science**

(1 high school credit)

This is the “default” required course for BRVGS juniors and is offered:

- In the Fall semester for Fluvanna, Louisa and Nelson
- In the Spring semester for Orange and Madison
- Yearlong for Goochland and William Monroe

The course, taught directly by a BRVGS instructor through an online learning management system, is primarily focused on the central ideas of computing and computer science, instilling the ideas and practices of computational thinking and inviting students to understand how computing changes the world.

This rigorous course promotes the ability to navigate in an online course, deep learning of computational content, computational thinking skills, and creativity in the context of programming. Students may or may not be in a classroom with fellow BRVGS junior classmates, depending on local scheduling and supervision.

The course culminates in a team-based “design-and-build” project, in which teams of students identify a problem, solve that problem with a program of their own design, and market that program to the public.

**BRVGS Advanced Placement Computer Science Principles**

(1 high school credit)

This is a yearlong course, primarily focused on the “central ideas of computing and computer science”, taught by a non-BRVGS teacher from CodeHS, with a BRVGS staff member serving as the course “Coach”. It is very similar to BRVGS CSP, but is focused on the AP exam for Computer Science Principles, and contains a number of different (and more rigorous) lessons than the non-AP course. Students will participate in team-based projects as part of their BRVGS requirements for the course.

Please [click](#) for more information from CodeHS about the course.

This course may also be taken as a BRVGS elective.

[Click Here](#) to see the Syllabus.**BRVGS Advanced Placement Computer Science A**

(1 high school credit)

This is a yearlong course, primarily focused on Java Programming. The course is taught by a non-BRVGS teacher from CodeHS, with a BRVGS staff member serving as the course “Coach”. It teaches the Java

programming language. Students will participate in team-based projects as part of their BRVGS requirements for the course. Please [click here](#) for more information from CodeHS about the course.

Those who score a 3 or better on the AP exam may receive up to 6 college credits (as determined by the college of attendance).

This course may also be taken as a BRVGS elective.

[Click Here](#) to see the Syllabus.

### **BRVGS Advanced Placement Statistics**

(1 high school credit)

**Prerequisite:** Students must have successfully completed Algebra II with a grade of “B-” or higher.

This course presents an overview of statistics, including descriptive statistics, elementary probability, probability distribution, estimation, hypothesis testing, and correlation and regression. Students will learn and practice the skills of Statistics through online instruction and real-world, project-based problem solving.

Please [click here](#) for more information from College Board about the course.

This course may also be taken as a BRVGS elective.

[Click Here](#) to see the Syllabus.

### **University of Virginia Explorations in Engineering (ENGR 1520) – Fall**

(1 high school credit and 3 college credits)

Great engineering is sometimes referred to as ‘art that works’. This is because engineering, like art, requires innovation and creativity. But engineering creations, unlike art, must solve real problems and help our society meet new challenges.

This introductory college engineering course introduces students to the world of engineering, including the role of engineers in modern society, an overview of the various fields of engineering, and modern methods used by engineers to solve problems and meet new challenges.

A key component of the course is a hands-on design-build project in which students work together in small teams to design and develop a solution to a case study problem. This activity will culminate in the demonstration of a prototype of the design solution.

Students will explore the sources of inspiration, the methods engineers use to solve problems and the impact of engineering solutions.

This course may also be taken as a BRVGS elective.

[Click Here](#) to see the Syllabus.

### **University of Virginia Explorations in Health Care (PSHM 1010) – Fall**

(1 high school credit and 3 college credits)

This course provides an introduction to health care and health care management literature; the structure and delivery systems of US healthcare; current challenges facing the system; and the scope of career opportunities in the healthcare field. Explores the educational requirements and job responsibilities of a wide range of health care providers.

Additional topics include health care economics, insurance, health care research, health care policy and reform, and the Affordable Care Act.

Through the use of online discussions, literature search assignments, and relevant projects, the course promotes the application of critical thinking and library research skills.

This course may also be taken as a BRVGS elective.

[Click Here](#) to see the Syllabus.

### **University of Virginia Digital Technology and Communications (PSTS 1010)**

(1 high school credit and 3 college credits)

Today's students will spend their adult lives in a multi-tasking, multifaceted, technology-driven, diverse and vibrant world. This course will give students an online experience so that they are able to do so. This course will emphasize on analyzing, accessing, managing, integrating, evaluating, and creating information in a variety of forms and media so that students will understand the role of media in society.

Communication skills will also be emphasized, so that students will understand, manage, and create effective oral, written, and multimedia communication in a variety of forms and contexts.

This course may also be taken as a BRVGS elective.

[Click Here](#) to see the Syllabus.

### **University of Virginia Explorations in Cyber Security (IT 1010)**

(1 high school credit and 3 college credits)

This course is intended to attract, educate, and inspire a new generation of students in the evolving field of cyber security. It introduces students to the world of cyber security and the vast opportunity in cyber security careers.

At the end of the course, students will have an understanding of the various types of cyber security professions and educational opportunities to help them when choosing a career path. They will also develop critical thinking, problem solving, and analytical skills that will benefit them in a variety of career paths.

This course may also be taken as a BRVGS elective.

[Click Here](#) to see the Syllabus.

### **Virginia Aerospace Science and Technology Scholars (VASTS)**

(Up to 4 college credits - local credits are determined by the student's local high school)

Note: Use of this class to meet BRVGS requirements is pending approval by the BRVGS Board

The Virginia Aerospace Science and Technology Scholars (VASTS) program is an interactive online science, technology, engineering and mathematics learning experience, highlighted by a seven-day residential summer academy at NASA Langley Research Center in Hampton, Va.

Students learn about a broad range of science, technology, engineering and mathematics (STEM) skills. Based on course performance, scholars may be selected to participate in an all-expense paid seven-day residential Summer Academy at NASA Langley Research Center.

Scholars can receive two college credits for successful completion of online coursework and two additional credits for the Summer Academy. The course is offered for free online from December through May and consists of seven lessons and a final project that allows scholars to build their knowledge of NASA, space exploration and key STEM skills.

Scholars selected for the Summer Academy will spend seven days with STEM mentors and master educators at NASA Langley Research Center in Hampton. Scholars will work in project teams to design a human mission to Mars and will be immersed in hands-on experiential STEM activities.

**Note: In order for this course to count as a junior requirement, you are required to attend the VASTS Summer Academy, OR (if you are unable to attend the VASTS Summer Academy) you are required to attend a BRVGS Summer Academy.**

This course may also be taken as a BRVGS elective.

[Click Here](#) to see details of the program.

### **Virginia Earth System Science Scholars (VESSS)**

(Up to 5 college credits - local credits are determined by the student's local high school)

Note: Use of this class to meet BRVGS requirements is pending approval by the BRVGS Board



The Virginia Earth System Science Scholars (VESSS) program is an interactive online science, technology, engineering and mathematics learning experience for Virginia high school juniors and seniors, highlighted by a seven-day residential summer academy at NASA Langley Research Center in Hampton, Virginia.

This transferable, four-credit, Topics GOL 195 dual enrollment course, offered through Thomas Nelson Community College (TNCC), engages the student in real world investigations of the Earth and its highly dynamic systems through the use of the latest research and data from NASA's Earth Science missions. Students develop an understanding of the Earth's responses to both natural and man-made changes to climate, weather, and natural hazards. Students will explore NASA's major Earth Science missions addressing how the global Earth System is changing, how the Earth system will change in the future, the causes of these changes, and the societal benefits provided through study of the Earth's system science.

Students selected to participate in the seven-day Summer Academy are immersed in the design of a hypothetical mission to study one of the Earth's major spheres and how the spheres are interconnected. Students will address a real-world scenario based on NASA missions which are currently being studied or that will be studied in the Earth System Sciences. Students can earn an additional transferable independent research credit, in GOL 195.

**Note: In order for this course to count as a junior requirement, you are required to attend the VESSS Summer Academy, OR (if you are unable to attend the VESSS Summer Academy) you are required to attend a BRVGS Summer Academy.**

This course may also be taken as a BRVGS elective.

[Click Here](#) to see details of the program.

### **BRVGS Online Economics and Personal Finance – Summer (1 high school credit)**

This BRVGS version of Economics and Personal Finance meets the Virginia graduation requirement for the Advanced Studies diploma AND the BRVGS requirements for graduation. Please note that this is the only "unweighted grade" course that BRVGS offers. The maximum GPA point value for the course will be 4 points.

### **How Science Changed History – Summer (1 high school credit)**

This thought-provoking course will review case studies of critical periods and events in history and the science that informed particular public policy and decision-making in regard to communication, defense, economics, exploration, health, and transportation. Explorations in current scientific challenges will be part of this course discussion and how choices made today will affect our history tomorrow.

### **BRVGS Biochemistry – Yearlong (1 high school credit)**

This science elective course will study the chemical processes at work in the context of living organisms. While relating biochemical processes to their roots in chemistry, students will think realistically about future challenges in science. Recommended for anyone interested in pursuing a career in medicine, veterinary science or other health sciences.

### **Intro to Python (Rainforest) – Summer or Fall or Spring (1 high school credit)**

The CodeHS Introduction to Computer Science in Python course teaches the fundamentals of computer programming as well as some advanced features of the Python language. Students will develop an appreciation for how computers store and manipulate information by building simple console-based games. The course is taught directly by a BRVGS instructor through an online learning management system, and is equivalent to a one semester-long introductory Python course at the college level.

### **Web Design (Picasso) and Introduction to Virtual Reality – Summer or Fall or Spring (1 high school credit)**

This is a two-part course:

Web Design is a project-based course that teaches students how to build their own web pages. Students will learn the languages HTML and CSS, and will create their own live homepages to serve as portfolios of their creations. Students will finish this course with tangible, professional, mobile responsive websites.

Introduction to Virtual Reality Virtual Reality is a rapidly growing technology with applications in several different fields. In this short course, students will learn how to build their very own virtual reality worlds using HTML and the A-Frame JavaScript library. Students can view their VR creations on the computer, through phones, or through an Oculus Rift. Get ready to be blown away by what you create!

**Introduction to Cybersecurity (Vigenera) – Summer or Fall or Spring  
(1 high school credit)**

This course prepares students with crucial skills to be responsible citizens in a digital future. It is designed for students with some exposure to computer science, but there are no specific course prerequisites. Topics included are: foundational cybersecurity topics including digital citizenship and cyber hygiene, the basics of cryptography, software security, networking fundamentals, and basic system administration.

**Video Game Design – Summer or Fall or Spring  
(1 high school credit)**

Students learn how to create video games in JavaScript! While this course is introductory, it will be taught as an “honors-level” course.

**Individualized courses:**

Under the [BRVGS Policy For Individual Online Course Requests](#), BRVGS is able to offer individual online courses to students with specific course needs or individualized interests.

Interested students should contact their local counselor and Ms. Liz Goodwin, BRVGS Online Learning Coordinator, at [lgoodwin@brvgs.k12.va.us](mailto:lgoodwin@brvgs.k12.va.us) to determine if they might be eligible for BRVGS support for tuition and logistics for individualized courses.

**FLUVANNA COUNTY PUBLIC SCHOOLS**

