# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter from the Principal</td>
<td>3</td>
</tr>
<tr>
<td>Mission Statement</td>
<td>4</td>
</tr>
<tr>
<td>Diploma Requirements</td>
<td>5-9</td>
</tr>
<tr>
<td>Diploma Seals</td>
<td>10</td>
</tr>
<tr>
<td>Honors / Advanced Placement</td>
<td>11</td>
</tr>
<tr>
<td>Early College Scholars</td>
<td>11</td>
</tr>
<tr>
<td>Virtual Virginia</td>
<td>11</td>
</tr>
<tr>
<td>Dual Enrollment</td>
<td>11</td>
</tr>
<tr>
<td>General Information</td>
<td>12-13</td>
</tr>
</tbody>
</table>

**Course Offerings**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>14-20</td>
</tr>
<tr>
<td>Mathematics</td>
<td>21-27</td>
</tr>
<tr>
<td>History and Social Sciences</td>
<td>28-32</td>
</tr>
<tr>
<td>Laboratory Science</td>
<td>33-37</td>
</tr>
<tr>
<td>World Language</td>
<td>38-41</td>
</tr>
<tr>
<td>Health &amp; Physical Education/Driver Education</td>
<td>42</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>43-50</td>
</tr>
<tr>
<td>Career and Technical Education</td>
<td>51-59</td>
</tr>
<tr>
<td>General Electives</td>
<td>59</td>
</tr>
<tr>
<td>Valley Vocational Technical Center</td>
<td>60-67</td>
</tr>
<tr>
<td>Central Shenandoah Valley Regional Governor’s School</td>
<td>68-76</td>
</tr>
</tbody>
</table>
Dear WHS Parents/Guardians:

The 2019-2020 Program of Studies is a document that you will want to refer to often, both this year and next year. This guide has information concerning graduation requirements and the courses that your child needs to achieve a high school diploma. In addition, the Program of Studies includes descriptions of courses of interest to your child that he/she may choose to support career opportunities after high school.

The school counselors will use this Program of Studies to work with your child in selecting courses for next year. In fact, your child and the counselor will focus on a four-year plan of courses. Talk with your child about the path of courses. If you have questions, call their counselor.

I hope that this guide helps you understand the many course selections and helps you to guide your child. I look forward to continuing our partnership in providing the high school experience that is needed to help our students realize their goals.

Sincerely,

Bryan Stamm
Principal
WAYNESBORO HIGH SCHOOL
MISSION STATEMENT

The mission of WHS is to prepare students to become productive members of society who value learning, achievement, and themselves.

WAYNESBORO HIGH SCHOOL
BELIEF STATEMENTS

1. Student learning is the chief priority of our school.
2. Every person in our school is a valued individual with unique physical, social, cultural, emotional, and intellectual needs.
3. Curriculum and instructional practices should incorporate a variety of learning activities to accommodate individual student differences.
4. All staff, administration, students, parents, and the community share the responsibility for advancing our school mission.
5. Our commitment is to empower students to become productive and responsible members of society.
**Requirements for a STANDARD DIPLOMA**
(for students who entered ninth grade during the 2013-14 school year and before 2018-19)

For a Standard Diploma, students must earn 22 standard and 6 verified credits shown below. Verified credits are earned by passing both the course and the related Standards of Learning end-of-course test.

<table>
<thead>
<tr>
<th>Discipline Area</th>
<th>Standard Credits</th>
<th>Verified Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Mathematics(^1)</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Laboratory Science(^2,6)</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>History and Social Sciences(^3,6)</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Foreign Language, Fine Arts or Career and Technical Education(^7)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Economics and Personal Finance</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Electives(^4)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Student Selected Test(^5)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>6</td>
</tr>
</tbody>
</table>

1. 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.
2. Courses completed to satisfy this requirement shall include course selections from at least two different science disciplines: earth sciences, biology, chemistry, or physics.
3. 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.
4. Courses to satisfy this requirement shall include at least two sequential electives as required by the Standards of Quality.
5. 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 8VAC20-131-110.
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 (i) the student-selected verified credit and (ii) either a science or history and social science verified credit when the certification, license, or credential confers more than one verified credit. The examination or occupational competency assessment must be approved by the Board of Education as an additional test to verify student achievement.
7. Pursuant to § 22.1-253.13:4 of the Code of Virginia, credits earned for this requirement shall include one credit in fine or performing arts or career and technical education.
8. 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.
Requirements for an ADVANCED STUDIES DIPLOMA
(for students who entered ninth grade during the 2013-14 school year and before 2018-19)

For an Advanced Studies Diploma students must earn 26 standard credits and 9 verified credits, as shown below. Verified credits are earned by passing both the course and the related Standards of Learning end-of-course test.

<table>
<thead>
<tr>
<th>Discipline Area</th>
<th>Standard Credits</th>
<th>Verified Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Mathematics¹</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Laboratory Science²</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>History and Social Sciences³</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Foreign Language⁴</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Fine Arts or Career and Technical Education</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Economics and Personal Finance</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Student Selected Test⁵</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>9</td>
</tr>
</tbody>
</table>

1. 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.
2. 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.
3. 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.
4. Courses completed to satisfy this requirement shall include three years of one language or two years of two languages.
5. 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 8VAC20-131-110
Requirements for Profile of a Graduate
(for students who enter ninth grade during the 2018-19 school year and thereafter)

Both the Standard Diploma and the Advanced Studies Diploma shall provide multiple paths toward college, career, and citizenship readiness for students to follow in the later years of high school. Each such pathway shall provide meaningful and rigorous opportunities tied to instruction to achieve workplace and citizenship skills through experiences such as internships, externships, credentialing, and blended learning, which may be offered for credit toward high school graduation.

Requirements for a STANDARD DIPLOMA.

For a Standard Diploma, students must earn 22 standard and 5 verified credits shown below. Verified credits in English Reading, math and science are earned by passing both the course and the related Standards of Learning end-of-course test. English writing and history/social science a student may verify course mastery through a locally developed performance-based assessment.

<table>
<thead>
<tr>
<th>Discipline Area</th>
<th>Standard Units of Credit Required</th>
<th>Verified Credits Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (reading a writing)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Laboratory Science</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>History and Social Science</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>World Language, Fine Arts or Career and Technical Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Economics and Personal Finance</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

Additional Requirements for Graduation

In accordance with the Standards of Quality, students shall either (i) complete an Advanced Placement, honors, or International Baccalaureate course, or (ii) earn a career and technical education credential approved by the board, except when a career and technical education credential in a particular subject area is not readily available or appropriate or does not adequately measure student competency, in which case the student shall receive satisfactory competency based instruction in the subject area to satisfy the standard diploma requirements. The career and technical education credential, when required, could include the successful completion of an industry certification, a state licensure examination, a national occupational competency assessment, or the Virginia workplace readiness assessment.
Virtual Course

Virtual Course Students shall successfully complete one virtual course, which may be a non-credit-bearing course or a required or elective.

Training in emergency first aid, cardiopulmonary resuscitation (CPR), and the use of automated external defibrillators (AED)

Students shall be trained in emergency first aid, CPR, and the use of AED, including hands-on practice of the skills necessary to perform cardiopulmonary resuscitation. Students with an IEP or 504 Plan that documents that they cannot successfully complete this training shall be granted a waiver from this graduation requirement, as provided in 8VAC20-131-420 B.

Demonstration of the five Cs

Students shall acquire and demonstrate foundational skills in critical thinking, creative thinking, collaboration, communication, and citizenship in accordance with the Profile of a Virginia Graduate approved by the board.

Requirements for an ADVANCED DIPLOMA.
(for students who enter ninth grade during the 2018-2019 school year and thereafter)

For an Advanced Studies Diploma students must earn 26 standard credits and 5 verified credits, as shown below. Verified credits in English Reading, math and science are earned by passing both the course and the related Standards of Learning end-of-course test. English writing and history/social science a student may verify course mastery through a locally developed performance-based assessment.

<table>
<thead>
<tr>
<th>Discipline Area</th>
<th>Standard Units of Credit Required</th>
<th>Verified Credits Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (reading a writing)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Laboratory Science</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>History and Social Science</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>World Language</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>World Language, Fine Arts or Career and Technical Education</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Economics and Personal Finance</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>5</td>
</tr>
</tbody>
</table>
### Additional Requirements for Graduation

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Placement, Honors, or International Baccalaureate Course or Career and Technical Education Credential</td>
<td>In accordance with the Standards of Quality, students shall either (i) complete an Advanced Placement, honors, or International Baccalaureate course or (ii) earn a career and technical education credential approved by the board, except when a career and technical education credential in a particular subject area is not readily available or appropriate or does not adequately measure student competency, in which case the student shall receive satisfactory competency-based instruction in the subject area to satisfy the advanced studies diploma requirements. The career and technical education credential, when required, could include the successful completion of an industry certification, a state licensure examination, a national occupational competency assessment, or the Virginia workplace readiness assessment.</td>
</tr>
<tr>
<td>Virtual Course</td>
<td>Students shall successfully complete one virtual course, which may be a non-credit-bearing course or a required or elective credit-bearing course that is offered online.</td>
</tr>
<tr>
<td>Training in emergency first aid, cardiopulmonary resuscitation (CPR), and the use of automated external defibrillators (AED).</td>
<td>Students shall be trained in emergency first aid, CPR, and the use of AED, including hands-on practice of the skills necessary to perform cardiopulmonary resuscitation. Students with an IEP or 504 Plan that documents that they cannot successfully complete this training shall be granted a waiver from this graduation requirement, as provided in 8VAC20-131-420 B.</td>
</tr>
<tr>
<td>Demonstration of the five Cs</td>
<td>Students shall acquire and demonstrate foundational skills in critical thinking, creative thinking, collaboration, communication, and citizenship in accordance with the Profile of a Virginia Graduate approved by the board.</td>
</tr>
</tbody>
</table>
Diploma Seals

Students who earn diplomas may qualify for the following seals, awarded with the diploma upon graduation.

**Governor’s Seal** is awarded to students who complete the requirements for an Advanced Studies Diploma with an average grade of B or higher, and successfully complete college-level courses (AP or Dual Enrollment) resulting in at least nine transferable college credits.

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

**Board of Education’s Career and Technical Education Seal** is awarded to students who earn a Standard or Advanced Studies Diploma, complete an approved sequence of courses in a career and technical education concentration, **AND** meet one of the following requirements:

♦ Maintain an average grade of B or higher in the approved sequence of CTE courses;
♦ Pass an examination in a career and technical education field that confers certification from a recognized industry, trade or professional association;
♦ Acquire a professional license in a career and technical education field from the Commonwealth of Virginia

**Board of Education’s Advanced Mathematics and Technology Seal** is awarded to students who earn either a Standard or Advanced Studies Diploma **AND**:

♦ Satisfy all of the mathematics requirements for the Advanced Studies Diploma (four units of credit including Algebra II; two verified units of credit) with a "B" average or better; and either
  a) Pass an examination in a career and technical education field that confers certification from a recognized industry, or trade or professional association;
  b) Acquire a professional license in a career and technical education field from the Commonwealth of Virginia; or
  c) Pass an examination approved by the board that confers college-level credit in a technology or computer science area.

**Board of Education Diploma Seal for Excellence in Civics Education** The Seal for Excellence in Civics Education is awarded to students who complete the requirements for a Standard or Advanced Studies Diploma, earn an average grade of B or higher in U.S./Virginia History and Government courses, maintain good attendance and discipline records, and complete 50 hours of voluntary participation in community service activities.

**Biliteracy Seal** The Seal of Biliteracy is an award to recognize a student who has attained proficiency in English and one or more other world languages by high school graduation. The Seal serves to certify attainment of biliteracy for students, employers and institutions of higher education. It is a statement of accomplishment that helps to signal evidence of a student’s readiness for career and college, and for engagement as a global citizen.

♦ Pass all required End-of-Course Assessments in English reading and writing at the proficient or higher level
♦ Students should demonstrate proficiency in a world language other than English through one of a range of approved language assessment options, including Advanced Placement (AP), International Baccalaureate (IB), and other national or international assessments at a level comparable to Intermediate Mid on the American Council on the Teaching of Foreign Languages (ACTFL) Proficiency Guidelines.

**Central Virginia Regional Governor’s School** students who attend for two years receive a diploma seal.

**Board of Education’s Seal for Excellence in Science and the Environment** The Board of Education’s Seal for Excellence in Science and the Environment is awarded to students who enter the ninth grade for the first time in the 2018-2019 year and thereafter, and meet each of the following criteria:

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

**National Honor Society** Students who are members of the National Honor Society at the end of their senior year receive a diploma seal.

**Beta Club** Senior members of the Beta Club meeting academic standards receive a diploma seal.
Honors/AP Classes
Honors/AP classes are designed for students who wish to accelerate their high school studies to include courses that may be taken for college credit. Honors/AP courses are faster paced classes that require in-depth analysis and synthesis of subject matter. Students attempting a Honors/AP class at the high school level should have strong study habits.

Students should have earned at least a B in an honors course in the same curriculum area in a previous year. Students coming from the middle school honors program with a strong academic record in the curriculum area should consider the Honors/AP courses.

Any student wishing to enter the Honors/AP program at WHS must meet the following criteria as applicable:
♦ SOL scaled score of 460 (Pass/Proficient) on related SOL test
♦ Past grades in curriculum area (A or B recommended)
♦ Teacher recommendation
♦ Conference with parents, student, counselor, principal, department head or course instructor

Admission to Honors/AP courses will not be denied; however, parents and students should be aware of the nature of these courses and that inadequate preparation for Honors/AP level course content may limit a student’s success in the course. Students must be prepared to accept rigorous requirements.

Early College Scholars Program

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. To qualify, a student must:
♦ Have a “B” average or better;
♦ Be pursuing an Advanced Studies Diploma; and
♦ Take and complete college-level coursework (ex: A.P./dual enrollment) that will earn at least 15 transferable college credits.

Participating students sign an Early College Scholars Agreement, which is also signed by the student’s parents or guardians, principal, and school counselor. Students who meet the terms of the agreement are recognized as Early College Scholars and receive a certificate of recognition from the Governor.

Online Courses through Virtual Virginia

Online courses anticipated to be available through Virtual Virginia in 2019-20 are listed online at: http://www.virtualvirginia.org/courses/catalog/index.html

Dual Enrollment

Waynesboro High School offers several dual enrollment courses through an agreement with Blue Ridge Community College. Students who take these courses earn both high school and college credit upon successful completion. These courses are aligned with BRCC’s curriculum, and are available to students who are at least 16 years old upon their enrollment. There is a fee associated with dual enrollment classes. The fee varies based on credit hours and the current tuition fee at BRCC but it must be paid by Sept. 1, 2019 for first semester classes and by Feb. 1, 2020 for second semester classes. For 2019-20, dual enrollment courses are English 12 {BRCC 111 & 112} (p.17), Physics (p.36), Computer-Aided Drafting I (p.52), Computer-Aided Drafting II (p.52), and Computer Information Systems (p.54).

The Virginia Community College System reserves the right to change these requirements (see www.brcc.edu for updates on requirements) and has the final say as to whether or not a student is admitted to dual enrollment. Failure to meet the above requirements may mean that the student is not accepted for admittance by the college.
General Information

**English 12 at BRCC** - English (111&112) taken at Blue Ridge Community College to satisfy English 12 requirement must equal 6 credit hours.

**Availability of Classes** – some elective classes may not be offered based on enrollment.

**Verified Unit of Credit** – Credit/unit earned when a student completes a course with a passing grade AND passes the VA SOL end-of-course test.

**GPA (Grade Point Average)** – numerical average of student’s grades.

**Weighted Grade** – grade based on 5.0 scale instead of standard 4.0 scale.

**NCAA Clearinghouse** – A high school course (e.g., Algebra I) taken in the eighth grade may be used if the course is on the student’s high school transcript with a grade and credit and if the course is on the high school’s list of NCAA-approved Core Courses.

**High School Credit for Middle School Courses** – Certain high school-level courses are offered for credit at the middle school. These credits and grades transfer onto the student’s high school transcripts. Parents may elect to have any high school credit taken at middle school omitted from their child’s transcript. The written request must be made prior to the beginning of the ninth grade year.

**Tuition for College-level Classes** – There is a fee associated with dual enrollment classes. The fee varies based on credit hours and the current tuition fee at BRCC but it must be paid by Sept. 1, 2019 for first semester classes and by Feb. 1, 2020 for second semester classes. Waynesboro High School encourages students to take advantage of opportunities for dual enrollment courses in regional programs. Students may also take state-approved courses online. Before enrolling in online courses, students should check with their school counselors to be sure the course credit is transferable.

**Dropping and Adding Courses**

When a student desires to change a course selection after the school year has begun, the procedure below must be followed.

**Classes at Waynesboro High School**

**Schedule and Program Changes**

Most high school classes are scheduled at or near capacity. Schedule changes must be held at a minimum. To maintain a proper class size, requests for teacher changes and/or changes in class time cannot be honored. In the beginning of the school year, the High School Counseling Department will only make the following schedule changes:

♦ Schedule includes course which student has already completed.
♦ Student is scheduled for course where prerequisite(s) have not successfully been completed.
♦ A course, which is required for graduation, is omitted from schedule.

**Withdrawal Policy**

During the first 5 days of each semester, the drop/add process can be completed following a conference with a school counselor. **After the 5 day period students will not be allowed to drop a class.** After that time, if a student is removed from a class, WP (withdraw pass) or WF (withdraw fail) will be indicated on the student’s transcript.

**For college credit courses**

Courses taken for college credit are subject to the policy for dropping class at the college.

♦ If a student is permitted to drop a course, a notation will be made on the student’s permanent record as follows: **Withdraw passing (WP); Withdraw failing (WF)**
  ○ Students dropping college courses are responsible for reimbursing all costs to the school division.

**Virtual Virginia Courses**

A student dropping a course after the deadline established by Virtual Virginia is responsible for reimbursing all costs to the school division.

♦ If a student is permitted to drop a course a notation will be made on the student’s permanent record as follows: **Withdraw passing (WP); Withdraw failing (WF)**

**Independent Study Elective**

The purpose of independent study is to allow students to pursue rigorous courses of study in specific areas of interest that are not offered in the regular school program. Independent study is available for elective credit when the following criteria are met:

♦ The instructor submits a course outline and student contract, to be approved by the Principal and Director of Instruction.
♦ The documentation demonstrates:
  ○ a challenging educational program.
  ○ a strong literacy component, combining reading, writing, and/or speaking requirements in the context of the topic being studied.
  ○ a presentation component, in which the student shares an account of the learning with an audience.
  ○ a legitimate and rigorous assessment plan, which results in a grade for the course.
Determining Valedictorian and Salutatorian

1. The designation of Valedictorian, or top-ranking student, shall be awarded to the graduating senior who has met the following criteria:
   ● Has been enrolled at Waynesboro High School the last four semesters while pursuing an Advanced Studies Diploma
   ● Has obtained the highest, cumulative, weighted G.P.A. He or she must have successfully completed a minimum of two (2) Advanced Placement or Dual Enrollment classes.
   ● Has not violated the Academic Honor Code.
   ● Has completed and received grades for ALL course work eight calendar days prior to graduation.

2. The designation of Salutatorian, or second ranking student, shall be awarded to the graduating senior who has met the following criteria:
   ● Has been enrolled at Waynesboro High School the last four semesters while pursuing an Advanced Studies Diploma
   ● Has obtained the second highest, cumulative, weighted G.P.A. He or she must have successfully completed a minimum of two Advanced Placement or Dual Enrollment classes.
   ● Has not violated the Academic Honor Code.
   ● Has completed and received grades for ALL course work eight calendar days prior to graduation.

3. Valedictorian and Salutatorian are determined by an Honor Graduate Committee comprised of the following: the Director of School Counseling of WHS, the NHS Sponsor of WHS, the Director of Instruction for Waynesboro Public Schools, the Activities Director of WHS and the WHS Principal.

4. In the event of a tie, the G.P.A. of the involved students will be calculated to the nearest 1000th to determine the sole Valedictorian, or multiple Valedictorians, and the sole Salutatorian, or multiple Salutatorians.

5. Any student who changes student cohorts during his/her last four semesters shall not displace the valedictorian of the original cohort. A student who changes cohorts (i.e., graduates early) may be recognized for his/her GPA or academic achievements.

6. The designation of the position of Valedictorian and Salutatorian shall be announced at the Senior Ceremony.

7. All Appeals must be made to the Principal within a week after graduation.

Grade Point Average Calculations

Starting the 2019-20 school year, grade point averages (GPA) will only be calculated for courses that have earned course credit. For example: a year long class that does not receive credit until May will not be calculated into the semester one GPA.
ENGLISH

English education at Waynesboro High School, grades 9-12, is designed to help students:

♦ Develop effective oral and written communication skills.
♦ Acquire an appreciation and understanding for multicultural literary selections and genres.
♦ Explore the increasing value of technology skills (computer/word processing) in written communication.
♦ Develop competencies to successfully compete in a post-secondary academic environment or in a career choice.

During the school year, students’ work and assignments will include grammar and usage, vocabulary building, word study, literature, writing practice, projects, and research procedures.

SAT (Scholastic Aptitude Test) preparation begins in the ninth grade honors and academic classes in writing, vocabulary work, and literature. This preparation continues in the tenth grade while greater emphasis on mastery of SAT skills is incorporated into the eleventh grade curriculum. Advanced placement classes carry a weighted grade for calculating GPA. Students taking AP courses will take the AP exam.

In addition to the English program that parallels Virginia’s Standards of Learning, Waynesboro High School also offers the following related electives: Modern Literature, Journalism I, II, III, IV; Photojournalism I, II; Broadcast Journalism I, II, III; and Creative Writing. English electives do not take the place of required English courses for graduation.

English 9

Introduction to High School English

Prerequisite: Score of 425 and below on Reading SOL
Standards of Learning Addressed: English 9 SOLs
SOL End of Course Test Required: None
Credit: 1 English credit
Course Description: In English 9, students develop their reading comprehension skills using strategies to identify formats, text structures, and main ideas. They apply these skills to literature from a variety of cultures and eras, and to texts from the content areas. Writing includes narrative, literary, expository, and informational forms. Students develop as writers by participating in a process for writing, including prewriting, organizing, composing, revising, editing, and publishing. Students edit writings for correct grammar, capitalization, punctuation, spelling, sentence structure, and paragraphing.

English 9 – Academic

Introduction to High School English

Prerequisite: 1. English 8 with A – B average OR Teacher recommendation
              2. Score of 426 or higher on Reading SOL
Standards of Learning Addressed: All English 9 SOLs
SOL End of Course Test: None
Credit: 1 English credit
Course Description: Students in English 9 Academic apply knowledge of literary terms and forms to their reading and writing and to analyses of literature and other printed materials. Students study and review grammatical conventions through the application of rules for correct use of language, spelling, and mechanics. Writing includes narrative, literary, expository, and informational forms. Students gain independence in the writing process, from prewriting to publishing. Students also develop skills in using print, electronic databases, and online resources to access information.

English 9 – Honors

Introduction to High School English

Prerequisite:  1. English 8 with A – B average
              2. Teacher recommendation
              3. Score of 460 or higher on 8th grade SOL test
Standards of Learning Addressed: All English 9 SOLs
SOL End of Course Test: None
Credit: 1 English credit
Course Description: English 9 Honors begins the preparatory program for the 12th grade Advanced Placement course. Honors students comprehend and analyze literature at a sophisticated level. The writing process, including control of grammatical conventions, is applied in narrative, literary, expository, and informational forms. Writing includes college-style essay assignments and a basic research format. Students also develop skills in using print, electronic databases, and online resources to access information.
English 10
World Literature and Language Study

Prerequisite: English 9

Standards of Learning Addressed: All English 10 SOLs

SOL End of Course Test: None

Credit: 1 English credit

Course Description: In English 10, students read, comprehend, critique, and analyze a variety of literary works. They interpret informational materials, and apply critical reading skills across the content areas. Students analyze and critique peer and professional writing, and apply the writing process (including organization, composition, and editing skills) to their own writing.

English 10 – Academic
World Literature and Language Study

Prerequisite: 1. English 9 - Academic OR English 9 with A – B average
2. Teacher recommendation

Standards of Learning Addressed: All English 10 SOLs

SOL End of Course Test: None

Credit: 1 English credit

Course Description: English 10 Academic emphasizes critique and analysis of major literary genres. Students interpret a variety of informational materials, and apply critical reading skills across the content areas. Students analyze the writing of others, and produce a variety of paragraph types, compositions, and a research paper. Writing in a format appropriate for audience and purpose is emphasized.

English 10 – Honors
World Literature and Language Study

Prerequisite: 1. English 9 - Honors OR English 9 - Academic with an A - B average
2. Teacher recommendation

Standards of Learning Addressed: All English 10 SOLs

SOL End of Course Test: None

Credit: 1 English credit

Course Description: The English 10 Honors course, continuing the preparatory program for the 12th grade Advanced Placement English course, consists of four basic components: literature study, writing and research skills, public speaking, and grammar and vocabulary development. The tenth-grade student will learn to work in the small group setting while learning to critique presentations of themselves and others. Attention is given to the universal messages and themes in world literature through novels. Time will be spent in English 10 Honors analyzing literature and poetry. Within the units of English 10 Honors, the student will practice developing and organizing ideas for critical writing. This course contains a summer reading assignment to be completed prior to the start of the school year.

English 11
American Literature and Research Skills

Prerequisite: English 10

Standards of Learning Addressed: All English 11 SOLs

SOL End of Course Test: Yes

Credit: 1 English credit

Course Description: In English 11, students read a variety of literature and informational texts to illustrate the themes in American literature that are reflective of American history and culture. In addition, students identify the contributions of other cultures to the development of American literature. Reading comprehension skills continue to be developed and applied in the content areas. Students engage in research that requires the selection, evaluation, use, and documentation of a variety of sources. Each student presents a research product that is clearly written and accurately documented.
English 11 – Academic
American Literature and Research Skills

Prerequisite: 1. English 10 - Academic with A-B average
2. English 10 with A-B average OR Teacher recommendation

Standards of Learning Addressed: All English 11 SOLs
SOL End of Course Test: Yes
Credit: 1 English credit

Course Description: This course is an examination of representative figures, movements, methods, modes, topic, and influences in American Literature from Colonial times to the present. Students use the writing process to produce clear and effective writing in a variety of forms, including a documented research paper using MLA format. A satisfactory standard of written and spoken expression is expected in class, and is applied in informative and persuasive oral presentations. Students also critique and assess the effectiveness of persuasive presentations by others.

English 11 - Advanced Placement
American Literature and Rhetoric

Prerequisite: 1. An A in English 10 or a B in English 10 – Honors
2. Teacher recommendation
3. PSAT (verbal) score of no less than 55 (SAT 550)

Standards of Learning Addressed: All English 11 SOLs
SOL End of Course Test: Yes; as well as the AP exam. The AP exam should be paid for by the end of the first semester.
Credit: 1 English credit

Course Description: English 11 AP Language and Composition is designed to reflect a college-level writing course. Students will become skilled readers and writers of prose written in a variety of forms including: expository, analytical, argumentative, personal and reflective. Students will become aware of the writing process focusing on content, purpose and audience. The readings will be focused around American literature both fiction and non-fiction. This course requires the completion of summer reading assignments prior to the start of the school year.

English 12
British Literature and Communication Study

Prerequisite: English 11

Standards of Learning Addressed: All English 12 SOLs
SOL End of Course Test: None
Credit: 1 English credit

Course Description: This course is designed for the 12th grade student who wishes to pursue employment or a technical field after graduation. The curriculum will focus on skills to enhance employability and success in the workplace. In addition the student will learn about the different career choices and learn to prepare a resume and cover letter. The literature portion of the course is a study of British Literature, both classical and contemporary, as it relates to the students of today.

English 12 – Academic
British Literature and Communication Study

Prerequisite: 1. English 11 - Academic with A-B average
2. English 11 with A-B average, OR Teacher recommendation

Standards of Learning Addressed: All English 12 SOLs
SOL End of Course Test: None
Credit: 1 English credit

Course Description: This course is designed for the 12th grade student who wishes to pursue a college education after graduation. The course includes a chronological study of British literature from the fifth through the twentieth century. A variety of literary genres is included, as well as informational and technical texts. Outside readings, projects, and a well-documented research paper using MLA format are required. Students use organizational skills, audience awareness, and appropriate vocabulary and grammar to plan and deliver an effective 5 to 10 minute formal oral presentation.
English 12 - Advanced Placement
British Literature and Communication Study

Prerequisite: 1. English 11 – Advanced Placement, OR English 11 – Academic with A average
2. Teacher recommendation.
3. Score of 460 or higher on SOL test

Standards of Learning Addressed: All English 12 SOLs

SOL End of Course Test: None; Students take the AP exam. The AP exam should be paid for by the end of the first semester.

Credit: 1 English credit

Course Description: English 12AP Literature and Composition is designed to reflect a college-level literature course in which critical reading leads to analytical writing. Students will expand their understanding of literary techniques, elements of style, and critical perspectives while writing to understand, to explain, and to evaluate literature. The readings comprise a survey of imaginative British (and world) literature from the sixteenth to the twenty-first century. The course requires the completion of summer reading assignments prior to the start of the school year.

Dual Enrollment English 12 BRCC 111 & 112
English Composition

Prerequisite: 1. English 11 – Advanced Placement, OR English 11 – Academic with A average
2. Teacher recommendation
3. Score of 460 or higher on SOL test

SOL End of Course Test: None

Credit: 1 Credit @ WHS

Course Description: English 111 - Introduces students to critical thinking and the fundamentals of academic writing. Through the writing process, students refine topics: develop and support ideas; investigate, evaluate, and incorporate appropriate resources; edit for effective style and usage; and determine appropriate approaches for a variety of contexts, audiences, and purposes. Writing activities will include exposition and argumentation with at least one researched essay. English 112 - Continues to develop college writing with increased emphasis on critical essays, argumentation, and research, developing these competencies through the examination of a range of texts about the human experience. Requires students to locate, evaluate, integrate, and document sources and effectively edit for style and usage.

Modern Literature

Prerequisite: Score 401-499 on Reading SOL; Successful completion of 11th grade English

Standards of Learning Addressed: various English 11 & 12 SOLs

SOL End of Course Test: None

Credit: 1 elective credit

Course Description: This course focuses on self-selected texts to guide students in building college and career readiness skills. While this class relies heavily on reading, it also incorporates writing, discussion and project-based learning to develop these skills. Students will investigate multiple genres of literature, and be expected to thematically connect these to "real world" situations. Interested students should have a love for reading and the desire to grow as a student.

Journalism

In Journalism courses, students learn to:

♦ Research, write, and edit stories of interest.
♦ Practice the daily routine of newspaper publishing.
♦ Demonstrate proficiency in writing narrative and expository prose.
♦ Master grammatical usage and mechanics in writing.
♦ Work in groups and individually to produce a newspaper.
♦ Understand the importance of getting organized, meeting deadlines, and showing individual responsibility.

Journalism I

Prerequisite: B average in English OR Teacher recommendation

Standards of Learning Addressed: All SOLs for writing & research in grades 9–12

SOL End of Course Test: None

Credit: 1 fine arts or CTE credit

Course Description: One of our most important projects in this class is to publish the school newspaper for the school community. Through the process of that project, students will study and practice basic skills in interviewing, writing and editing, graphic design, advertising (including sales), news photography and technology. The course also includes a focus on the ethics of journalism, First Amendment rights and responsibilities, and current events.
Journalism II

Prerequisite: C average or better in Journalism I
Standards of Learning Addressed: All SOLs for writing & research in grades 9–12
SOL End of Course Test: None
Credit: 1 fine arts or CTE credit
Course Description: As with Journalism I, one of our most important projects in this class is to publish the school newspaper for the school community. Students in Journalism II will continue to work on the skills introduced in Journalism I, but will be expected to improve and fine-tune those skills. Students in this class will focus more on developing leadership and thinking skills such as organization, planning and evaluation. Attention to ethics and current events will continue; the class will also include the history of journalism in this country and career possibilities in this field.

Journalism III

Prerequisite: C or better average in Journalism II
Standards of Learning Addressed: All SOLs for writing & research in grades 9–12
SOL End of Course Test: None
Credit: 1 fine arts or CTE credit
Course Description: As with Journalism I and II, one of our most important projects in this class is to publish the school newspaper for the school community. Students in Journalism III will continue to work on the skills introduced in previous levels of this course, but will be expected to develop those skills even further. Students in this class will be expected to hold leadership roles, including help in organizing, planning, editing, and evaluating the work of other students. Focus on ethics and current events will continue; the class will also include more attention to and experimentation with different writing styles appropriate to journalism.

Journalism IV

Prerequisite: C average or better in Journalism II
Standards of Learning Addressed: All SOLs for writing and research in grades 9–12
SOL End of Course Test: None
Credit: 1 fine arts or CTE credit
Course Description: As the prerequisite levels of Journalism, one of our most important projects in this class is to publish the school newspaper for the school community. Students in Journalism IV will continue to work on the skills introduced in previous levels of this course, but will be expected to develop those skills even further. These students should be skilled at evaluating their own writing and design as well as teaching other students these skills and critiquing the work of those students. Journalism IV students will again be expected to hold leadership roles, including help in organizing, planning, editing, and evaluating the work of other students. Focus on ethics and current events will continue; the class will also include more attention to and experimentation with different writing styles appropriate to journalism.

Photojournalism I, II & III

Prerequisite: Written consent from Instructor
Standards of Learning Addressed: SOLs for writing and research in grades 10–12
SOL End of Course Test: None
Credit: 1 fine arts or CTE credit
Course Description: Photojournalism will cover the concepts of journalism including reporting, writing, interviewing, photography and layout design. Students will advertise, write, design, promote, sell, and edit the Skyline Yearbook under the direction and supervision of the instructor. Attendance is mandatory since deadlines are top priority. Students will be expected to work after school to meet deadlines.

Broadcast Journalism

In Broadcast Journalism courses, students learn to:
- Research, write, and edit stories of interest
- Work in groups and individually to produce videos to be used on giantword.com
- Conduct interviews
- Understand the importance of getting organized, meeting deadlines, and showing individual responsibility.
Broadcast Journalism I
Prerequisites: B average in English OR Teacher recommendation
Standards of Learning Addressed: All SOLs for writing and research in grades 9-12
SOL End of Course Test: None
Credit: 1 fine arts or CTE credit
Course Description: The main goal of this class is to create video news stories that cover the events in WHS and the surrounding area. The class will also maintain the Giantword.com news page. The course also includes a focus on the ethics of journalism and current events. Students in all Broadcast Journalism classes will learn to storyboard, film, and edit video.

Broadcast Journalism II
Prerequisites: C average or better in Broadcast Journalism I
Standards of Learning Addressed: All SOLs for writing and research in grades 9-12
SOL End of Course Test: None
Credit: 1 fine arts or CTE credit
Course Description: As with Broadcast Journalism I, the main goal of this class is to create video news stories that cover the events in WHS and the surrounding area. Students in Broadcast Journalism II will continue to work on the skills introduced in Broadcast Journalism I, but will be expected to improve and fine-tune those skills. Students in this class will work as mentors to the beginning students.

Broadcast Journalism III
Prerequisites: C average or better in Broadcast Journalism II
Standards of Learning Addressed: All SOLs for writing and research in grades 9-12
SOL End of Course Test: None
Credit: 1 fine arts or CTE credit
Course Description: As with Broadcast Journalism I and II, the main goal of this class is to create video news stories that cover the events in WHS and the surrounding area. Students in Broadcast Journalism III students are expected to be self-starters that are an example for the other students. Students in this class will also work to provide ideas and guidance for the other two classes.

Broadcast Journalism IV
Prerequisites: C average or better in Broadcast Journalism III
Standards of Learning Addressed: All SOLs for writing and research in grades 9-12
SOL End of Course Test: None
Credit: 1 fine arts or CTE credit
Course Description: Students in this class are expected to be self-starters that are an example for other students. Students in this class will also work to provide ideas and guidance for the other classes.

Creative Writing
Prerequisites: B average or better in most recent English course completed
Standards of Learning Addressed: All SOLs for writing and research in grades 9-12
SOL End of Course Test: None
Credit: 1 elective credit
Course Description: This course is designed for the student who both enjoys writing, and wishes to increase his or her writing ability in different genres. For each genre (including short stories, various kinds of poetry, editorials/op-ed writing, novel [chapters], and film scripts/plays) students will investigate high quality samples of writing, identify qualities which make them high quality, and apply this knowledge to their own writing efforts. The processes of brainstorming, drafting, and rewriting will be done in the format of a writer’s workshop, with peer sharing, suggestions, and feedback being at least as important in the writing process as feedback from the teacher. The goal of this class will be to foster a love of the creative writing process while increasing, through practice, skills in that process.
Creative Writing II

**Prerequisites:** B or better in Creative Writing 1, or completion of Creative Writing I with that teacher’s recommendation for this class.

**Standards of Learning Addressed:** All SOLs for writing and research in grades 9-12.

**SOL End of Course Test:** None

**Credit:** 1 elective credit

**Course Description:** This course is designed for the student who has successfully completed Creative Writing 1, and wishes to continue to develop his or her skills in this discipline. Students will attempt more challenging and involved genres in prose such as outlining a novel and developing and staging a short play. In poetry, more structured poetic methods will be studied and crafted, and each student will embark on a poetry project of his or her own design. Additionally, current web-based alternative genres such as fan fiction will be investigated and created. The processes of brainstorming, drafting, and rewriting will be done in the format of a writer’s workshop, with peer sharing, suggestions, and feedback being at least as important in the writing process as feedback from the teacher, so the ability to work collaboratively in a constructive manner is required. Various methods of publishing will also be discussed and pursued, including an entry into the VHSL Creative Writing contest.

Greco-Roman Mythology

**Prerequisite:** None

**Standards of Learning addressed:** Various SOLs for writing and research in grades 9-12

**Credit:** 1 elective credit

**Course Description:** *Greco-Roman Mythology* class will be taught entirely in English language. It explores the beliefs, cultures, and history of Greco-Roman world in order to gain knowledge beneficial to the academic disciplines of English language and literature, philosophy, art, comparative religion, science, anthropology, archeology, and psychology. In this course students will: Interpret myths for their sociological, philosophical, and historical significance. Identify various universal archetypes, themes, symbols, and motifs found in myths. Survey the major myths of Greek and Roman antiquity, including the appropriate gods, heroes and heroines. Analyze the cultural significance and relevance of important ancient stories (including The Iliad, The Odyssey, The Aeneid). Plus, strengthen their understanding of language since many English words are derived from characters and events found within the myths. Develop a greater knowledge of the world cultures. Improve their communication skills through many classroom discussions and multimedia presentations.
MATHEMATICS

Students with a low average in a math course for the previous year, D- to C-, should pay close attention to the prerequisite(s) for the course they wish to take. These minimum requirements tell you what background knowledge you should have to succeed in the course. If you choose to take a course without having met these prerequisites, you are acknowledging that you are willing to work hard and get extra help outside of class to support the topics being taught in the current course.

Student wishing to take two math courses MUST have a conference with a school counselor, a parent/guardian, and the Math Department Chairperson to discuss options, responsibilities, and consequences. All advanced placement classes carry a weighted grade when calculating GPA.

In addition to the mathematics program that parallels Virginia’s Standards of Learning, Waynesboro High School offers courses such as, Foundations for Algebra and Computer Programming (I-VIII) for elective credit. These electives do not count as mathematics credits for graduation as defined by the Virginia Standards of Learning

Algebra Foundations

Prerequisite: Math 8
Standards of Learning Addressed: Math 8 and Algebra I Standards of Learning
SOL End of Course Test: No
Credit: 1 elective credit
Course Description: Algebra Foundations is reinforces the most critical topics from Math 8 needed for Algebra 1 and introduces selected Algebra 1 topics course. Students will make connections and build relationships between algebra, arithmetic, and geometry. The graphing calculator and its uses are an integral part of the course. Students will acquire an understanding of the following: basic operations with real numbers and monomials; solving linear equations; graphing and slope of linear equations and inequalities; and methods of solving word problems.

Algebra I-Part I

Prerequisite: Math 8
Standards of Learning Addressed: Algebra I Standards of Learning
SOL End of Course Test: No
Credit: 1 elective credit
Course Description: Algebra I-Part I is the first half of the Algebra I course. Students will make connections and build relationships between algebra, arithmetic, and geometry. The graphing calculator and its uses are an integral part of the course. Students will acquire an understanding of the following: basic operations with real numbers and monomials; solving linear equations; graphing and slope of linear equations and inequalities; methods of solving word problems; and construction and interpretation of box-and-whisker plots.

Algebra I-Part II

Prerequisite: Algebra I-Part I
Standards of Learning Addressed: Algebra I Standards of Learning
SOL End of Course Test: Yes
Credit: 1 mathematics credit
Course Description: Algebra I-Part II is the second half of the Algebra I course. Students will be required to use Algebra as a tool for representing and solving a variety of practical problems. Tables and graphs will be used to interpret algebraic expressions, equations, and inequalities. All areas covered in Algebra I-Part I will be reviewed as well as the uses and techniques of the graphing calculator. Students will acquire an understanding of the following: operations with real numbers; multiplying and factoring polynomials; division of polynomials; laws of exponents; solving systems of equations and inequalities; solving quadratic equations by factoring and the quadratic formula; and graphing and finding the equations of linear models.
Algebra I

Prerequisite: Math 8, passed Math 8 SOL test
Standards of Learning Addressed: Algebra I Standards of Learning
SOL End of Course Test: Yes
Credit: 1 mathematics credit
Course Description: Algebra I is an introduction to the fundamental theory and structure of algebra, i.e. logically approaching problem solving through the use of numbers, variables, and models. Students will acquire an understanding of the following: basic operations with real numbers and monomials; solving, graphing and slope of linear equations and of linear inequalities; methods of solving word problems; construction and interpretation of box-and-whisker plots; operations with polynomials; laws of exponents; solving systems of equations and inequalities; solving quadratic equations by factoring and the quadratic formula; and graphing and finding the equation of linear models.

Geometry-Part I

Prerequisite: Algebra I
Standards of Learning Addressed: Geometry Standards of Learning
SOL End of Course Test: No
Credit: 1 elective credit
Course Description: The study of Geometry develops sound deductive reasoning skills. Through the use of geometric figures, plane and spatial, it emphasizes relationships between similar and congruent geometric figures. Students will acquire an understanding of the following: elementary logic; points, lines, planes, and angles; perpendicular and parallel lines; congruent and similar triangles; right triangles; construction; angle relationships; and applications of the above.

Geometry-Part II

Prerequisite: Geometry-Part I
Standards of Learning Addressed: Geometry Standards of Learning
SOL End of Course Test: Yes
Credit: 1 mathematics credit
Course Description: The study of Geometry develops sound deductive reasoning skills. Through the use of geometric figures, plane and spatial, it emphasizes relationships between similar and congruent geometric figures. Students will acquire an understanding of the following: elementary logic; congruent and similar polygons; circles; quadrilaterals; and applications of the above.

Geometry

Prerequisite: Algebra I
Standards of Learning Addressed: Geometry Standards of Learning
SOL End of Course Test: Yes
Credit: 1 mathematics credit
Course Description: The study of Geometry develops sound deductive reasoning skills. Through the use of geometric figures, plane and spatial, it emphasizes relationships between similar and congruent geometric figures. Students will acquire an understanding of the following: elementary logic; points, lines, planes, and angles; perpendicular and parallel lines; congruent and similar polygons; circles; right triangles; construction; angle relationships; quadrilaterals; and applications of the above.

Algebra, Functions, and Data Analysis

Prerequisite: Algebra I or the equivalent, AND Geometry.
Standards of Learning Addressed: Algebra I, Functions, and Data Analysis Standards of Learning
SOL End of Course Test: No
Credit: 1 mathematics credit
Course Description: Within the context of mathematical modeling and data analysis, students will study functions and their behaviors, systems of inequalities, probability, experimental design and implementation, and analysis of data. Data will be generated by practical applications, arising from science, business, and finance. Students will solve problems that require the formulation of linear, quadratic, exponential, or logarithmic equations or a system of equations. The graphing calculator and/or computer software will be used to assist in modeling and investigation functions and data analysis.

22
Algebra II

Prerequisite: 1. Algebra I or equivalent, AND Geometry  
2. Passed Algebra I AND Geometry SOL tests  
3. Algebra, Functions, and Data Analysis recommended

Standards of Learning Addressed: Algebra II Standards of Learning

SOL End-of-Course Test: Yes

Credit: 1 mathematics credit

Course Description: Algebra II is an advanced course of study focusing on the use of algebraic skills and concepts and includes introduction to basic trigonometric functions. Students will acquire an understanding of the following: equations and inequalities; linear programming; functions and graphs; polynomial functions; rational expressions; quadratic functions; linear regressions and lines of best fit and statistics. Students are expected to pass the Algebra II Standards of Learning End of Course test.

Algebra II/ Trigonometry

Prerequisites: 1. Pass Algebra 1 AND Geometry with a final grade of B or higher  
2. Score of 460 or higher on Algebra I AND Geometry SOL tests  
3. Teacher recommendation

Standards of Learning Addressed: Algebra II & Trigonometry Standards of Learning

SOL End of Course Test: Yes

Credit: 1 mathematics credit

Course Description: Algebra II / Trigonometry is an advanced course of study focusing on the use of algebraic skills and concepts and introducing trigonometric functions and their applications, including the unit circle. This course is designed to prepare a student for Pre-Calculus. Students will acquire an understanding of the following: equations and inequalities; linear programming; functions and graphs; polynomial functions; matrices; rational expressions; quadratic functions; linear regressions and lines of best fit; statistics; basic trigonometric definitions, unit circle, laws of trig, and applications of same; and conic sections. Students are expected to pass the Algebra II Standards of Learning End of Course test.

Advanced Mathematics/Algebra III

Prerequisite: 1. Algebra I, Geometry, AND Algebra II;  
2. Junior or Senior

Standards of Learning Addressed: Algebra II Standards of Learning

SOL End-of-Course Test: None

Credit: 1 mathematics credit

Course Description: This course would strengthen algebra skills for the student who has struggled in math and wishes to pursue higher mathematics, either in preparation for college or the SAT. It will focus on the Alg. II standards with a concentration on problem solving skills. The inclusion of basic trigonometry should give the student a foundation for Pre-Calculus.

Introduction to Discrete Mathematics

Prerequisite: 1. Algebra I, Geometry, AND Algebra II;  
2. Junior or Senior

Standards of Learning Addressed: Algebra II Standards of Learning

SOL End-of-Course Test: None

Credit: 1 mathematics credit

Course Description: Introduction to Discrete Mathematics applies many of the topics and thought processes of Geometry and Algebra 2 to the ‘real world.’ Students will acquire a basic understanding of topics such as cryptography, election theory, property division, probability, and scheduling. The graphing calculator and its uses are an integral part of the course; in addition, students will read and summarize articles and work on both individual and group projects.
Pre-Calculus

Prerequisite: Student must have passed Algebra II or Algebra II /Trigonometry and must have passed the Algebra II SOL.

Standards of Learning Addressed: Pre-Calculus Standards of Learning

Sol End of Course Test: None

Credit: 1 mathematics credit

Course Description: Pre-Calculus is a rigorous course of study offered for students preparing for the study of calculus. It is designed to introduce the student to connections between the algebraic concepts mastered in Algebra II and advanced graphing procedures involving curved lines. Cartesian coordinates and polar coordinates will be explored as models for problem solving. Students will acquire an understanding of the following: families of functions, inverse, and asymptotes; polynomial and rational functions; systems of equations and inequalities; solving of radical, absolute, rational, quadratic, and other types of equations and inequalities; matrices; logarithmic and exponential functions; polar coordinates; and trigonometry.

Honors Pre-Calculus

Prerequisite: Algebra II Students must pass Algebra I, Geometry, and Algebra II or the equivalent AND must be recommended for this course based on prior success and their score on the placement test.

Standards of Learning Addressed: Pre-Calculus Standards of Learning

SOL End of Course Test: None

Credit: 1 mathematics credit. This is a weighted WHS grade.

Course Description: Presents college algebra, analytic geometry, trigonometry, and algebraic, exponential, and logarithmic functions. This course is rigorous and is designed to introduce the student to mathematical connections found in the study of calculus.

Linear Algebra

Prerequisite: Pre-calculus or the equivalent.

Standards of Learning Addressed: Linear Algebra

SOL End of Course Test: No

Credit: 1 mathematics credit

Course Description: Linear Algebra courses include a study of matrices, vectors, tensors, and linear transformations and are typically intended for students who have attained pre-calculus objectives.

Calculus

Prerequisite: Pass Pre-Calculus or Dual Enrollment Pre-Calculus.

Standards of Learning Addressed: AP Calculus Standards of Learning

SOL End of Course Test: None

Credit: 1 mathematics credit

Course Description: Course content is determined by VA Standards of Learning for Advanced Placement Calculus. Calculus is offered to students interested in the study of advanced mathematics and for those wishing to pursue careers in scientific or business fields or planning to continue their education beyond the secondary level. Students will acquire an understanding of the following: limits and derivatives; applications of limits and derivatives; Fundamental Theorem of Calculus; and introduction to integral functions and their uses.

AP Calculus AB

Prerequisite: Pass Pre-Calculus, Honors Pre-Calculus, or equivalent.

Standards of Learning Addressed: AP Calculus Standards of Learning

SOL End of Course Test: None

Credit: 1 mathematics credit

Course Description: Students will gain an understanding of the foundations of calculus including limits, derivatives, integration, and introductory differential equations. Students will apply these techniques to a variety of real world situations. Students will use graphing calculators to represent functions to determine end behavior and other behavior as well as compute numerical approximations to solutions of systems of equations, rates of change, areas under/between curves and other aspects of relevant topics. Students should expect to work independently as well as in groups and be prepared to present to the instructor and peers explanations of techniques, applications, results and interpretations of concepts addressed in the course.
AP Calculus BC

Prerequisite: Calculus or AP Calculus
 Standards of Learning Addressed: AP Calculus Standards of Learning
 SOL End of Course Test: None
 Credit: 1 mathematics credit. AP Calculus BC earns one weighted high school credit.
 Course Description: Students will gain an understanding of the foundations of calculus including limits, derivatives, integration, and introductory differential equations. Students will apply these techniques to a variety of real world situations. Students will use graphing calculators to represent functions to determine end behavior and other behavior as well as compute numerical approximations to solutions of systems of equations, rates of change, areas under/between curves, differential equations, and infinite sequences and series as well as other aspects of other relevant topics. Students should expect to work independently as well as in groups and be prepared to present to the instructor and peers explanations of techniques, applications, results and interpretations of concepts addressed in the course.

Differential Calculus

Prerequisite: AP Calculus BC or Multivariate Calculus or the equivalent.
 Standards of Learning Addressed: Differential Geometry
 SOL End of Course Test: No
 Credit: 1 mathematics credit
 Course Description: Differential Calculus courses include the study of elementary differential equations including first- and higher-order differential equations, partial differential equations, linear equations, systems of linear equations, transformations, series solutions, numerical methods, boundary value problems, and existence theorems.

Computer Math

Prerequisite: Algebra I Geometry
 Standards of Learning Addressed:
 SOL End of Course Test: No
 Credit: 1 mathematics credit
 Course Description: This course is intended to provide students with experiences in using computer programming techniques and skills to solve problems that will be set up as mathematical models. Strategies will include defining the problem; developing, refining, and implementing a plan; and testing and revising the solution. Programming, ranging from simple programs involving only a few lines to complex programs involving subprograms, will be part of this course. Course content includes programming a graphing calculator and/or scripting a problem solution in a database or spreadsheet. As students develop and refine skills in logic, organization, and precise expression, they will apply those skills to enhance learning in all disciplines.

Probability and Statistics

Prerequisite: Algebra II
 Standards of Learning Addressed: Probability & Statistics Standards of Learning
 SOL End of Course Test: None; students can take the AP Statistics exam. AP exam should be paid for by the end of the 1st semester.
 Credit: 1 mathematics credit
 Course Description: Probability and Statistics is an advanced level math. Probability/Statistics is a study of the collection, organization, and interpretation of data and its presentation in a concise and valid format. Students will acquire an understanding of the following: foundation of counting techniques; measures of probability; permutations and combinations; and elementary statistical analysis. This course is not offered as advanced placement but students may elect to take the AP Statistics Tests.

AP Statistics

Prerequisite: Algebra II (pre-Calculus recommended)
 Standards of Learning Addressed: Probability & Statistics SOLs
 SOL End of Course Test: None
 Credit: 1 mathematics credit. This is a weighted WHS grade.
 Course Description: Presents elementary statistical methods and concepts including descriptive statistics, estimation, hypothesis testing, linear regression, and categorical data analysis.
AP Computer Science Principles

Prerequisite: Algebra II
Standards of Learning Addressed: AP Computer Science Standards
SOL End of Course Test: None
Credit: 1 mathematics credit. This is a weighted WHS grade.
Course Description: AP Computer Science Principles is an advanced level mathematics course. Students will be introduced to the central concepts of computer science through a variety of hands-on, laboratory based activities.

AP Computer Science A

Prerequisite: Algebra II (pre-Calculus recommended), Computer Programming III or equivalent
Standards of Learning Addressed: AP Computer Science Standards
SOL End of Course Test: None
Credit: 1 mathematics credit. This is a weighted WHS grade.
Course Description: AP Computer Science A is an advanced level mathematics course. Students will build upon past computer programming experiences and develop a deeper understanding of object-oriented programming using Java.

Introduction to Computer Science I

Prerequisite: Algebra I
Standards of Learning Addressed: Computer Mathematics and Technology
SOL End of Course Test: None
Credit: 1 elective credit
Course Description: Computer Programming I is available to any student who has an interest in pursuing technology, especially computer usage and programming (Java). Course content is rigorous and demands a full understanding of variables and algebraic manipulation of formulas. Parental permission is required to use the Internet. Students will acquire an understanding of the following: Computer literacy, Historical development of computers, Basic programming skills, Programming of Java, Problem solving involving programming. Parental permission to use the Internet is required.

Introduction to Computer Science II

Prerequisite: Computer Programming I
Standards of Learning Addressed: Computer Mathematics and Technology
SOL End of Course Test: None
Credit: 1 elective credit
Course Description: Enrollment in Computer Programming II is available to any student who has completed the prerequisites and is interested in a broad range of applications of the principles of computer usage. Students will be introduced to object oriented programming using Java. Emphasis will be placed on cross-platform application of information. Students will gain an understanding of the fundamentals of Object Oriented Programming. Parental permission to use the Internet is required.

Introduction to Computer Science III

Prerequisite: Computer Programming II
Standards of Learning Addressed: Computer Mathematics and Technology
SOL End of Course Test: None
Credit: 1 elective credit
Course Description: Enrollment in Computer Programming III is available to any student who has completed the prerequisites and is interested in a broad range of applications of the principles of computer usage. With teacher approval, students will develop and implement their own project based learning plan. Parental permission to use the Internet is required.

Introduction to Computer Science IV

Prerequisite: Computer Programming III
Standards of Learning Addressed: Computer Mathematics and Technology
SOL End of Course Test: None
Credit: 1 elective credit
Course Description: Enrollment in Computer Programming IV is available to any student who has completed the prerequisites and is interested in a broad range of applications of the principles of computer usage. With teacher approval, students will develop and implement their own project based learning plan. Parental permission to use the Internet is required.
Introduction to Computer Science V

**Prerequisite:** Computer Programming IV

**Standards of Learning Addressed:** Computer Mathematics and Technology

**SOL End of Course Test:** None

**Credit:** 1 elective credit

**Course Description:** Computer Programming V is available to any student who has completed the prerequisites and is interested in a broad range of applications of the principles of computer usage. With teacher approval, students will develop and implement their own project based learning plan. Parental permission to use the Internet is required.

Introduction to Computer Science VI

**Prerequisite:** Computer Programming V

**Standards of Learning Addressed:** Computer Mathematics and Technology

**SOL End of Course Test:** None

**Credit:** 1 elective credit

**Course Description:** Computer Programming VI is available to any student who has completed the prerequisites and is interested in a broad range of applications of the principles of computer usage. With teacher approval, students will develop and implement their own project based learning plan. Parental permission to use the Internet is required.

Introduction to Computer Science VII

**Prerequisite:** Computer Programming VI

**Standards of Learning Addressed:** Computer Mathematics and Technology

**SOL End of Course Test:** None

**Credit:** 1 elective credit

**Course Description:** Computer Programming VII is available to any student who has completed the prerequisites and is interested in a broad range of applications of the principles of computer usage. With teacher approval, students will develop and implement their own project based learning plan. Parental permission to use the Internet is required.

Introduction to Computer Science VIII

**Prerequisite:** Computer Programming VII

**Standards of Learning Addressed:** Computer Mathematics and Technology

**SOL End of Course Test:** None

**Credit:** 1 elective credit

**Course Description:** Enrollment in Computer Programming VIII is available to any student who has completed the prerequisites and is interested in a broad range of applications of the principles of computer usage. With teacher approval, students will develop and implement their own project based learning plan. Parental permission to use the Internet is required.
HISTORY AND SOCIAL SCIENCES

History and Social Sciences education at Waynesboro High School, grades 9-12, is primarily designed to:

♦ Develop students’ historical knowledge and geographical skills that enable students to place in perspective the people, ideas, places and events that have shaped our world and our nation.

♦ Enable students to understand the basic values, principles, and operations of Virginia and United States governments and prepare students for informed and responsible citizenship.

♦ Develop students’ skills in discussion, working cooperatively, analytical thought and writing, cause and effect, and social awareness.

In addition to the Waynesboro High School History and Social Sciences program that parallels the Virginia Standards of Learning, advanced placement courses are offered in U.S. History and United States Government & Politics. Students taking AP courses will take the AP exam. See a school counselor for financial aid information. In addition, the African American History course is offered as an elective course; this course does not count as history and social science credit for graduation as defined by the Virginia Standards of Learning.

World Geography

Prerequisite: Grade 8 Social Studies
Standards of Learning Addressed: Geography SOLs
SOL End of Course Test: Yes
Credit: 1 history and social sciences credit
Course Description: The focus of this course is the study of the world's peoples, places, and environments using the five basic themes of geography. The course focuses on how geographers describe human society in terms of location, place, environment, and region. Using geographic resources such as maps, globes, charts, statistics, and photos students will employ inquiry, research, and technology skills to ask and answer geographic questions. Particular emphasis is placed on the variety and diversity of human society and ways that the students interact with this society on a daily basis.

World History & Geography I: to 1500 A.D. - Academic

Prerequisite: None
Standards of Learning Addressed: World History & Geography to 1500 A.D. SOLs
SOL End of Course Test: Yes
Credit: 1 history and social sciences credit
Course Description: World History and Geography I requires students to be able to utilize synthesis and analysis skills. Analytic thought will be applied throughout the course. The student will be expected to include independent learning through activities planned outside the regular class setting. Introduction of the research writing process will enable the student to explore the historical development of people and places from ancient times to about 1500 A.D. Emphasis on physical geographical skills will also be applied.

World History & Geography I: to 1500 A.D. - Honors

Prerequisite: 1. A - B average in previous Social Studies course
   2. Teacher recommendation
   3. A score of 460 or higher on SOL test
Standards of Learning Addressed: World History & Geography to 1500 A.D. SOLs
SOL End of Course Test: Yes
Credit: 1 history and social sciences credit
Course Description: This course combines the study of world history from the beginning of civilization to about 1500 A.D. with the study of physical and cultural geography. Particular emphasis will be placed on the way civilizations developed and their respective contributions to science, art, law, social thought and religion. Geographical impacts on historical issues, patterns of life, and technology will also be examined. Students study the origins of much of our heritage using texts, maps, pictures, stories, diagrams, charts, chronological skills, inquiry/research skills and technological skills. This course requires students to be independent learners and stresses complex critical thinking, problem solving, and presentation skills.
**World History & Geography II: 1500 A.D. to Present - Academic**

**Prerequisite:** C or higher in World History & Geography I OR Teacher recommendation

**Standards of Learning Addressed:** World History and Geography 1500 A.D. to Present SOLs

**SOL End of Course Test:** Yes

**Credit:** 1 history and social sciences credit

**Course Description:** This course is designed for students seeking an advanced diploma. In this class students will explore the history and geography from the Renaissance to the present, with emphasis on Western Europe. They will examine scientific and technological revolutions, economic changes, social and political developments, and the connections between these historical issues and events and contemporary issues. In this class, students will work to develop and apply analysis and synthesis skills. The student will be expected to include regular independent learning through activities outside the standard classroom setting. Introduction of the research writing process will enable the student to explore and understand past societies and relate this past with current institutions and events around the world. Students will continue to develop geographical analysis skills.

**World History & Geography II: 1500 A.D. to Present - Honors**

**Prerequisite:**
1. A - B average in World History & Geography to 1500 A.D.
2. Teacher recommendation
3. A score of 460 or higher on World History I SOL test

**Standards of Learning Addressed:** World History and Geography 1500 A.D. to Present SOLs

**SOL End of Course Test:** Yes

**Credit:** 1 history and social sciences credit

**Course Description:** In this class students will regularly apply higher level thinking skills in their examination and analysis of world history from the Renaissance to the present. Study will strike a balance between examining the broad themes of history and probing specific historic events, ideas, issues, persons, and documents. The class places strong emphasis on writing skills, deep analysis, chronological thinking, research skills, and independent work.

**United States/Virginia History - Academic**

**Prerequisite:** None

**Standards of Learning Addressed:** United States History SOLs

**SOL End of Course Test:** Yes

**Credit:** 1 history and social sciences credit

**Course Description:** United States History stresses complex critical thinking, problem solving, and presentation skills. Many activities will require students to be independent learners. A significant amount of time will be needed from the student outside of class in order to complete a variety of upper level learning activities. Students are expected to display and refine their research writing skills.

**United States/Virginia History - Advanced Placement**

**Prerequisite:**
1. A-B average in World History & Geography II 1500 to Present
2. Teacher recommendation
3. A score of 460 or higher on World History II SOL test

**Standards of Learning Addressed:** United States History SOLs

**SOL End of Course Test:** U.S. History SOL test and AP U.S. History Exam. The AP exam should be paid for by the end of the first semester.

**Credit:** 1 history and social sciences credit

**Course Description:** AP U.S. History is designed to aid students in earning college credit in American History. Successful completion of this course fulfills the required state unit in U.S. History. The scope of the course is from the first European explorations of the Americas to the present day.

This course includes the units of study required by the AP College Board:

- Political institutions and behavior
- Diplomacy and international relations
- Public policy
- Cultural and intellectual development
- Social and economic change
United States and Virginia Government - Academic

**Prerequisite:** None

**Standards of Learning Addressed:** United States/Virginia Government SOLs

**SOL End of Course Test:** None

**Credit:** 1 history and social sciences credit

**Course Description:** United States and Virginia Government stresses complex critical thinking and problem solving skills. Students will examine the political process through the Constitution and its application to their lives. Classes will work to apply the rule of law to various Supreme Court case studies, participate in class workshops and write on government problems and potential solutions frequently. Students are expected to display and master their research writing skills.

Units of study:
- Political culture and public opinion
- The U.S. and Virginia Constitutions
- The American market system, supply and demand and the role of the government in the economy
- The impact of the general public, political parties, special interest groups and the media on policy decisions
- The structure and operation of U.S. and Virginia governments
- Political and economic systems of other nations in comparison to the U.S., with emphasis on the relationship between economic and political freedoms
- Civil liberties and the First Amendment
- The process of policy-making with emphasis on economics, civil rights and foreign affairs

European History – Advanced Placement

**Prerequisites:** 1. A – B in World History I Honors & English 9 Honors
   2. Teacher Recommendation
   3. A score of 460 or higher on the World History I SOL Test

**Standards of Learning Addressed:** Meets World History II SOL’s

**End of Course Test:** AP European History or World History II SOL

**Credit:** 1 history and social sciences credit or elective credit

**Course Description:** The study of European history since 1450 A.D. introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which they live. Without this knowledge, we would lack the context for understanding the development of contemporary institutions, the role of continuity and change in present-day society and politics, and the evolution of current forms of artistic expression and intellectual discourse. 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. Student work will be required outside of class time.

United States Government and Politics – Advanced Placement

**Prerequisites:** 1. A-B in U.S. History or AP U.S. History
   2. Teacher recommendation
   3. A score of 460 or higher on the U.S. History SOL Test

**Standards of Learning Addressed:** Meets most U.S./ VA Government SOLs

**End of Course Test:** AP U.S. Government & Politics Exam. The AP exam should be paid for by the end of the first semester.

**Credit:** 1 history and social sciences credit

**Course Description:** Advanced Placement (AP) U.S. Government and Politics is designed to provide students with the opportunity to pursue college-level studies and potentially attain college credit while attending the final year of high school. The course will emphasize the political system of the United States, government institutions, and the development of government procedures and policies. Additionally, students will be exposed to the impact of special interest groups, political parties, and public policy on the U.S. government and the citizenry. The course is not a political philosophy or political history course; however, there will be references to each of those topics from time to time. The AP U.S. Government and politics course will use a variety of means to convey the knowledge necessary to succeed on the AP Exam. As such, it will require the student to engage in extensive outside reading and independent research, write numerous essays, and participate qualitatively in seminar discussions. Excellent writing and analysis skills are critical to success in this course. Students without such skills are advised not to attempt this course.

Units of Study:
- The Constitutional Underpinnings: The State, Political Culture, Original Intent of the Framers, Federalism
- Factions, Parties, Society and the Media: Interest Groups, Public Opinion, Political Socialization, the Media, Political Parties
- The Election Process: Campaigns, Nominations and Elections
- The Institutions of Government: Congress, Presidency, Judiciary, The Bureaucracy
- Civil Liberties and Civil Rights: First Amendment Rights, Due Process, Rights to Life, Liberty, and Property, Equal Protection
Latin American History

**Prerequisite:** World History I or World History II

**Standards of Learning Addressed:** VUS.1, VUS.2, VUS.6, VUS.8, VUS.9, VUS.13, VUS.15, WHI.11, WHI.12 WHII.1, WHI.4, WHI.7, WHII.14, WHI.16

**SOL End of Course Test:** No

**Credit:** Elective credit

**Course Description:** This course is designed for students to delve further into Latin American history than they might in World History or US History courses. Some of the topics we will cover are the relationship of the Latin American colonies with Spain, and the economic, political, and social development of Latin American countries, with special emphasis on Mexico and its relationship with the United States. Our study will include a look at customs, language, and law; we will explore the influences and cultural contributions of Latin Americans in the fields of art, music, and literature.

Principles of Psychology

**Prerequisites:** 1. Pass English 11 with an B or higher
                2. Teacher Recommendation

**Standards of Learning Addressed:**

**SOL End of Course Test:** No

**Credit:** Elective credit

**Course Description:** This is a college style course that surveys the basic concepts of psychology. Covers the scientific study of behavior, behavioral research methods and analysis, and theoretical interpretations. Includes topics such as: physiological mechanisms, sensation/perception, motivation, learning, personality, psychopathology, therapy, and social psychology.

Abnormal Psychology

**Prerequisites:** 1. Pass Principles of Psychology
                2. Teacher Recommendation

**Standards of Learning Addressed:**

**SOL End of Course Test:** No

**Credit:** Elective credit

**Course Description:** Explores historical views and current perspectives of abnormal behavior. Emphasizes major diagnostic categories and criteria, individual and social factors of maladaptive behavior, and types of therapy. Includes methods of clinical assessment and research strategies.

DE BRCC Psych 200 - Principles of Psychology

**Pre/Co-requisites:** BRCC English 111

**Standards of Learning Addressed:**

**SOL End of Course Test:** No

**Credit:** Elective credit

**Course Description:** Surveys the basic concepts of psychology. Covers the scientific study of behavior, behavioral research methods and analysis, and theoretical interpretations. Includes topics such as: physiological mechanisms, sensation/perception, motivation, learning, personality, psychopathology, therapy, and social psychology. (3 college credits)

Africana Studies

**Prerequisite:** Passing Grade in World History I or II

**Standards of Learning Addressed:** various US/VA History; World History I; World History II SOLs

**SOL End of Course Test:** No

**Credit:** 1 elective credit

**Course Description:** This course is designed for students to explore African culture and history: past, present, and future. Some of the topics covered will be the geography of the African continent, early African empires, Triangle Trade and slavery, European Scramble for Africa, and African Independence. Africana Studies will also focus on African Americans during Reconstruction, the Jim Crow Era, the Civil Rights Movement, and the present including their influence on international civil rights such as; the anti-apartheid movement in South Africa. Africana Studies will also explore the influences and cultural contributions of the African Diaspora in the fields of music, art, literature, science, and politics through an international lens.
History of American Hip Hop

Prerequisite: Passing Grade in Africana Studies
Standards of Learning Addressed: various US/VA History and US/VA Government
SOL End of Course Test: No
Credit: 1 elective credit

Course Description: This course is designed for students to understand the culture and history of modern Hip Hop from the stages of its earlier founding. It will explore the complexities of both historic and current events. It will also focus on important pioneers of the genre and their major effects on music and culture through the avenues of Hollywood and politics. This course will examine current day Hip Hop music and artists and how genres of music such as Funk, Rock and Roll, Gospel, etc., have made Hip Hop the influential and rich art form that it is today.
LABORATORY SCIENCE

The goal of science education at Waynesboro High School is to develop citizens who are scientifically literate.

♦ Students will acquire an understanding of the following:
♦ Experimental design and the scientific method
♦ Laboratory skills
♦ Use of technology
♦ Applications of science and technology in daily life
♦ Technical writing skills

SOL classes include Earth Science, Biology, Physics, and Chemistry. In addition, the following are examples of the science elective classes that are offered: Anatomy and Physiology, Earth Science II: Astronomy, Biology II: Ecology, Advanced Placement Biology, Advanced Placement Chemistry, and Conceptual Chemistry. Alternatives to animal dissection are offered upon request. Students taking AP courses will take the AP exam. See a school counselor for financial aid information. Advanced Placement Biology and Chemistry will be offered in alternating years.

Earth Science I - Academic

Prerequisite: Grade 8 Science

Standards of Learning Addressed: Earth Science SOLs

SOL End of Course Test: Yes

Credit: 1 science credit

Course Description: Earth Science is designed for all students, whether seeking an Advanced Studies or Standard diploma. This course connects the study of the Earth’s composition, structure, processes, and history; its atmosphere, freshwater, and oceans; and its environment in space. Interpretation of maps, charts, and tables is stressed. This course provides an in-depth study of geology, meteorology, astronomy, and oceanography. Related laboratory investigations are provided.

Earth Science I - Honors

Prerequisite: 1. B or higher in grade 8 science AND a score of 460 or higher on SOL test
2. B or higher in Algebra I AND a score of 460 or higher on SOL test

Standards of Learning Addressed: Earth Science SOLs

SOL End of Course Test: Yes

Credit: 1 science credit

Course Description: The scope of this course will be in the following areas of Earth Science: Geology, Meteorology, Hydrology, Oceanography and Astronomy. Rigorous study of these areas will be conducted. This course is recommended for the academically oriented student. This course should be the first in a four-year science program. Activities will encompass data analysis and interpretation; proper lab conduct inclusive of accurate observations and logical reasoning for phenomenon seen; thinking skills demonstrative of creativity and independence; as well as development of scientific communication skills.

Earth Science II / Astronomy

Prerequisite: Earth Science I, Biology I, and Algebra I

Standards of Learning Addressed: Earth Science SOLs pertaining to Astronomy

SOL End of Course Test: None

Credit: 1 science credit

Course Description: This class will aid in understanding the universe. A college textbook by Pasachoff is used. The course will be adapted to high school, but will provide the knowledge and challenge of college level work. The labs for this course will be Astronomy based with supplemental teachings in Physics.
Earth Science II/ Astronomy II

Prerequisite: Earth Science/Astronomy OR Teacher recommendation

Standards of Learning Addressed: Earth Science SOLs pertaining to Astronomy

SOL End of Course Test: None

Credit: 1 science credit

Course Description: This course is the sequential to Astronomy I. It will be available for Juniors and Seniors who have taken Astronomy I. In Astronomy II we will concentrate on the following areas: Creation of the universe, Comets & Asteroids, Interstellar Matter, Life out there, Evolution of Galaxies, Creation of the Solar System, Solar System, Starlight, Orbits and gravity, Earth, Mercury and the Moon, Venus and Mars, Giant planets, Pluto and ring moons. This class would have several labs using telescopes in class and on the roof if possible. Five labs would involve learning the celestial sky for each season as well as North circumpolar constellations that are out year round.

Earth Science II/ Geology

Prerequisite: Earth Science OR Teacher recommendation

Standards of Learning Addressed: Earth Science SOLs pertaining to Geology

SOL End of Course Test: None

Credit: 1 science credit

Course Description: Course Description: This class will aid in understanding current and past geology of the planet Earth. The course will begin with reviewing the basics of geology including: fossils, minerals, rocks, and plate tectonics. Then the course will cover how the Earth has changed from formation out of a nebula to modern geology. Students will use computer simulations and scientific articles to explore these topics.

Biology I - Academic

Prerequisite: C or higher in Earth Science I or Algebra I OR Teacher recommendation

Standards of Learning Addressed: Biology SOLs

SOL End of Course Test: Yes

Credit: 1 science credit

Course Description: During the year, students will engage in a variety of laboratory and class activities designed to encourage interpretative thinking, accept responsibility for learning, learn how a scientist works, and understand the impact of science on daily life. Appropriate topics will be selected from each of the following: ecology, taxonomy, cytology, anatomy and physiology of plants and animals, genetics, and evolution.

Biology I – Honors

Prerequisites: 1. A-B average in Earth Science I

AND a score of 460 or higher on the Earth Science SOL

2. A-B average in Algebra I AND a score of 400 or higher on the Algebra I SOL

3. Teacher recommendation

Standards of Learning Addressed: Biology SOLs

SOL End of Course Test: Yes

Credit: 1 science credit

Course Description: Biology Honors will provide students with a detailed understanding of living systems. Emphasis will be placed on the skills necessary to examine alternative scientific explanations, actively conduct controlled experiments, analyze and communicate information, and acquire and use scientific literature. Biochemical life processes, cellular organization, mechanisms of inheritance, dynamic relations among organisms and the change in organisms through time will be investigated. Scientific research that validates or challenges ideas is emphasized.
Biology - Advanced Placement

Offered alternate years in conjunction with AP Chemistry
AP Chemistry will be offered during the 2019-2020 school year
AP Biology will be offered during the 2020-2021 school year
AP Chemistry will be offered again during the 2021-2022 school year

Prerequisite: 1. Biology I AND Chemistry I
2. A score of 460 or higher on the Biology I SOL test
3. Teacher recommendation

(AP College Board recommends that a student take Anatomy/Physiology prior to AP Biology.)

Standards of Learning Addressed: Biology SOLs

SOL End of Course Test: None. Students will take the AP exam; the exam should be paid for by the end of the first semester.
Credit: 1 science credit

Course Description: The AP Biology course is designed to be the equivalent of a college introductory biology course. After showing themselves to be qualified on the AP examination, some students, as college freshmen, are permitted to take upper-level courses in biology. Other students may have fulfilled a basic requirement for a laboratory science course.

AP Biology is designed to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology. Topics covered are typical of those covered in a college biology course for majors. Fifty to one hundred pages of college level reading material are required per week.

Biology II / Ecology

Prerequisites: 1. Biology I
2. Algebra I OR Teacher recommendation

Standards of Learning Addressed: None

SOL End of Course Test: None
Credit: 1 science credit

Course Description: Biology II/Ecology will focus on various components of the biosphere and their interactions including water, energy, and ecosystems. Current ecological issues will be researched and discussed. Ancillary activities will include readings, case studies, field studies, and a recycling program.

Physics

Prerequisite: Algebra I AND Earth Science OR Teacher recommendation

Standards of Learning Addressed: Physics SOLs

SOL End of Course Test: None
Credit: 1 science credit

Course Description: A conceptual approach to the understanding of physics and physical systems. The following is a list of the topics explored in Physics through the use of a system of audiovisual presentations, texts, demonstrations, and hands-on laboratories: vector analysis, motion, energy, work, heat, sound, light, electricity and modern physics. Topics from Algebra I and Geometry will be reviewed as necessary to accomplish these objectives.

Physics: B – Mechanics - Advanced Placement

Prerequisite: 1. Teacher Recommendation
2. Recommended Corequisite: Algebra II

(AP College Board recommendation: students planning to specialize in a physical science or in engineering, most colleges require an introductory physics sequence that includes courses equivalent to Physics C as well as either Calculus AB or Calculus BC, but Calculus BC is recommended.)

Standards of Learning Addressed: Physics SOLs

SOL End of Course Test: None. Students will take the AP exam; the exam should be paid for by the end of the first semester.
Credit: 1 science credit

Course Description: AP Physics B - Mechanics is an algebra-based course offered for students interested in advanced studies. Students will acquire an advanced understanding of Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory electrical circuits.
Physics: B – Electricity and Magnetism - Advanced Placement

Prerequisite:  
1. AP Physics B – Mechanics (or equivalent)  
2. Teacher Recommendation  
3. Recommended Corequisite: Pre-Calculus

(AP College Board recommendation: students planning to specialize in a physical science or engineering, most colleges require an introductory physics sequence that includes courses equivalent to Physics C as well as either Calculus AB or Calculus BC, but Calculus BC is recommended.)

Standards of Learning Addressed: Physics SOLs

SOL End of Course Test: None. Students will take the AP exam; the exam should be paid for by the end of the first semester.

Credit: 1 science credit

AP Physics: B Electricity and Magnetism is a weighted class.

Course Description: AP Physics B - Electricity and Magnetism is an algebra-based course offered for students interested in advanced studies. Students will acquire an advanced understanding of fluid mechanics; thermodynamics and gas laws; electrostatics; capacitor circuits; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics.

Physics C – Mechanics - Advanced Placement

Prerequisite:  
1. Pre-Calculus  
2. Teacher Recommendation  
3. Recommended Corequisite: Calculus

(AP College Board recommendation: students planning to specialize in a physical science or in engineering, most colleges require an introductory physics sequence that includes courses equivalent to Physics C as well as either Calculus AB or Calculus BC, but Calculus BC is recommended.)

Standards of Learning Addressed: Physics SOLs

SOL End of Course Test: None. Students will take the AP exam; the exam should be paid for by the end of the first semester.

Credit: 1 science credit

AP Physics 2: B is a weighted class.

Course Description: AP Physics B - Mechanics is an algebra-based course offered for students interested in advanced studies. Students will acquire an advanced understanding of Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory electrical circuits.

Physics C – Electricity and Magnetism - Advanced Placement

Prerequisite:  
1. Pre-Calculus  
2. Teacher Recommendation  
3. Recommended Corequisite: Calculus

(AP College Board recommendation: students planning to specialize in a physical science or in engineering, most colleges require an introductory physics sequence that includes courses equivalent to Physics C as well as either Calculus AB or Calculus BC, but Calculus BC is recommended.)

Standards of Learning Addressed: Physics SOLs

SOL End of Course Test: None. Students will take the AP exam; the exam should be paid for by the end of the first semester.

Credit: 1 science credit

AP Physics C is a weighted class.

Course Description: AP Physics C - Electricity and Magnetism is a calculus-based course offered for students interested in advanced studies. Students will acquire an advanced understanding of fluid mechanics; thermodynamics and gas laws; electrostatics; capacitor circuits; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. Students that have not previously taken or are not currently enrolled in calculus should expect to spend additional time understanding the mathematical concepts involved. Review and supplemental calculus material will be available to all.

Dual Enrollment Physics

BRCC, Physics 100 – Elements of Physics

The Virginia Community College System defines the prerequisites for this course. These prerequisites are subject to change but usually include passing a placement test and the completion of the college application through the school counseling department. Please check www.brcc.edu for current information concerning student requirements for dual enrolled courses.

Prerequisite:  
1. Proficiency with Algebra  
2. Completion and acceptance of application

Standards of Learning Addressed: Physics

SOL End of Course Test: None

Credit: 1 science credit, 4 BRCC credit hours.  
Dual Enrollment Physics is a weighted class.

Course Description: Course content is determined by Blue Ridge Community College. Physics is offered for students interested in advanced studies. Students will acquire an understanding of mechanics, thermodynamics, wave phenomena, electricity and magnetism, and selected topics in modern physics.
Chemistry I - Academic

Prerequisite:  
1. Biology I 
2. C or higher in Algebra I, OR Teacher recommendation

Standards of Learning Addressed: Chemistry SOLs

SOL End of Course Test: Yes

Credit: 1 science credit

Course Description: Chemistry I is a survey course that is guided by the Virginia Standards of Learning. Laboratory activities and exercises using molecular models are emphasized in order to give students some concrete experience to help them understand theoretical and abstract chemical concepts.

Students will acquire an understanding of the following: atomic structure; molecule formation; mole concept; conservation of matter and energy; solution chemistry, including acids and bases; chemical kinetics and equilibrium; and electrochemistry.

Chemistry - Advanced Placement

Offered alternate years in conjunction with AP Chemistry

AP Chemistry will be offered during the 2019-2020 school year

AP Biology will be offered during the 2020-2021 school year

AP Chemistry will be offered again during the 2021-2022 school year

Prerequisite:  
1. Biology I, Chemistry I, and Algebra II/Trig 
2. Teacher recommendation 
3. A score of 460 or higher on the Chemistry I SOL test

Standards of Learning Addressed: Chemistry SOLs

SOL End of Course Test: None; students will take the AP Exam. The AP exam should be paid for by the end of the first semester.

Credit: 1 science credit

AP Chemistry is a weighted class.

Course Description: AP Chemistry is designed to be the equivalent of the general chemistry course usually taken during the first year of college. The AP Course Description published by The College Board determines topics. Assignments and classroom activities will focus on preparing students for the AP exam, given in May. In addition to regularly scheduled class time, students will be expected to spend additional time working on assignments and completing several labs, each of which requires more than 90 minutes.

Anatomy / Physiology

Prerequisite: Biology I AND Chemistry I (Chemistry I can be taken concurrently with Anatomy/Physiology)

Standards of Learning Addressed: None

SOL End of Course Test: None

Credit: 1 elective credit

Course Description: Using a lecture-lab format, this course examines the systems of the human body reviewing the structures (anatomy) of each system and investigating how the structure determines its related function (physiology). Students will review basic organic chemistry and cellular biology in order to understand each system from its organ to molecular level.

Conceptual Chemistry

Prerequisite:  
1. Biology 
2. “C” or better in Algebra I, or teacher recommendation

Standards of Learning Addressed: Most Chemistry Standards of Learning

SOL End of Course Test: None

Credit: 1 elective credit

Course Description: Conceptual Chemistry is an integrated thematic program that teaches chemistry and how it relates to the world around us. Mathematical computations are only introduced where it is necessary to understand and apply knowledge of chemistry. The program is designed to be universally accessible to learners enrolled in a first year high school chemistry curriculum. Laboratory activities and real world examples are emphasized in order to give students some concrete experience to help them understand core chemical concepts. Major themes are used to unify the study of chemistry: energy, macro to submicroscopic, conservation, systems and interactions, and equilibrium and change.

Environmental Science

Prerequisite: None

Standards of Learning Addressed: Foundational Concepts for Environmental Literacy, Responsible Citizenship, and Career Readiness

SOL End of Course Test: None

Credit: 1 elective credit

Course Description: The addition of Environmental Science would provide students not seeking an AP course the opportunity to learn about environmental science and increase their environmental literacy in order to become more informed citizens.
WORLD LANGUAGES

Modern world language learning is a progressive, sequential development of the communication skills: listening, speaking, reading, and writing – with an interrelated emphasis on culture. This emphasis on communication and interpretation ensures that students completing sequential world language programs should be able to interact, within reasonable limits, with the users of the language and understand their culture. Students may elect to begin world language study at any grade level from eight through twelve and are encouraged to complete as many levels as possible. Each successive level of study presupposes the satisfactory completion of the previous one. The way of life, attitudes, and customs of the people whose language is being taught are central to the materials used in the course. The understanding and appreciation of culture pervades the presentation of dialogues, reading exercises, and textbook illustrations as well as the supplementary materials.

To accomplish proficiency, students are encouraged to complete four years of language study. If a student’s schedule permits, two world languages may be studied during the same school year. Students taking AP courses in French, Spanish or Latin will follow Guidelines for Placement of Students in Honors/AP Classes (p. 7-8) and will take the National AP Exam.

American Sign Language I

Prerequisite: None
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: American Sign Language I is an introduction to American Sign Language and Deaf Culture. In this course students will learn ASL vocabulary, commonly used gestures, basic grammar and syntax. Students will also study the different types of sign language, why ASL is considered a Language, aspects of deafness and parts of the ear, as well as various aspects of Deaf culture (including education, beliefs, and community) and Deaf history. Students will communicate in class with ASL, understand some lecture presented in ASL, complete projects about Deaf culture and deaf individuals, and perform stories and songs in ASL. (American Sign Language will meet the Virginia diploma requirements for a foreign language; students would need to determine if the credit meets entry requirements at specific colleges).

American Sign Language II

Prerequisite: Recommended – American Sign Language I
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: This course is a continuation of American Sign Language I and emphasizes refinement of the fundamental comprehension and production skills covered in ASL I, with the acquisition of additional vocabulary and grammatical structure. More in depth use of classifiers and more detailed conversation will also be taught in ASL II. It is designed to build receptive skills, learn to communicate through context, and develop strategies for figuring out meaning and build upon that foundation. American Sign Language II builds upon the understanding of Deaf culture and history established in ASL I. (American Sign Language will meet the Virginia diploma requirements for a foreign language; students would need to determine if the credit meets entry requirements at specific colleges).

American Sign Language III

Prerequisite: Recommended – American Sign Language II
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: This course is a continuation of American Sign Language II. This class will focus on acquiring additional vocabulary and refining grammatical structures such as ASL word order and facial expression. Students will also learn and discuss more about Deaf culture using the target language. Students will problem solve using only ASL and receptive and expressive skills will be refined. Students will explore careers that use ASL. This class will focus on using ASL a visual language and understanding how to “play” within the parameters of the language. Students will create visual ASL stories and poems and watch and interpret native speakers of the language. (American Sign Language will meet the Virginia diploma requirements for a foreign language; students would need to determine if the credit meets entry requirements at specific colleges).
French I
Prerequisite: Recommended – C or higher in English
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: In this course students will learn:
♦ Four skills approach – speaking, listening comprehension, reading and writing
♦ Techniques include: Audio-video-technology; Dialogues, conversational situations, manipulatory drills; Games, pictures songs; Dictation, guided writings (dialogs, letters, simple paragraphs)
♦ Culture integration with the four skills

French II
Prerequisite: Recommended – French I with a C or higher
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: In this course students will learn:
♦ Four skills approach continued
♦ Techniques – same as the previous levels with the following additions: Emphasis on grammar, including understanding parts of speech and sentence structure; More intensive reading, including short stories, poems, simple media articles; Writings become less guided, more original
♦ Cultural integration with the four skills

French III
Prerequisite: Recommended – French II with a C or higher
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: In this course students will learn:
♦ Four skills approach continued
♦ Techniques – same as the previous levels with the following additions: Emphasis on reading, with an analysis and discussion in the target language; Reading include authentic magazine and newspaper articles; Controlled composition begins; Student writings reflect what that can say conversationally
♦ Cultural integration with the four skills

French IV/V
Prerequisite: Recommended – French III with a C or higher for French IV
Recommended – French IV with a B or higher for French V
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit (per level)
Course Description: In this course students will learn:
♦ Four skills approach continued
♦ Techniques – same as previous levels with the following additions: Emphasis on reading includes historical and literary works along with current media; Controlled composition continues with emphasis on both organization of ideas and mechanics; Emphasis on speaking skills includes intonation and authentic speed; Research in target language is introduced
♦ Culture integration with the four skills.

Latin I
Prerequisite: Recommended – C or higher in English
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: In this course students will acquire: Basic rules of Latin grammar; A large working vocabulary; Elements of Roman history, culture, and religion; Connections between Latin and modern language, law, science, and culture.
Latin II

Prerequisite: Recommended – Latin I with a C or higher
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: In this course students will acquire: Additional knowledge of Latin grammatical constructions; An increased vocabulary in English, as well as Latin; A greater appreciation of history and literature as links between student’s own and ancient cultures; Connections between Latin and modern language, law, science, and culture.

Latin III

Prerequisite: Recommended – Latin II with a C or higher
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: In this course students will: Complete the study of Latin grammar and learn various literary devices; Increase Latin vocabulary and thereby expand English vocabulary; Read from the works of Cicero and Ovid

Latin IV (Vergil) (with Advanced Placement option)

Prerequisite: Recommended – Latin III with a C or higher AND Teacher recommendation
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None. Latin IV AP students will take the National AP exam. The AP exam should be paid for by the end of the first semester.
Credit: 1 foreign language credit
Course Description: The Advanced Placement Latin course is offered to eligible students of Latin IV. Since two courses are available for AP credit, the Aeneid and the Latin Literature –Lyric Poets course will be taught in alternate years. Students enrolled in Latin IV-AP will read three books from Virgil’s Aeneid in Latin and the remainder in English, discussing important themes as well as cultural and historical insights. Latin IV-AP is a college level course, and students who register will take the AP Exam. Students who select Latin IV, non-AP, will complete the same course work with a less rigorous evaluation system. They will not receive the weighted grade or be required to take the AP Exam.

Spanish I

Prerequisite: Recommended – C or higher in English
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: In this course students will learn:
♦ Four skills approach – speaking, listening comprehension, reading and writing.
♦ Techniques include: Audio-video-technology; Dialogues, conversational situations, manipulatory drills; Games, pictures songs; Dictation, guided writings (dialogs, letters, simple paragraphs)
♦ Culture integration with the four skills.

Spanish II

Prerequisite: Recommended – Spanish I with a C or higher
Standards of Learning Addressed: Foreign Language SOLs
SOL End of Course Test: None
Credit: 1 foreign language credit
Course Description: In this course students will learn:
♦ Four skills approach continued.
♦ Techniques – same as the previous levels with the following additions: Emphasis on grammar, including understanding parts of speech and sentence structure; More intensive reading, including short stories, poems, simple media articles; Writings become less guided, more original
♦ Culture integration with the four skills.
Spanish III

Prerequisite: Recommended – Spanish II with a C or higher

Standards of Learning Addressed: Foreign Language SOLs

SOL End of Course Test: None

Credit: 1 foreign language credit

Course Description: ♦ Four skills approach continued

♦ Techniques – same as the previous levels with the following additions: Emphasis on reading, with an analysis and discussion in the target language; Reading include authentic magazine and newspaper articles; Controlled composition begins; Student writings reflect what that can say conversationally

♦ Culture integration with the four skills.

Spanish IV/V

Prerequisite: Recommended – Spanish III with a C or higher for Spanish IV
Recommendated – Spanish IV with a B or higher for Spanish V

Standards of Learning Addressed: Foreign Language SOLs

SOL End of Course Test: None

Credit: 1 foreign language credit (per level)

Course Description: ♦ Four skills approach continued.

♦ Techniques – same as previous levels with the following additions: Emphasis on reading includes historical and literary works along with current media; Controlled composition continues with emphasis on both organization of ideas and mechanics; Emphasis on speaking skills includes intonation and authentic speed; Research in target language is introduced

♦ Culture integration with the four skills.

Spanish for Native / Heritage Speakers I

Prerequisite: Proficiency Test / Teacher approval

Standards of Learning Addressed: Foreign Language SOLs

SOL End of Course Test: None

Credit: 1 foreign language credit

Course Description: This course is designed for our native and heritage speakers of Spanish and replaces traditional Spanish course work.

♦ Four skills approach – speaking, listening comprehension, reading and writing.

♦ Techniques include: Emphasis on grammar, including understanding parts of speech and sentence structure; More intensive reading, including short stories, poems, and media articles; Learn controlled composition

♦ Cultural integration within the four skills.

Spanish for Native / Heritage Speakers II

Prerequisite: Spanish for Native/Heritage Speakers I (recommended) OR Proficiency Test/Teacher approval

Standards of Learning Addressed: Foreign Language SOLs

SOL End of Course Test: None

Credit: 1 foreign language credit

Course Description: This advanced course is designed for native speakers who have successfully completed Spanish for the Native Speaker Level I or have been recommended by a Spanish instructor. In the course students will learn:

♦ Four skills approach continued.

♦ Techniques: Emphasis on reading, including historical and literary works and media selections; Continued emphasis on writing and grammar as well as vocabulary development; In-depth study of Hispanic countries and art

♦ Cultural integration within the four skills.

World Cuisine

Prerequisite: None

Standards of Learning Addressed: World Language SOL

SOL End of Course Test: none

Credit: 1 elective credit: not a sequential credit in French, Spanish, Latin or ASL

Description: World Cuisine offers a study in the cultural heritage, local foods, and food preparation techniques that are native to different regions of the world. There will be exploration of customs, local history, geography and samples of multi-cultural feasts. The course is taught in English with an emphasis on project based learning.
HEALTH AND PHYSICAL EDUCATION COURSES

The Health and Physical Education Program at WHS has fitness and wellness as its primary focus. In addition to the courses required for graduation, three elective courses are offered: Weightlifting & Conditioning and Sports Medicine I & II.

Health / Physical Education I

Prerequisite: None
Standards of Learning Addressed: Secondary Health and Physical Education SOLs
SOL End of Course Test: None
Credit: 1 health and physical education credit
Course Description: This course is designed for students to apply current health information towards making healthy decisions. The content focuses on nutrition, health fitness, prevention of drug abuse, caring for self and others, and family life education. Students will also be trained in emergency first aid, cardiopulmonary resuscitation, and the use of automated external defibrillators, including hands-on practice of the skills necessary to perform cardiopulmonary resuscitation. In physical education emphasis is placed on students becoming confident and competent in performing lifetime physical activities and in participating regularly in physical activity. Fitness experiences and individual fitness assessments are integrated throughout the year. Dressing for and participation in P.E. are requirements for this class.

Health / Physical Education II

Prerequisite: Health / Physical Education I
Standards of Learning Addressed: Secondary Health and Physical Education SOLs, Driver Education SOLs
SOL End of Course Test: None
Credit: 1 health and physical education credit
Course Description: This course is designed for students to continue applying current health information towards making healthy decisions. The content focuses on driver education, health fitness, and family life. In physical education emphasis is placed on students’ confidence and competence in lifetime physical activities and on students’ designing, implementing, evaluating and refining personal fitness plans. Dressing for and participating in P. E. are requirements for this class.

Weightlifting and Conditioning

Prerequisite: 1. Completion of Health/Physical Education II OR Teacher recommendation
2. Sophomore, Junior or Senior
Standards of Learning Addressed: None
SOL End of Course Test: None
Credit: 1 elective credit
Course Description: This course deals primarily with weight training, bodybuilding and conditioning. An individual program is developed in cooperation with the various athletic coaches. Members of all athletic teams should consider enrolling in this course, if time is available, as it will aid in developing athletic skills in varsity interscholastic sports. It is hoped that participation in this course will create benefits in students’ performances in the interscholastic sports they are already involved in and also create knowledge and interest in the ways in which weightlifting and conditioning can add to a healthful lifestyle.
FINE ARTS

Visual Arts

Art Education at WHS, grades 9-12, offers art (two-dimensional), craft (three-dimensional), and photography. These courses fill the credit requirement for Fine Arts for graduation and are designed to help students:

♦ Develop creative skill-building activities in research, design, and production of artwork.
♦ Use the history of art to acquire an appreciation for cultures, eras, and artists.
♦ Communicate important ideas about art through oral and written critique.
♦ Participate in art shows through observation and exhibition.
♦ Develop a portfolio and resume necessary for college or career choices in the field of art.

During the school year students in two-dimensional art will develop skills in design, painting, drawing, and graphics, while those in three-dimensional art will study design, ceramics, sculpture, fiber and metalworking. Photography students will learn about black and white photography techniques using a 35mm camera and the darkroom for developing and producing photographic prints. The curriculum explores the use of technology as it relates to the visual arts.

Available to interested students are the National Art Honor Society, the Craft and Photography Guild, and the Art Guild.

Performing Arts

The Theater Program at WHS offers three consecutive Theater courses: Beginning Theater, Intermediate Theater, and Performance Theater. These courses fulfill the credit requirement in the Fine Arts for graduation and are designed to:

♦ Introduce students to the various aspects of Theater including: acting, directing, stage management, costume, set, makeup, and lighting design.
♦ Develop performance skills and stage presence.
♦ Increase student appreciation and understanding of theatrical literature.
♦ Introduce students to the major historic genres of theater.
♦ Develop technical theater skills.

Available to interested students are Virginia Theatrical Association membership and conference, Virginia High School League Conference and the Educational Theater Association.

The Music Program at Waynesboro High School offers a wide range of performing groups such as the Freshtones, the Concert Choir, and the Lyrical Ladies. The instrumental department offers Marching Band, the Jazz Ensemble, several small ensembles as well as a Beginning Band program. These classes are designed to meet Fine Arts graduation requirements and to help students:

♦ Develop a love and appreciation of music and the arts;
♦ Experience self-expression, individual responsibility, self-discipline, and group participation;
♦ Appreciate a variety of musical styles, such as Classical, Romantic, Modern, Folk, and Jazz;
♦ Understand the importance of our musical heritage and its effect on present day culture;
♦ Develop discriminating musical taste through an organized listening program;
♦ Bridge the transition from middle school to the more advanced learning in the high school setting.

During the school year students in band and chorus will learn to sing and play all types of music from around the world. They will be constantly taught, by everyday reinforcement, the music fundamentals that are critical to a good performance. Students will learn proper stage etiquette and how to take care of their voices and instruments as well as a general respect for their fellow musicians and singers.

Available to interested students are District and State events such as All District Band and Choir, All State Band and Choir, Solo and Ensemble Festival as well as opportunities to perform at many local and distant events.

Visual Arts

Art I-IV

Throughout the sequence of art courses, students:

♦ research and create original designs for projects
♦ develop observational skills and draw from life
♦ execute techniques required for the completion of projects
♦ keep a notebook of information and sketches
♦ create thumbnail sketches to compose drawings
♦ follow demonstrated directions and techniques
♦ use vocabulary, tools, and techniques
♦ prepare artwork for formal or competitive display

Each student (Art I-IV) will be charged a $20.00 supplies fee for expendable materials such as drawing pencils, erasers, oil pastels, water paint, colored pencils, etc.
Art I

Prerequisite: None  
Standards of Learning Addressed: Visual Art SOLs  
SOL End of Course Test: None  
Credit: 1 fine arts credit  
Course Description: This is a two-dimensional art course that focuses on drawing, painting, and printmaking. Students will learn vocabulary and design techniques. They will create artwork within the following subject areas: elements of design; drawing from life; still life; portraiture; linoleum print making; abstraction; landscape; and Expressionism. Students will use the following media: pencil, colored pencil; oil pastels; charcoal; paint; cut paper; chalk pastel; marker; and pen and ink. Student work will be evaluated based on personal ability, effort, and on established goals and standards. Students who embrace learning will sharpen their observational skills and their ability to see spatial relationships. This art class provides students with an opportunity to learn how to think originally and creatively, using higher level thinking skills.

Art II

Prerequisite: Art I  
Standards of Learning Addressed: Visual Art SOLs  
SOL End of Course Test: None  
Credit: 1 fine arts credit  
Course Description: This two-dimensional art course focuses on drawing and shading. The artwork created will require more skills and some projects will be more concept-based, requiring creative thinking. Using subject areas and media from Art I, students will increase their competency with techniques, including skill in drawing and shading. Student work will be evaluated based on personal ability, effort, and on established goals and standards. Students who embrace learning will sharpen their observational skills and their ability to see spatial relationships. This art class provides students with an opportunity to learn how to think originally and creatively, using higher level thinking skills.

Art III

Prerequisite: 1. Art II with a grade of A-B  
2. Portfolio review OR Teacher recommendation  
Standards of Learning Addressed: Visual Art SOLs  
SOL End of Course Test: None  
Credit: 1 fine arts credit  
Course Description: This two-dimensional art course focuses on drawing and painting. The artwork created will require more skills and some projects will be more concept-based, requiring higher levels of creative thinking. Students will build on previously learned techniques and use a variety of media to create products requiring more sophisticated skills and expressing more complex concepts.

Art IV

Prerequisite: 1. Art III with a grade of A-B  
2. Portfolio review OR Teacher recommendation  
Standards of Learning Addressed: Visual Art SOLs  
SOL End of Course Test: None  
Credit: 1 fine arts credit  
Course Description: This two-dimensional art course focuses on drawing and painting. Students will be expected to perform at a higher level of competency, demonstrating ability to be independent and disciplined in their work. Students must show excellent skill in drawing and shading. The artwork will require higher levels of skills and reflect more complex concepts and themes. Projects will be increasingly individually based. Students will create work within the following areas: elements of design, still life, portraiture, perspective, abstraction, found object, Abstract Expressionism, Expressionism. Students will use media introduced in earlier courses, as well as relief with plaster and paper mâché. Student work will be evaluated based on personal ability, effort, and rigorous performance standards.
Craft I-IV

Throughout this sequence of art courses, students:
♦ research and create original designs for projects
♦ follow demonstrations and exhibit their ability to execute techniques required for the completion of projects
♦ evaluate their work based on a set of standards, requirements, and deadlines for projects
♦ build notebooks/ portfolios of sketches and designs

Each student (Craft I – Craft IV) will pay a craft fee of $20.00. This fee is charged to cover the cost of expendable materials such as professional colored and drawing pencils, under glazes, erasers, specialty glue, etc.

Craft I

**Prerequisite:** None  
**Standards of Learning Addressed:** Visual Art SOLs  
**SOL End of Course Test:** None  
**Credit:** 1 fine arts credit  
**Course Description:** This three-dimensional art course includes the fundamentals of design, drawing, ceramics (pottery), sculpture and construction, textiles, jewelry and mixed media. This course also incorporates the understanding of art history, production, aesthetics and criticism. Students will acquire an understanding of design, ceramics, sculpture and construction, textiles, jewelry making, and mixed media. Each student will keep a sketchbook.

Craft II

**Prerequisite:** Craft I  
**Standards of Learning Addressed:** Visual Art SOLs  
**SOL End of Course Test:** None  
**Credit:** 1 fine arts credit  
**Course Description:** Craft II follows the same basic content as Craft I, but introduces advanced techniques and the use of more challenging materials.

Craft III

**Prerequisite:** Craft II  
**Standards of Learning Addressed:** Visual Art SOLs  
**SOL End of Course Test:** None  
**Credit:** 1 fine arts credit  
**Course Description:** Craft III follows the structure of the prerequisite courses, but promotes individualized personal growth through a program requiring higher creativity and skill development.

Craft IV

**Prerequisite:** Craft III  
**Standards of Learning Addressed:** Visual Art SOLs  
**SOL End of Course Test:** None  
**Credit:** 1 fine arts credit  
**Course Description:** Craft IV follows the structure of the prerequisite courses, but promotes individualized personal growth through a program requiring higher creativity and skill development in preparation for career options and postsecondary studies.
Photography I

Prerequisite: None
Standards of Learning Addressed: Visual Art SOLs
SOL End of Course Test: None
Credit: 1 fine arts credit
Course Description: Students will learn basic darkroom and camera techniques as well as learning how to develop film and pictures. They will explore the art history of photography, the parts of a camera and many other academic areas of photography. The elements and principles of design will be explored through mixed media and practiced in photography. Projects will include Photograms, pinhole cameras, portraits, landscapes, studio photography and many more. Students will also learn how to mount and display their photos and participate in art shows.

Requirement: Each student must have access to or own a 35mm camera with adjustable lens opening and shutter speeds. (If you cannot afford a camera please let the teacher know and she will work with you.) A lab fee of $25.00 will be charged to cover the cost of photographic chemicals and most supplies. Students are responsible for buying photo paper and film.

Photography II

Prerequisite: Photography I
Standards of Learning Addressed: Visual Art SOLs
SOL End of Course Test: None
Credit: 1 fine arts credit
Course Description: Students will build upon the techniques and apply the elements and principles they learned in Photography I. They will try experimental techniques in the darkroom and with picture taking. Students will incorporate technology into their artwork through the use of digital manipulation and digital photography. They will participate in art shows and competitions.

Requirement: Each student must have access to or own a 35mm camera with adjustable lens opening and shutter speeds. (If you cannot afford a camera please let the teacher know and she will work with you.) A lab fee of $25.00 will be charged to cover the cost of photographic chemicals and most supplies. Students are responsible for buying photo paper and film. Optional for Photography II is a digital camera.

Photography III/IV

Prerequisite: Photography II (for Photography III)/Photography III (for Photography IV)
Standards of Learning Addressed: Visual Art SOLs
SOL End of Course Test: None
Credit: 1 fine arts credit
Course Description: Students will build upon previous photography classes and work towards creating a photography portfolio for a university application. They will participate in art shows and competitions. Photography III is designed to achieve personal growth for the advanced student through an individualized course of study. Photography IV is designed to achieve personal growth for the advanced student through an individualized course of study with an emphasis on experimental/creative techniques.

Requirement: Each student must have access to or own a 35mm camera with adjustable lens opening and shutter speeds. (If you cannot afford a camera please let the teacher know and she will work with you.) A lab fee of $25.00 will be charged to cover the cost of photographic chemicals and most supplies. Students are responsible for buying photo paper and film. A digital camera is optional.

Performing Arts

Theater I (Beginning Theater)

Prerequisite: None
Standards of Learning Addressed: Theater Arts and English SOLs
SOL End of Course Test: None
Credit: 1 fine arts credit
Course Description: Beginning Theater is an introductory course in which students will be introduced to the basics of theatrical history, performance, design, and production. Emphasis is placed on teaching stage presence, vocal diction, basic stage movement, audition skills, theater history, and theater etiquette. Students will perform a one-act children’s play as their major project.
Theater II (Intermediate Theater)

Prerequisite:  Theater I  
Standards of Learning Addressed: Theater Arts and English SOLs  
SOL End of Course Test: None  
Credit: 1 fine arts credit  
Course Description: Intermediate Drama is a continuation of the content introduced in Beginning Theater. In addition to polishing performance and audition skills, this course emphasizes the process of theatrical the process of theatrical set, costume, lighting, and makeup design, and gives students the opportunity to direct short plays and scenes or design sets, costumes or lights. Students will produce and perform a one-act play as their major project. Students will also study theater history from Greek Drama to Realist Drama. As part of the course work, students are required to attend performances and critique productions through written analysis. Students are required to complete 10 hours of outside practicum work.

Theater III/IV (Performance Theater)

Prerequisite: Theater II (for Theater III) or Theatre III for Theatre IV  
Standards of Learning Addressed: Theater Arts SOLs  
SOL End of Course Test: None  
Credit: 1 fine arts credit  
Course Description: Performance Drama is the capstone course for Theater Arts at WHS. The emphasis is on honing performance, audition skills and design skills to prepare students for professional, college, or Community Theater. Students will develop a repertoire of classical and modern monologues, perform a full-length play, and compete in one-act-play competitions. Students will also study modern theater history and complete 20 practicum hours outside of class. Students will attend and critique productions through written analysis.

Giant Sensations

Prerequisite: 1. Freshman  
2. Audition in spring of 8th grade school year  
Standards of Learning Addressed: Music SOLs  
SOL End of Course Test: None  
Credit: 1 fine arts credit  
Course Description: The Freshtones is a performance-oriented group, specializing in “show” music that features choreography. This ensemble performs between ten and fifteen times a year. In this course, students develop the same skills involved in vocal performance as the WHS Mixed Chorus members. Members are expected to have shown potential to develop the skills that are associated with more advanced vocal music course work. A performance outfit is required. Financial assistance is available upon request.

Lyrica Bella

Prerequisite: Spring Audition  
Standards of Learning Addressed: Music SOLs  
SOL End of Course Test: None  
Credit: 1 fine arts credit  
Course Description: Lyrica Bella is an auditioned choral ensemble for females in grades 9-12. The purpose of this group is to improve vocal technique including: sight-reading skills, range, diction and intonation. Members are expected to show potential in solo singing, the skills associated with more advanced choral music and a co-operative work ethic. One audition is required. However, any of the following auditions will be considered for entrance into Lyrica Bella: Freshtones Audition- Spring of 8th Grade, Concert Choir Audition- Spring, OR Lyrica Bella Audition- Spring 
A performance outfit is required. Financial assistance is available upon request.

Men In Harmony

Prerequisite: Informal audition for the director  
Standards of Learning Addressed: Advanced Choir Standards of Learning  
SOL End of Course Test: None  
Credit: 1 fine arts credit  
Course Description: Men In Harmony is a choral ensemble open to men in 9 - 12 grades. This group requires an informal audition with the director, but is open to anyone. The group will focus on building the male voice in a men only atmosphere and will be a performance-based ensemble. It is not required to be in another ensemble, but students in other groups are encouraged to add Men In Harmony to their schedule.
**WHS Unified Chorus**

Prerequisite: None

Standards of Learning Addressed: Music SOLs

SOL End of Course Test: None

Credit: 1 fine arts credit

Course Description: WHS Mixed Chorus is open to all levels of singers. The choir is comprised of male and female students in grades 9-12 without audition. This is a performance-based ensemble that places emphasis on proper vocal technique, and the ability to read music. WHS Mixed Choir performs in the fall, winter, and spring concerts at WHS, as well as for community-sponsored events. A performance outfit is required. Financial assistance is available upon request.

**Concert Choir**

Prerequisite: 1. Audition
              2. Sophomore, Junior, or Senior

Standards of Learning Addressed: Music SOLs

SOL End of Course Test: None

Credit: 1 fine arts credit

Course Description: Membership in the Concert Choir is determined by balance of parts and is highly selective as well as elective. The Concert Choir is designed for students of outstanding musical ability and ambition. Members of Concert Choir must fulfill the following requirements in order to remain enrolled:

♦ Attendance at all summer rehearsals and sectionals called by the Director.
♦ At least one voice lesson is required in the summer.
♦ All music must be learned thoroughly.
♦ A good positive attitude and the ability to work with others and the director must be demonstrated.
♦ A formal choir outfit is required for each member. Financial assistance is available upon request.

Concert Choir performs over one hundred selections and about twenty concerts each year. In addition to these performances, the choir participates in district competition each year. Juniors and seniors that make District Chorus will have the opportunity to audition for All-Virginia Chorus. Seniors will have the opportunity to audition for Senior Honors Choir.

**Music Theory - Advanced Placement**

Prerequisite: Teacher Recommendation and Junior or Senior

Standards of Learning Addressed: Music SOLs

SOL End of Course Test: None. Students will take the AP exam; the exam should be paid for by the end of the first semester.

Credit: 1 fine arts credit

Course Description: This course offers students an opportunity to explore music through theoretical analysis, composition and listening, and is aimed at preparing students for musical training at the college level. Students will engage in daily sight singing and ear training as well as theoretical analysis. Students will gain a strong understanding of the specific elements of music. This course allows opportunity for each student to experiment with music technology and the opportunity to implement this technology into his/her own composing and music making. Topics which are covered include: octave identification, music notation, transposition, rhythm, intervals, basic history of Western music, triads and 7th chords, inversions, figured bass, voice leading, cadences, part writing, analysis and composition.

**Beginning Band**

Prerequisite: None

Standards of Learning Addressed: Music SOLs

SOL End of Course Test: None

Credit: 1 fine arts credit

Course Description: Beginning Band is offered to all Waynesboro High School students. This class is for students who have no previous knowledge of a musical instrument, but would like to learn how to play one. For students with no prior band experience, taking this class will allow them to join the concert/marching band the following year.
**Band I**

**Prerequisite:** Beginning Band or 8th grade Band  
**Standards of Learning Addressed:** Music SOLs  
**SOL End of Course Test:** None  
**Credit:** 1 fine arts credit  
**Course Description:** Band I consists of first-year band students. At this level, students will learn the basics of a marching band: proper footing, field maneuvering, horn projection, and carriage. First-year band students are responsible for learning and being able to play four major scales: C, F, Bb, and Eb. Band arrangements are written in parts, with part number one in each section being the most difficult to play and part number four being the easiest. First-year students usually enter the band playing part number four. In part four, the rhythm and note ranges are easier to play. Band I students focus on developing basic marching and playing skills.

**Band II**

**Prerequisite:** Band I  
**Standards of Learning Addressed:** Music SOLs  
**SOL End of Course Test:** None  
**Credit:** 1 fine arts credit  
**Course Description:** Band II consists of second-year band students. At this level, students may be asked to assume some minor leadership duties in the marching band. Students are responsible for learning the chromatic scale along with Ab, Db, and Gb major scales. In all types of music (marching, concert, and jazz) they should be moving up from the fourth parts to third parts where rhythms become more difficult and ranges a little higher. As students improve in sound and counting, they will begin the move from the more supportive role to the melodic leadership role.

**Band III**

**Prerequisite:** Band II OR Teacher recommendation  
**Standards of Learning Addressed:** Music SOLs  
**SOL End of Course Test:** None  
**Credit:** 1 fine arts credit  
**Course Description:** Band III consists of third-year band students. At this level, students will be asked to lead marching squads, as well as some of the maneuvers on the field for halftime shows. They will be rank leaders in parades, and serve as mentors to new students. Students will be responsible for learning the Cb, G, D, and A major scales. Students should be moving from third parts up to second parts in all marching, concert, and jazz music. They are competent and confident in tone, intonation, and sight-reading ability. They should audition for All-District Band. Students should be able to solo in front of the band as well as an audience. Students are expected to take leadership positions in the band.

**Band IV**

**Prerequisite:** Band III  
**Standards of Learning Addressed:** Music SOLs  
**SOL End of Course Test:** None  
**Credit:** 1 fine arts credit  
**Course Description:** Band IV consists of fourth-year band students. At this level, students should be leading the band. They are expected to mentor younger, less experienced students on marching and maneuvering as well as music. They will be squad leaders for field shows and rank leaders for parades. Students at level IV will be responsible for the last four parts in marching, concert, and jazz music. They should qualify for All-District Band. At this level students should be playing most of the solos in instrumental groups. A Level IV student will be field conductor of the band.  
**NOTE:** The instrumental music program at WHS offers a jazz ensemble that rehearses primarily at night and occasionally during the daily band class as the need arises. This group gives between five and twelve concerts per year at various school and community functions. Member selection for this group is by audition only and all who audition must be members of the marching and concert band program. Members of this group usually have four or more years of instrumental music experience.

**Music Appreciation I**

**Prerequisite:** None  
**Standards of Learning Addressed:** Selected Social Studies and Music SOLs  
**SOL End of Course Test:** None  
**Course Description:** This course provides students with an understanding of music and its importance in their lives. Course content focuses on how various styles of music apply musical elements to create an expressive or aesthetic impact.
Music Appreciation II

**Prerequisite:** Music Appreciation I

**Standards of Learning Addressed:** Selected Social Studies and Music SOLs

**SOL End of Course Test:** None

**Course Description:** This course surveys different musical styles and periods with the intent of increasing students’ understanding of music and its importance in relation to the human experience. In this course students will focus on how various styles of music apply musical elements to create an expressive or aesthetic impact.
CAREER AND TECHNICAL EDUCATION

The Career and Technical Education Department for Kate Collins Middle School and Waynesboro High School is focused on providing all students with competent training which will provide them with the basic skills, knowledge, and techniques of their chosen career in order to strengthen their opportunities for lasting and rewarding employment and lifelong learning. Instruction at all levels incorporates and reinforces the Virginia Standards of Learning, and enhances academic instruction.

The Career and Technical Education department at Waynesboro High School offers coursework in three program areas: Technology, Family & Consumer Sciences, Marketing, and Business & Information Technology. A Career and Technical Education diploma seal is awarded to students who complete two CTE classes within the same program area AND receive a B average or better.

Technology Foundations

Prerequisite: None
Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs
SOL End of Course Test: None Credit: 1 CTE credit
Course Description: This is an introductory level course, in which the design concepts discussed are heavily based on problem solving methods, problem resolution, and written analysis.

Technology Transfer

Prerequisite: Technology Foundations
Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs
SOL End of Course Test: None Credit: 1 CTE credit
Course Description: Technology Transfer offers problems of deeper complexity and societal impact, similar concepts to those addressed in Technology Foundation are stressed and reinforced.

Technical Drawing and Design

Prerequisites: 1. Sophomores, Juniors, and Seniors
2. High School level Technology class (waived for Juniors and Seniors with teacher recommendation)
Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs
SOL End of Course Test: None Credit: 1 CTE credit
Course Description: This course is the first of two that provide students with practical application and use of the Autocad Computer Aided design program. This course stresses blueprint reading and machine design drafting projects. Wire frames and 3D modeling techniques are also mastered. Students interested in Engineering, Architecture, or Manufacturing should consider this course.

Architectural Drawing

Prerequisite: Technical Drawing and Design
Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs
SOL End of Course Test: None Credit: 1 CTE credit
Course Description: For students who wish to take their CAD skills further and are also interested in the field of Architecture, advanced CAD and Construction. This course offers students the opportunity to design a house using Autocad software, and then build a 3/4 scale model house of their design. Students will mix and pour concrete, cut and place framing lumber in accordance with their prints utilizing shop power tools. Building codes, lumber loads and Architectural form/function will be discussed in relation to geographic zones.
Manufacturing Systems

Prerequisite: Technology Foundations OR Technology Transfer

Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs

SOL End of Course Test: None

Course Description: This course is a great offering for students who have a desire for enhanced design projects, and group design interaction. Students break into groups and each design machining/tooling to mass-produce a complex item. Leadership skills and cooperative work ethic a must, as all groups must meet and coordinate production assembly. Computer design, research, and a mastery of hand and power tools will be achieved through the completion of the project.

Production Systems

Prerequisite: Technology Foundations OR Technology Transfer

Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs

SOL End of Course Test: None

Course Description: Created for students who have a desire to learn about materials, manufacturing methods and the utilization of creative thought to design and manufacture a product. Creative group interaction is stressed in the design of an efficient manufacturing system. Each group will be responsible for one part of the finished product. Leadership skills and cooperative work ethic are a must. Computer design, research, and a mastery of hand and power tools will be utilized through the completion of a project.

Dual Enrollment Technology Education classes offer a unique opportunity for high school Juniors and Seniors to receive up to 6 college credits from Blue Ridge Community College while attending class at Waynesboro High School.

Dual Enrollment Computer Aided Drafting I

( BRCC course CAD 231 )

Prerequisite: Junior or Senior

Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs

SOL End of Course Test: None

Credit: 1 CTE credit and 3 BRCC credits

Course Description: Teaches computer aided drafting concepts and equipment designed to develop a general understanding of components and operate a typical CAD system. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

Dual Enrollment Computer Aided Drafting II

( BRCC course CAD 232 )

Prerequisite: Junior or Senior; BRCC course CAD 231

Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs

SOL End of Course Test: None

Credit: 1 CTE credit and 3 BRCC credits

Course Description: Enhances the principles learned that are related directly to the field of drafting and design. Gives a more in-depth exposure to detail and working drawings, dimensioning, tolerancing and conventional drafting practices. Teaches CAD modeling, may include parametric modeling. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

Marketing

Principles of/Introduction to: Marketing

Prerequisite: None

Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs

SOL End of Course Test: None

Credit: 1 CTE credit

Course Description: This course introduces the student to Marketing, Business and Economic principles and how they affect their lives. The course will cover marketing of goods, services and ideas in a global economy. Considerable emphasis will be placed on developing communication, interpersonal and employability skills for use in business, marketing and other fields. Students will use technology to achieve the goals of this course. Course content will include: Career Development, Communication skills, Economic and Business process and principles, Human relations in business, Marketing concept & function, Distribution channels, Promotion and promotional mix, Risk Management, Selling process, Internet Marketing, Examine industry, planning, management, finance, technical and production skills, technology, issues of labor, community, health, safety, and environment.
Marketing – Co-op
Prerequisite: None
Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs
SOL End of Course Test: None
Course Description: This course is the same as Marketing 8120 (above), but includes cooperative education where students are required to be employed and work a minimum of 540 hours in a supervised educator/employer program.
Credit: 3 CTE credits

Advanced Marketing
Prerequisite: Marketing
Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs
SOL End of Course Test: None
Course Description: This course provides greater depth to Marketing and Business principles and how they affect the student’s lives and career goals. Considerable emphasis will be placed on the students using PhotoShop, Illustrator and Dreamweaver, and other softwares used extensively in business and marketing careers, to complete projects in a team oriented environment. Students are required to be employed and work a minimum of 540 hours. Students will use technology to achieve the goals of this course. The curriculum is geared to individualized instruction as evidenced by the students’ need, career objectives and/or employment.
Credit: 3 CTE credits

Marketing Management
Prerequisites: Marketing and Advanced Marketing
Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs
SOL End of Course Test: None
Course Description: This course provides a detailed introduction of Marketing and Business Management principles, techniques and skills to students. Considerable emphasis will be placed on the students developing problem solving and management skills in a project environment. Students are required to be employed and work a minimum of 540 hours. The curriculum is geared to individualized instruction as evidenced by the students’ need, career objectives and/or employment.
Credit: 3 CTE credits

Business and Information Technology
Computer Applications
Prerequisite: None
Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs
SOL End of Course Test: None
Course Description: Student develop or review correct keyboarding techniques and gain a basic knowledge of word processing, spreadsheet, database, graphics, and telecommunications applications. Students demonstrate an understanding of computer concepts through application of knowledge. Students learn to use software packages and local and worldwide network communication systems.
Credit: 1 CTE credit

Economics and Personal Finance
Required course beginning with the freshman class of 2010-2011
Prerequisite: Recommended for Juniors and Seniors
Standards of Learning Addressed: Selected Mathematics, History, and Social Science SOLs
SOL End of Course Test: National Financial Literacy Certification
Course Description: Students explore many facets of financial decision-making involved in daily life. Skills in money management, record keeping, and banking are enhanced through the study of basic concepts of economics, insurance, credit, and other related topics. As a year offering the course will also prepare students occupationally to plan, manage, and analyze the financial and monetary aspects and success of business enterprises, banking institutions or other organizations.
Credit: 1 CTE credit
Macroeconomics - Advanced Placement

Prerequisites: 1. A or B in U.S. History Academic, AP U.S. History, Marketing, or Finance
2. Teacher recommendation
3. A score of 460 or higher on the U.S. History SOL Test

Standards of Learning Addressed:
SOL End of Course Test: None. Students will take the AP exam; the exam should be paid for by the end of the first semester.
Credit: 1 CTE credit

Course Description: Advanced Placement (AP) Macroeconomics is designed to provide students with the opportunity to pursue college-level studies and potentially attain college credit while attending the final year of high school. The course will be broken into one semester of Macroeconomics and one semester of Microeconomics. A complete description can be found at: http://apcentral.collegeboard.com/apc/public/repository/ap-economics-course-description.pdf.

Units of study:
I. Basic Economic Concepts
II. Measurement of Economic Performance
III. National Income and Price Determination
IV. Financial Sector
V. Stabilization Policies
VI. Economic Growth
VII. Open Economy: International Trade and Finance

Microeconomics - Advanced Placement

Prerequisites: 1. A or B in U.S. History Academic, AP U.S. History, Marketing, or Finance
2. Teacher recommendation
3. A score of 460 or higher on the U.S. History SOL Test

Standards of Learning Addressed:
SOL End of Course Test: None. Students will take the AP exam; the exam should be paid for by the end of the first semester.
Credit: 1 CTE credit

Course Description: Advanced Placement (AP) Macroeconomics and Microeconomics is designed to provide students with the opportunity to pursue college-level studies and potentially attain college credit while attending the final year of high school. The course will be broken into one semester of Macroeconomics and one semester of Microeconomics. A complete description can be found at: http://apcentral.collegeboard.com/apc/public/repository/ap-economics-course-description.pdf.

Units of study:
I. Basic Economic Concepts
II. The Nature and Functions of Product Markets
III. Factor Markets
IV. Market Failure and the Role of Government

Computer Information Systems

Prerequisite: Computer Applications or with permission of instructor

Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs

SOL End of Course Test: None

Course Description: Computer Information Systems is a one-year course available to all students and strongly recommended for business students. Students apply problem-solving skills to real life situations including word processing, spreadsheet, database, and presentation software, and integrated activities. Students will recognize and understand the uses and value of such software, and also be able to competently use it upon completion of this course. Business students will also proficiently learn to: manage computer systems through Windows operation commands, demonstrate Virginia's Workplace Readiness Skills through course activities, explore computer concepts and ethical technology issues, and develop employability skills.

Dual Enrollment Computer Information Systems

(BRCC Course ITE 119- Information Literacy)

Prerequisite: 1. Computer Applications OR permission of instructor
2. Must be a Junior or Senior

Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs

SOL End of Course Test: None

Course Description: Presents the information literacy core competencies focusing on the use of information technology skills. Skills and knowledge will be developed in database searching, computer applications, information security and privacy, and intellectual property issues. Students master Microsoft Office Suite 2010; Word, Excel, Access, and Powerpoint.

Credit: 1 CTE credit and 3 BRCC elective credits

**Prerequisite:** Computer Applications OR Teacher recommendation  
**Standards of Learning Addressed:** Selected English, Math, History, and Social Studies SOLs  
**SOL End of Course Test:** None  
**Course Description:** Students develop proficiency in creating desktop publications, multimedia presentations/projects, and Web sites using industry standard application software. Students incorporate principles of layout and design in completing publications and projects. Students design portfolios that may include business cards, newsletters, mini-pages, Web pages, multimedia presentations/projects, calendars, and graphics.

**Design, Multimedia, and Web Technologies Advanced II**

**Prerequisite:**  
1. Design, Multimedia, and Web Technologies I  
2. Sophomore, Junior, Senior  
**Standards of Learning Addressed:** Selected English, Math, History, and Social Studies SOLs  
**SOL End of Course Test:** None  
**Course Description:** Students develop advanced skills for creating desktop-published, interactive multimedia, and website projects using industry-standard application software. Students work with sophisticated hardware and software, applying skills to real-world projects. Students identify components of project management and examine Internet technologies relating to networking. Students comply with copyright laws and professional ethics.

**Accounting**

**Prerequisite:** Recommended for Juniors and Seniors  
**Standards of Learning Addressed:** Selected English, Math, History, and Social Studies SOLs  
**SOL End of Course Test:** None  
**Course Description:** Accounting is a one-year course available to all students and strongly recommended for students preparing for a career in business. Students study the basic principles, concepts, and practices of the accounting cycle. Students learn fundamental accounting procedures using a manual and an electronic system. Students will develop proficiency preparing financial reports, such as Balance Sheets, Income Statements, and Trial Balances. Students will also acquire an understanding of the payroll system of a business. Students will also learn how to prepare Federal and State Tax Forms. This class counts towards a Business Certificate offered by the WHS Business Department.

**Advanced Accounting**

**Prerequisite:** Accounting  
**Standards of Learning Addressed:** Selected English, Math, History, and Social Studies SOLs  
**SOL End of Course Test:** None  
**Course Description:** Advanced accounting is a one-year course available to all second year accounting students in the business program. Students gain in-depth knowledge of accounting and techniques used to solve business problems and to make financial decisions. Students use accounting and spreadsheet software to analyze and interpret business applications. Students also develop a proficiency in payroll, inventory, accounts payable, and accounts receivable. Each student will learn the management of financial records through various business activities, partnership and corporate accounting, general ledger, and cost accounting. This class counts towards a Business Certificate offered by the WHS Business Department.  
**Credit:** 1 CTE credit

**Sports Medicine I**

**Prerequisite:** Health/Physical Education II with a grade of B or above OR Teacher recommendation  
**Standards of Learning Addressed:** None  
**SOL End of Course Test:** None  
**Course Description:** Sports Medicine is an introductory class that will introduce the high school student to the field of sports medicine and athletic training. Students study the anatomy and physiology of the skeletal and muscular systems, kinesiology, and CPR, as they relate to the care and prevention of athletic injuries. Students learn and practice taping techniques and emergency medical care for athletes, and investigate and study liability for athletics. Career opportunities related to this field are physical therapist, athletic trainer, physician, exercise physiologist, nurse, physical therapy assistant, physician’s assistant, kinesiologist, emergency medical technician and paramedic.  
**Credits:** 1 CTE credit
**Sports Medicine II**

**Prerequisite:** Sports Medicine I  
**Standards of Learning Addressed:** None  
**SOL End of Course Test:** None  
**Credits:** 1 CTE credit  
**Course Description:** Sports Medicine II will build on concepts learned in Sports Medicine I with a more in-depth focus on the assessment of athletic injuries, emergency procedures, and therapeutic modalities. In addition, students will become more familiar with current issues in the field of Sports Medicine, as well as learn more practical applications for preventing and treating athletic injuries.

**Sports Medicine III**

**Prerequisite:** Sports Medicine I and II  
**Standards of Learning Addressed:** None  
**SOL End of Course Test:** None  
**Credits:** 1 CTE credit  
**Course Description:** An independent study course designed for seniors that have completed Sports Medicine I & II and are planning to pursue the Personal Trainer certification through NASM. The course will provide students with a better understanding of the human body and how it responds to various forms of training.

**Introduction to Nutrition for Health and Medical Sciences**

**Prerequisite:** None  
**Standards of Learning Addressed:** Selected English, Math, History, Science, and Social Studies SOLs  
**SOL End of Course Test:** None  
**Credits:** 1 CTE credit  
**Course Description:** This course is designed to provide an opportunity for students to gain a basic understanding of nutrition. The course will enable students to identify common food sources of nutrients and the purposes of these nutrients in childhood, adolescence, and adulthood. Students will learn to apply principles of nutrition, including current dietary guidelines to his/her lifestyle and future careers.

**Introduction to Health and Medical Sciences**

**Prerequisite:** None  
**Standards of Learning Addressed:** Selected English, Math, History, Science, and Social Studies SOLs  
**SOL End of Course Test:** None  
**Credits:** 1 CTE credit  
**Course Description:** This course introduces the student to a variety of healthcare careers and develops basic skills required in all health and medical sciences. It is designed to help students understand the key elements of the U.S. healthcare system and to learn basic healthcare terminology, anatomy and physiology for each body system, pathologies, diagnostic and clinical procedures, therapeutic interventions, and the fundamentals of traumatic and medical emergency care. Throughout the course, instruction emphasizes safety, cleanliness, asepsis, professionalism, accountability, and efficiency within the healthcare environment. Students also begin gaining job-seeking skills for entry into the health and medical sciences field. In addition, instruction may include the basics of medical laboratory procedures, pharmacology fundamentals, biotechnology concepts, and communication skills essential for providing quality patient care.

**Family and Human Services I**

**Prerequisite:** None  
**Standards of Learning Addressed:** Selected English, Math, History, Science, and Social Studies SOLs  
**SOL End of Course Test:** None  
**Credits:** 1 CTE credit  
**Course Description:** This course introduces students to the provision of human services to people with special needs. Students assess the impact on the family of persons with special needs; examine ethical and professional concerns related to the family and human services field; investigate assisting those with special needs, including caring for aging individuals and providing physical care; learn about the management of the home environment, food management, nutrition, and specialized dietary plans; develop communication skills that are important in the field; and explore family and human services careers. Critical thinking and practical problem solving are emphasized.
Family and Human Services II

Prerequisite: Family and Human Services I  
Standards of Learning Addressed: Selected English, Math, History, Science, and Social Studies SOLs  
SOL End of Course Test: None  
Credits: 1 CTE credit  
Course Description: This course continues to prepare students for the provision of human services to people with special needs. Students gain hands-on experience in the principal activities of the field by assessing the impact on the family of persons with special needs; examining ethical and professional concerns related to the field; assisting those with special needs, including caring for aging individuals and providing physical care; managing the home environment; managing food to meet nutritional needs and specialized dietary constraints; demonstrating communication skills that are important in the field; and seeking employment in the field. Critical thinking and practical problem solving are emphasized.

Opportunities in Hospitality and Tourism

Prerequisite: None  
Standards of Learning Addressed: Selected English, Math, History, Science, and Social Studies SOLs  
SOL End of Course Test: None  
Credits: 1 CTE credit  
Course Description: This course examines the components of the hospitality and tourism industry, including attractions, lodging, transportation, and food and beverage. Other topics include the history, political, social, and cultural impacts hospitality and tourism have had on local, state, and global environments. Students will develop competencies in the areas of communication, customer service, marketing, industry technology, economics, and management functions, and will be provided with opportunities for hands-on, real-world applications. Applying academic skills from other disciplines (e.g., mathematics, science, English, history/social science) is also a part of this course.

Outdoor Recreation Marketing

Prerequisite: None  
Standards of Learning Addressed: Selected English, Math, History, Science, and Social Studies SOLs  
SOL End of Course Test: None  
Credits: 1 CTE credit  
Course Description: This introductory course helps students develop a thorough understanding of fundamental marketing concepts and theories as they relate to the sports and entertainment industries. Students will investigate the components of customer service skills, branding, product development, pricing and distribution strategies, business structures, sales processes, social media, sponsorships and endorsements, as well as promotion plans needed for sports and entertainment events. The course also supports career development skills and explores career options. Academic skills (mathematics, science, English, and history/social science) related to the content are a part of this course.

Building Construction & Maintenance I

Prerequisite: Sophomore  
Standards of Learning Addressed: Selected English, Math, History, Science, and Social Studies SOLs  
SOL End of Course Test: None  
Credits: 1 CTE credit  
Course Description: Students will be introduced to basic skills in building construction and maintenance. Students will be taught safe use of hand and power tools common to the industry. Learning will occur through hands-on training in operations, building repairs, carpentry, electrical systems, plumbing, and grounds maintenance. Students will design and build scale or full-size structures and work with real world projects to help them understand the jobs of architects, engineers, carpenters, electricians, plumbers, masons, HVAC technicians, and contractors.

Employment in Building Construction & Maintenance

Prerequisite: Sophomore  
Standards of Learning Addressed: Selected English, Math, History, Science, and Social Studies SOLs  
SOL End of Course Test: None  
Credits: 1 CTE credit  
Course Description: Students will learn to make informed career and continuing education choices as they plan for transition from school, gain technical skills, and adapt to the workplace. Students are taught ethical behaviors, job-acquisition, workplace-communication, self- awareness, self-advocacy, customer-service, leadership, and life skills. Students will understand what jobs in the building trades are available, what training is needed, and how to work successfully within this field.
Building Construction & Maintenance II
Prerequisite: Building Construction & Maintenance I AND Sophomore or Junior
Standards of Learning Addressed: Selected English, Math, History, Science, and Social Studies SOLs
SOL End of Course Test: None
Credit: 1 CTE credit
Course Description: Students will extend and share their basic skills in building construction and maintenance. Students will emphasize safety by earning the Occupational Safety and Health Administration (OSHA) 10 card as they build or repair residential structures, using a variety of materials and tools. Students will take on leadership roles with hands-on training in operations, building repairs, carpentry, electrical systems, plumbing, and grounds maintenance. Students will design and build scale or full-size structures and help supervise real world projects to help them understand the jobs of architects, engineers, carpenters, electricians, plumbers, masons, HVAC technicians, and contractors.

Mentorship Program
Prerequisite: Junior or Senior (also see enrollment process below)
Standards of Learning Addressed: Selected English, Math, History, and Social Studies SOLs
SOL End of Course Test: None
Credit: 1 CTE credit
Description: Mentorship is a career exploratory program designed to provide insight into a student’s career interests. The Mentorship Program provides real world workplace experience for highly motivated and/or high achieving students in grades 11 - 12. It relies heavily upon business, industry and community resources to provide mentors for qualified and interested students.
Objectives:
♦ To provide students the opportunity to investigate career paths and choices they are interested in and to determine a career path they want to pursue
♦ Learn about career options available to students after high school and how to choose and develop these options
♦ Reach out to highly motivated students of all ethnic groups and economic levels
♦ Enhance student’s feeling of self-worth by concentrating on his/her identified areas of strength and nurturing leadership potential
♦ Expand community participation in education
♦ Stimulate interest in the learning process by encouraging students to participate in planning a project related to their Mentorship experience
♦ Encourage students to relate the experiences of the regular classroom to the world outside
♦ Provide students with the opportunity to meet professionals involved in a variety of careers
♦ Obtain information on skills required for all types of work including interviewing, compatibility with others, reliability and good grooming.
Structure: The Mentorship Program is a direct service program, which meets the needs of highly motivated and/or highly achieving students as identified by school staff. It is the student and coordinator’s responsibility to effectively match community resources with the talented students path of career exploration. Prospective Mentors will be provided student written cover letters and resumes and will interview students, similar to what will be required for students to market themselves to schools and employers.
A mentor/student relationship is a partnership based on mutual interest and respect for each other’s talents and accomplishments. Each relationship can be developed one-to-one between a mentor and a student, or it can be expanded to include one mentor and a small group of students. Mentorships with different mentors on a quarter or semester basis are required.
A Mentorship project should be developed to document clearly how the student will explore a hypothesis or solve a problem. This may involve an individual project or research or developmental work already existing at the Mentorship site or an ongoing exploration of the methodology in the selected area of study.
The first 2 weeks of the first semester will be spent in the classroom learning skills needed to successfully market the student to prospective employers or learning institutions.
This program is centered on four key people:
♦ THE STUDENT, who has volunteered to participate in a meaningful career experience
♦ THE MENTOR, an accomplished person in the community who is willing to share knowledge and career experience with students
♦ THE SCHOOL COUNSELOR, a specialist who will identify and interview prospective students
♦ THE MENTORSHIP COORDINATOR, a school resource specialist will monitor the entire program and act as a liaison for the mentor, the student, and the school counselor
Enrollment Process
Prerequisite: Juniors or Seniors who are interested in the program must submit an application and parental permission form to the Mentorship Coordinator no later than April 15th, (exception only for students moving into the district), and will then be interviewed
by their School Counselor and/or the Mentorship Coordinator.

Once accepted into the program, the student will attend an orientation session at the high school in late spring and possibly at the Mentorship site. One credit will be given to any Mentorship student satisfactorily completing a minimum of 150 hours per school year.

All of the following written assignments must be submitted electronically.

♦ Cover letters and resume
♦ A written journal of experiences, impressions and feelings will be kept daily
♦ Mentorship expectations paper
♦ Project(s) description outline, updates and conclusion
♦ Quarterly career papers

Students are responsible for their own transportation and are required to inform the Mentorship Coordinator and Mentor if they are going to be absent during the scheduled Mentorship time.

GENERAL ELECTIVES

Leadership for the 21st Century

Prerequisite: Sophomore, Junior or Senior AND teacher recommendation

Standards of Learning Addressed: Selected English (9-12), Algebra I & II, Geometry, Earth Science, Biology, History and Social Sciences, Foreign Languages, Health/P.E., Driver Education SOLs

SOL End of Course Test: None

Credit: 1 elective credit

Course Description: Leadership is an art. It can be defined as a process that is lifelong and developmental. There is no “end of the process…there is always more to learn.” This class proposes to introduce the concepts that will provide a vision of the qualities and skills that all of our students should develop as they take on leadership roles within the local and/or global community.

Course Objectives:

Students will demonstrate knowledge of and practice in the following leadership competencies:

1. Appreciation and Respect of Diversity
2. Commitment to Service
3. Teamwork and Leadership
4. Creativity and Innovation
5. Self-Awareness
6. Commitment, Integrity, and Accountability
7. Community Awareness

Students will analyze leadership styles and assess and evaluate their own leadership styles and effectiveness. The Leadership Initiative supports the SACS Goals for School Climate and Student Leadership, and the Virginia Standards of Learning. The curriculum for this course is supported by the Virginia Department of Education’s “Linking Leadership to Instruction: A Leadership Development Curriculum for Virginia Public Schools” which was developed June 2001.
Valley Career & Technical Center courses grant 3 units of credit per course per year. Valley Career & Technical Center programs are designed to assist students in becoming college and career ready through the development of career awareness, workforce readiness and training in industry specific job skills. VCTC program completers may also earn a state license or industry credential. These credentials can enhance a student’s employability profile in today’s highly competitive job market.

**Agriculture**

**Horticulture Sciences (8034)**

**Suggested Grade Level:** 11, 12  
**Credential:** Floriculture Greenhouse Assessment (NOCTI)  
9 available  
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.

**Greenhouse Plant Production and Management (8035)**

**Suggested Grade Level:** 11, 12  
**Prerequisites:** 8034  
**Credential:** Floriculture Greenhouse Assessment (NOCTI)  
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.

**Livestock Management (8012) & Operating the Farm Business (8014)**

**Suggested Grade Levels:** 11 or 12  
This course will provide an intensive study in livestock production, management, marketing, nutrition, breeding, production records, selection, animal health, waste management and conservation practices.

**Business and Information Technology**

**Computer Network Software Operations (6650)**

**Suggested Grade Levels:** 11 or 12 (36 weeks)  
**Prerequisites:** Keyboarding course(s) or teacher-approved demonstration and documentation of touch keyboarding skills  
Computer Network Software Operations is designed to teach many aspects of computer support and network administration. Students learn networking concepts, from usage to components, and set up peer-to-peer network systems and client server networks. Students install and configure network cards and connect them to networks. Students learn how to install the operating systems, set up and manage accounts, load software, and set up and implement security plans. This course may include software-based network operating systems such as Novell NetWare and Microsoft Windows NT. 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. Recommended prerequisite(s): Keyboarding course(s) or teacher-approved demonstration and documentation of touch keyboarding skills

**Computer Systems Technology I (8622)**

**Suggested Grade Levels:** 10, 11 or 12  
Students enter the world of computer technology and gain practical experience in assembling a computer system, installing an operating system, troubleshooting computers and peripherals, and using system tools and diagnostic software. They develop skills in computer networking and resource sharing. In addition, students explore the relationships between internal and external computer components. Emphasis is placed on customer service skills and career exploration. Upon successful completion of the course, students may qualify to take the A+ certification exam.

**Computer Systems Technology II (8623)**

**Suggested Grade Levels:** 10, 11 or 12  
**Prerequisite:** Computer Systems Technology I  
**Credential:** A+ (CompTIA), Network +, IC3, and Computer Repair (NOCTI)  
Building on the foundation of Computer Systems Technology I, this advanced course provides students with training in procedures for optimizing and troubleshooting concepts for computer systems and subsystems. Students explore wireless technologies (e.g., Bluetooth, Wi-Fi) and create and configure a network. Emphasis is placed on technical proficiency, skill-building, and workplace readiness. The course prepares students for postsecondary education and training and a successful career in information technology. Upon successful completion of the course, students may qualify to take the A+ certification exam. 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.
Programming
Suggested Grade Levels: 11 or 12
Explore programming concepts, use algorithmic procedures with one or more standard languages and master programming fundamentals.

Education and Training

VA Teachers for Tomorrow (9062)
Suggested Grade Level: 11, 12
Dual enrollment available
This course introduces high school seniors to a career in teaching and education, through the Career Connections program. The primary elements of the curriculum components are the learner, the school, and the teacher and teaching. The components are intentionally broad in scope and provide a great deal of flexibility based on the career interests of a student. In addition to the fundamental curriculum components, all students are required to participate in an internship outside the Virginia Teachers for Tomorrow classroom. The internship may involve the preschool level through grade 12.

Family and Consumer Sciences

Culinary Arts I (8275)
Suggested Grade Levels: 10 or 11
Dual Enrollment Available
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.

Culinary Arts II (8276)
Suggested Grade Levels: 11 or 12
Credential: ProStart Program Certification (National Restaurant Association Educational Foundation), Culinary Arts Prep Cook 1(NOCTI), ServSafe Certification
Prerequisite: Culinary Arts I
Dual Enrollment Available
Culinary Arts II provides students an opportunity to refine skills in serving, dining room management, and other skills learned in Culinary Arts I. Students prepare for occupations such as chef/cook, baker/pastry helper, pastry decorator, hospitality worker, dietetic aide/assistant, food demonstrator, and entrepreneur. Critical thinking, practical problem solving, and entrepreneurship opportunities within the field of culinary arts are emphasized. Teachers highlight the basic skills of mathematics, science and communication when appropriate in content. 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.

Health and Medical Sciences

Dental Assistant I (8328)
Suggested Grade Level: 11, 12
Students are introduced to the careers in dentistry, including dentist (general and specialists), hygienist, dental assistant, dental laboratory technician, and dental receptionist. Students practice and learn about many of the skills utilized in these professions while attaining all the skills necessary to become a dental assistant. Study includes infection control and OSHA standards, anatomy and physiology, tooth morphology, oral histology, preventive dentistry, applied psychology, effective communication, office administration and management, use of dental software, operative dentistry techniques, and dental materials/laboratory skills.
Recommended prerequisite(s): Keyboarding 6150/6151 and Introduction to Health and Medical Sciences 8302, Dental Assistant II 8329 (co-op not available)

Dental Assistant II (8329)
Suggested Grade Level: 11,12
Prerequisite: Dental Assistant I
Credential: Dental Assisting (NOCTI), Certified Dental Assistant: Radiation Health and Safety Examination
Units of study include medical emergencies, coronal polishing, oral pathology, dental roentgenology, nutrition, schedule IV drugs and pharmacology, and advanced laboratory techniques. While attending classes for part of the week, students also have an opportunity to
participate in internships in local private dental offices and public health dental facilities, where they participate in all phases of dental care delivery. At the end of the program, students are eligible to take the State Dental Board examination, which offers certification in Radiation Hygiene and Safety and in Schedule IV Drugs, qualifying those who pass to work as a dental assistant, dental receptionist, patient educator, appointment controller, and dental office manager. After two years in the field, graduates of the program are eligible to take the national examination to become a certified Dental Assistant. Many graduates choose to continue their dental assisting education at community colleges and universities.

**Emergency Medical Technician I (8333)**
- State requirement student must be 16 years for age the first day of class

Suggested Grade Levels: 11 or 12

Students focus on the role and responsibilities of emergency rescue workers, basic medical terminology, and health care skills that include first aid; cardiopulmonary resuscitation; aseptic technique; and related anatomy, physiology, and disease knowledge. Supervised work education is provided in a hospital or with rescue squads and is managed by the HOE teacher.

**Emergency Medical Technician II (8334)**
- State requirement that student be 16 years of age the first day of class

Suggested Grade Levels: 11 or 12

Credential: EMS First Responder (Virginia Department of Health, Office of EMS)

Prerequisite: Emergency Medical Technician I (8333/co-op not available/36 weeks, 280 hours)

Students become skilled in identifying and dealing with emergencies such as bleeding, fractures, airway obstruction, and cardiac arrest. Instruction emphasizes proper care and use of common emergency equipment and safe methods for lifting, moving, and transporting injured persons. Supervised on-the-job training and patient-care experiences are part of the instructional program. Program completers may take the EMT state certification examination administered by the Virginia Department of Health, Office of Emergency Medical Services.

**Nurse Aide I (8360)**

Suggested Grade Levels: 11 or 12

Nurse Aide I, offered as an occupational preparation course beginning at the 11th-grade level, emphasizes the study of nursing occupations as related to the health care system. Students study normal growth and development, simple body structure and function, and medical terminology and are introduced to microbes and disease. They receive elementary skill training in patient-nursing assistant relationships; taking and recording of vital signs; cardiopulmonary resuscitation; and bathing, feeding, dressing, and transporting of patients in hospitals and nursing homes. Limited on-the-job instruction in nursing homes and hospitals is part of the course. This course can be used as an introduction to practical nursing or to prepare the student for Nurse Aide II so that all competencies for a certified nursing assistant are met.

**Recommended prerequisite(s): Introduction to Health and Medical Sciences 8302**

**Nurse Aide II (8362)**

Suggested Grade Level: 11,12

Prerequisite: Nurse Aide I

Credential: Nurse Aide (CNA) (Virginia Board of Nursing)

Nurse Aide II is an occupational preparation course, emphasizing advanced skill training in areas such as catheter care, range of motion, bowel and bladder training, care of the dying, selected procedures for maternal and infant care, and admission and discharge procedures. Students learn diseases and body systems as related to advanced clinical care of the acute medical-surgical patient, the chronically ill, and the elderly. On-the-job instruction in a licensed nursing home is part of the course. Upon completion of the nurse aide program, the student is eligible to take the nurse aide certification exam that leads to employment as a certified nurse aide in hospitals and nursing homes.

**Pharmacy Technician I (8305)**

Suggested Grade Level: 11,12

This certificate program is designed to provide students with the basic skills and knowledge to begin work as a pharmacy technician. The coursework will fulfill the requirements of the Board of Pharmacy and prepare students to take either the state examination or the national examination administered by the Pharmacy Technician Certification Board. Trained, experienced pharmacy technicians who can demonstrate the right skills and knowledge should be able to pursue many exciting and respected career options or postsecondary study in the pharmacy field.

**Recommended prerequisite(s): Introduction to Health and Medical Sciences 8302**

**Pharmacy Technician II (8306)**

Suggested Grade Level: 11,12

Prerequisite: Pharmacy Technician I

Credential: Virginia Pharmacy Technician (Virginia Board of Pharmacy)

This certificate program is designed to provide students with the basic skills and knowledge to begin work as a pharmacy technician. The coursework will fulfill the requirements of the Board of Pharmacy and prepare students to take either the state examination or the national examination administered by the Pharmacy Technician Certification Board. Trained, experienced pharmacy technicians who
can demonstrate the right skills and knowledge should be able to pursue many exciting and respected career options or postsecondary study in the pharmacy field.

*Practical Nursing I (8357)*  
Suggested Grade Level: 12  
Prerequisite: Intro to Health Science and medical Sciences, Nurse Aide II or related course  
Credential: Licensed Practical Nurse (Virginia Board of Nursing)  
In the first semester, students learn nursing care of patients of all ages, in various stages of sickness or wellness, and with a variety of disease conditions. They focus on human anatomy, body function, communication, community health, fundamental nursing skills, nutrition, drug therapy, and elementary medical-surgical nursing.

*Practical Nursing II (8358)*  
Suggested Grade Level: 12  
Prerequisite: Practical Nursing I -- 8357  
Credential: Licensed Practical Nurse (Virginia Board of Nursing)  
In the second semester, instruction emphasizes introduction to pharmacology, normal life span (human growth and development), normal nutrition, nursing fundamentals, and nursing trends. Advanced emergency procedures and application of nursing procedures are demonstrated in a laboratory setting.

*(Students will have to complete Practical Nursing III as an adult in order to be able to sit for the LPN examination)*.

**Veterinary Science I** (replacing - Veterinary Assistant I)  
Suggested Grade Levels: 11, 12  
Dual Enrollment Available  
Students learn animal science and the care of animals, including animal structure and function, principles of health, and microbes and disease. They develop basic skills and techniques of assisting the veterinarian in the following areas: receptionist duties; animal examinations; examining room and laboratory work; the handling, caring, and feeding of animals; first aid and surgery; and maintenance of equipment and facilities. On-the-job clinical instruction may occur in veterinary offices or animal clinics and is coordinated by the Health and Medical Sciences teacher. Recommended prerequisite(s): Introduction to Health and Medical Sciences 8302

**Veterinary Science II** (replacing - Veterinary Assistant II (8311))  
Suggested Grade Levels: 11, 12  
Prerequisite: Veterinary Assistant I  
Credential: Veterinary Assistant, Pet Sitters Certification, Small Animal Care  
The student may incorporate a cooperative work experience that combines classroom instruction with two or three hours of school-released time for on-the-job training in a healthcare facility such as a veterinarian’s office or clinic.

**Trade and Industrial Education**

**Auto Body Technology I--Collision and Repair (Non-Certified) 8679**  
Suggested Grade Levels: 11, 12  
In the global automotive repair industry, there is a growing demand for qualified auto body technicians. In this course, students are taught non-structural analysis, damage repair, and welding. Students work with a variety of materials, using metal finishing and body filling techniques to prepare surfaces and repair panels. In addition, students practice shop safety and gain career skills.

**Auto Body Technology II--Painting and Refinishing (Non-Certified) 8680**  
Suggested Grade Levels: 11, 12  
Prerequisite: Auto Body Repair I--Collision and Repair (Non-Certified)  
Credential: Collision Repair Assessment (NOCTI)  
In the global automotive repair industry there is a growing demand for qualified auto body technicians. In this course, students are taught to repair, mask, and refinish auto body components and entire vehicles. In addition, they use spray guns and personal safety equipment while applying undercoats and topcoats, working with a variety of materials, and gaining career 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.

**Automotive Technology I (8506)**  
Suggested Grade level: 11, 12  
In this first course of a two year program, students learn all aspects of repair, safety, and customer service by concentrating on two of the primary ASE/NATEF areas for certification (i.e., areas V. Brakes and VI. Electrical/Electronics). Students who successfully complete this portion of the program will be prepared to take and pass the respective ASE/NATEF exam and will be prepared for postsecondary education opportunities.

**Automotive Technology II (8507)**  
Suggested Grade Level: 11, 12
**Prerequisite:** Automotive Technology I  
Credentialed: Automotive Technician (ASE)  
In this second course of the two-year program, students learn all aspects of repair, safety, and customer service by concentrating on two of the primary ASE/NATEF areas of certification (i.e., IV. Suspension and Steering and VIII. Engine Performance). Students who successfully complete this portion of the program will be prepared to take and pass the respective ASE/NATEF exam and will be prepared for postsecondary education opportunities.

**Bricklayer (8549)**  
Suggested Grade Levels: 9,10,11,12  
Students enrolled in this program learn the fundamental skills associated with laying block and brick. 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.

*Note: Bricklayer may be offered as a complement to an existing concentration sequence in any CTE program area. In some instances, where noted, it may be combined with specific courses to create concentration sequences.*

**Woodworking & Design I (8604)**  
Suggested Grade Levels: 9,10,11,12  
Students learn workshop and tool safety and employability skills as they practice reading blueprints; estimating and selecting materials; cutting and shaping stock; assembling, fastening, and installing components; and finishing surfaces. The technical, problem-solving, leadership, and creative skills learned in Cabinetmaking can be applied in industries well beyond construction trades and professions and can prepare the student for lifelong learning and success.

**Woodworking & Design II (8605)**  
Suggested Grade Levels: 9,10,11,12  
Prerequisite: Cabinetmaking I  
Students continue to learn workshop and tool safety and enhance their employability skills as they interpret blueprints; estimate and select materials; cut and shape stock; assemble, fasten, and install components; install interior finishes; apply wood veneers and plastic laminates; finish surfaces; and transport and install cabinets. The technical, problem-solving, leadership, and creative skills learned in Cabinetmaking can be applied in industries well beyond construction trades and professions and can prepare the student for lifelong learning and success. 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.

**Carpentry I (8601)**  
Suggested Grade Levels: 11, 12  
Prerequisite: Carpentry I  
Credentialed: Carpentry Assessment (NOCTI)  
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.

**Carpentry II (8602)**  
Suggested Grade Levels: 11, 12  
Prerequisite: Carpentry I  
Credentialed: Carpentry Assessment (NOCTI)  
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.

**Cosmetology I (8527)**  
Suggested Grade Levels: 11, 12  
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.

**Cosmetology II (8528)**  
Suggested Grade Levels: 11, 12  
Prerequisite: Cosmetology I  
Credentialed: Cosmetology License from Virginia Board of Barbers and Cosmetology and Cosmetology (NOCTI)  
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. 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.

**Criminal Justice I (8702)**
Suggested Grade Levels: 11, 12
Dual Enrollment Available
Students are introduced to the principles, techniques, and practices for pursuing careers within the criminal justice services system.

**Criminal Justice II (8703)**
Suggested Grade Levels: 11, 12
Prerequisite: Criminal Justice I
Credential: Criminal Justice Assessment (NOCTI)
Dual Enrollment Available
Students learn the principles, techniques, and practices for pursuing careers within the criminal justice services system. 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.

**Diesel Equipment Technology I (8613)**
Suggested Grade Levels: 11, 12
Students receive basic instruction in general maintenance and overhaul of diesel equipment. They learn to inspect, maintain, and repair tracks, wheels, brakes, operating controls, pneumatic and hydraulic systems, electrical circuitry, and engines. They practice welding and brazing techniques.

**Diesel Equipment Technology II (8614)**
Suggested Grade Levels: 11, 12
Prerequisite: Diesel Equipment Technology I
Credential: Diesel Engine Mechanics Assessment (NOCTI)
Students receive instruction in general maintenance and overhaul of diesel equipment. They learn to inspect, maintain, and repair tracks, wheels, brakes, operating controls, pneumatic and hydraulic systems, electrical circuitry, and engines. They practice welding and brazing techniques. 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.

**Electricity I (8533)**
Suggested Grade Levels: 11, 12
Students develop skills in the installation, operation, maintenance, and repair of residential, commercial, and industrial electrical systems. They also study electrical theory, navigate the National Electrical Code Book, select and install conductors, and work with panel boards, switchboards, and generators.

**Electricity II (8534)**
Suggested Grade Levels: 11, 12
Prerequisite: Electricity I
Credential: Electrical Construction Assessment (NOCTI)
Students continue to develop skills in the installation, operation, maintenance, and repair of residential, commercial, and industrial electrical systems. They also study electrical theory and mathematical problems related to electricity, navigate the National Electrical Code Book, select and install conductors, examine lighting, communication, and power systems, and work with conduit and raceways, panel boards, switchboards, grounding systems, and generators. 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.

**Firefighting I (8705)**
- **State requires that student be 16 years of age the first day of class**

Suggested Grade Levels: 10, 11, 12
Students are introduced to the equipment and procedures necessary to fight live fires, operate in simulated hazardous-materials incidents, and conduct search-and-rescue operations. Students react to multi-faceted situations (e.g., caused by simulated terrorism, accidents, and natural disasters) as part of an emergency-response team. Students become familiar with emerging technologies such as communications software (e.g., dispatch systems, GIS, mapping systems, incident reporting, and simulation programs), multimedia inputs, thermal imaging cameras, and hazardous gas detectors. Students acquire teamwork, critical-thinking, public-speaking, research, report-writing, and incident-management skills. This course challenges students academically, mentally, and physically.

*Note: Students must be at least 16 years old by the first day of the course offering.*
Heating, Ventilation, Air Conditioning, and Refrigeration I (8503)
Suggested Grade Levels: 11, 12
This instructional program prepares students to install, repair, and maintain the operating conditions of heating, air conditioning, and refrigeration systems. Students work with piping and tubing, study heat and electricity, install duct systems, and comply with EPA regulations. Completion of this sequence may prepare students for a number of certification exams, helpful for employment in a variety of HVAC occupations.

Heating, Ventilation, Air Conditioning, and Refrigeration II (8504)
Suggested Grade Level: 11, 12
Prerequisite: Heating, Ventilation, Air Conditioning, and Refrigeration I
Credential: EPA Technician Certification Exam; HVACR Assessment (NOCTI)
This instructional program prepares students to install, repair, and maintain the operating conditions of heating systems. Completion of this sequence may prepare students for a number of certification exams, helpful for employment in a variety of HVAC occupations. 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.

Manufacturing I (8426) & Manufacturing II (8427)
Suggested Grade Levels: 11, 12
Course: 1 year
Course study will leverage an innovative blended-learning approach consisting of foundational curriculum, cloud-based software, simulations, physical trainers and open classroom discussions, all which closely mimic the day-to-day realities of the advanced manufacturing environment.

Masonry I (8512)
Suggested Grade Levels: 11, 12
- Students learn to use hand tools such as trowels, levels, and chisels and power tools such as concrete mixers to lay brick, concrete block, tile, and related materials. Students focus on problem-solving and employability skills while performing entry-level brick masonry tasks.

Masonry II (8513)
Suggested Grade Levels: 11, 12
Prerequisite: Masonry I
Credential: Construction Masonry Bricklaying Assessment (NOCTI)
Students continue to use hand tools such as trowels, levels, and chisels and power tools such as concrete mixers to lay brick, concrete block, tile, and related materials. Students also perform residential and commercial masonry tasks. 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.

Precision Machining Technology I (8539)
Suggested Grade Levels: 11, 12
Students learn the basics of industrial safety and environmental protection; planning, management, and performance of machining jobs; quality control; general maintenance; engineering drawings and sketches; and application of measurements, metalworking theory, properties of materials, and principles of CNC. Precision Machining Technology programs may be certified by NTMA (National Tooling and Machining Association), the certifying agency for the National Institute for Metalworking Skills (NIMS).

Precision Machining Technology II (8540)
Suggested Grade Levels: 11, 12
Prerequisite: Precision Machining Technology I
Credential: Precision Machining Assessment (NOCTI)
Dual Enrollment Available
Students apply industrial safety and environmental protection; planning, management, and performance of machining jobs; quality control; process improvement; general maintenance; engineering drawings and sketches; and application of measurements, metalworking theory, properties of materials, and principles of CNC. Precision Machining Technology programs may be certified by NTMA (National Tooling and Machining Association), the certifying agency for the National Institute for Metalworking Skills (NIMS). 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.

Small Engine Technology I (8725)
Suggested Grade Levels: 9,10,11,12
Students learn to safely maintain and repair small internal-combustion engines used on portable power equipment such as lawnmowers, string trimmers, rotary tillers, outboard engines, and other two- and four-cycle engines. Students diagnose and service...
manual starting systems, ignition systems, cooling systems, and exhaust systems.

**Small Engine Technology II (8726)**
Suggested Grade Levels: 9,10,11,12
Prerequisite: Small Engine Technology I
Students learn to safely maintain and repair small internal-combustion engines used on portable power equipment such as chain saws, motorcycles, jet skis, all-terrain vehicles, outboard engines, and other two- and four-cycle engines. Students analyze causes of engine failure and perform shop operations. 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.

**Welding I (8672)**
Suggested Grade Levels: 11, 12
Students learn to use gases and electric arc processes to fabricate and weld metal parts according to diagrams, blueprints, and specifications. Students will also receive all safety-related practices and techniques including the OSHA 10 card.

**Welding II (8673)**
Suggested Grade Levels: 11,12
Prerequisite: Welding I
Credential: Welding Assessment (NOCTI), SENSE Training Program Certification (AWS)
Dual enrollment available
Students continue to apply the practices and techniques learned in Welding I using advanced welding techniques to fabricate and weld metal parts according to diagrams, blueprints, specifications, and industry certification. 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.
Central Shenandoah Valley Regional Governor’s School

SVGS is a program for gifted, talented and highly motivated students who enjoy intellectual and artistic challenges and learning. Students choose one of two parallel programs, STEM (science, technology, engineering, and math) or AH (arts and humanities).

The STEM program requires students to complete at least three (3) credits each year, one in each of the core areas. Students may choose an additional credit as an optional independent study. Seniors may complete four credits in the core areas.

The AH program requires students to complete four (4) credits in one of two tracks, Visual Arts or Theatre Arts. Student in both programs complete a humanities course, which addresses the Standards of Learning for 11th or 12th grade English, as well as appropriate studio classes, crafts and skills class, and an elective each year.

SVGS would be a good choice if you want any of the following in your future:
- Exceptional preparation for university
- Intellectual and/or artistic challenges
- University credit for high school work
- Fluency with technology

SVGS would be a good choice if you desire to have or be any of the following:
- Intellectual mind-set
- Artistic talent and interest
- Independent thinker and worker
- Strong sense of curiosity
- “Hands-on” learner
- Highly motivated
- Greater access to your teachers
- Greater control over workload and time

Students apply during their sophomore or junior year. Applications are available through high school guidance counselors and on the SVGS web page December 1 of each year.

Course Offerings

HUMANITIES

Humanities I*
152125
Grade 11
1 English credit

Humanities I introduces students to the rigors of college-level academic writing and critical thinking. In the fall, students explore essential texts centered on timely issues such as education, language, gender and society, and ethics and morality. Class discussions form the cornerstone of exploring ideas and give students the opportunity to share insights and to appreciate others’ perspectives. Students then generate their own essay topics and take those topics through the writing process: drafting, peer editing, conferencing with the teacher, rethinking, and revising. Later in the year, students transition to the course’s literary focus with texts that reflect the emergence and evolution of the American Dream. These works help students understand the unique qualities of the American spirit and its relevance today. As part of the course, students gain experience in working with literary criticism to develop their growing understanding of what it means to make thoughtful assertions about texts and to be able to support those assertions. Essays require students to incorporate criticism as a means of supporting their own original observations. This class has two state required end-of-course Standards of Learning tests: Reading and Writing.

Blue Ridge Community College dual-enrollment credit available at student’s own expense (ENG 111& ENG 112, 3 credits each, total 6 credits).

Humanities II*
152225
Grade 12
1 English credit

Humanities II builds on the composition and critical thinking skills students have established in Humanities I. Course content is focused on having students explore monsters and the literary imagination—the connection between monsters and the societies which create and perpetuate them. Texts reflect the chronological evolution of monsters, from Grendel in Beowulf to the zombie apocalypse in World War Z, and invite students to consider the psychological and cultural implications of monstrosity on society. Students continue to explore literary criticism as a means of supporting their original approaches to essays with an emphasis on seeking and using relevant digital sources effectively.

Blue Ridge Community College dual-enrollment credit available at student’s own expense (HUM 111, 3 credits).
Humanities in Western Culture*  

Governor’s School Humanities in Western Culture (2315) - This course approaches an introductory survey of the humanities in western culture by focusing on significant events, styles, movements, and figures in western arts and philosophy. From the thinkers, writers, and artists of ancient Greece who created the foundations of western culture, we’ll follow the journey from them through to our own contemporary ideas, styles, and the ever-growing variety of expressive modes and media.

Blue Ridge Community College dual-enrollment credit available at student’s own expense (HUM 201, 3 credits).

Psychology*  

This course is about you. We will work to understand about human nature – how one’s brain works and how that supports their mind. This course introduces students to the scientific study of how we feel and act and to the fundamental knowledge of major concepts, theory, history, current trends in understanding human behavior and mental processes. Students will learn about the methods psychologists use to find the answers to questions about brain function and its relationship to behavior, perception, motivation, cognition, learning, personality, social and mental health. Students will learn to think critically about psychological evidence, to evaluate its validity and to apply its relevance to important issues in their own life. Students will develop insight into their own and others’ behavior and mental processes and apply effective strategies for self-management and self-improvement. Studies also include the development of the individual from conception to death and follows a life-span perspective on the development of the person's physical, cognitive, and psychosocial growth.

Students who have successfully completed the BRCC pre-requisites may opt to take this class for credit (PSYC 200 & PSYC 230, 3 credits each, total of 6 credits) at student’s own expense.

Communications*  

A two-semester, continuous course in which you have the opportunity to acquire skills and explore the fundamentals of social life, significant research and theory in areas such as culture, social structure, socialization, deviance, social stratification, and social institutions. Students may opt to take this class for BRCC credit (SOC 200, 3 credits) at their own expense.

Blue Ridge Community College dual-enrollment credit available at student’s own expense (CST 100 & CST 126, 3 credits each, total of 6 credits).

Sociology*  

A two-semester, continuous course in which you have the opportunity to acquire skills and explore the fundamentals of social life, significant research and theory in areas such as culture, social structure, socialization, deviance, social stratification, and social institutions. Students may opt to take this class for BRCC credit (SOC 200, 3 credits) at their own expense.

Blue Ridge Community College dual-enrollment credit available at student’s own expense (SOC 200, 3 credits).

FINE ARTS

Studio Art I*  

Pre-requisite: None

Students study many styles, topics, and techniques using a wide variety of media with the intention of receiving a breadth of knowledge from which to develop their own personal style. Emphasis is on basic skills development, self-expression and experimenting with materials and techniques. Students focus on art production using two- and three-dimensional media and building upon their prior studio experience. A portion of class time is devoted to improvement of basic drawing and design skills. The students begin developing a body of work to use for their portfolio. Students utilize the language of the visual arts and understand, evaluate, and celebrate art in its historical and cultural context as a multicultural means of communication. Students develop critical thinking and communication skills as they articulate their personal responses to the aesthetic qualities of works of art.
Studio Art II*  
914715  
Grade 12  
1 Elective credit  

**Pre-requisite: Studio Art I**  
Students continue exploration of media and techniques with an emphasis on portfolio development through focused study of utilizing the elements and principles of design and in-depth investigation of self-selected topics. Students select an area of concentration in two-dimensional, three-dimensional, or drawing media, according to the course description for Advanced Placement Studio Art. A schedule of proposed projects in these concentration areas are individually arranged with their instructor. Students also complete project work assigned by the instructor and continue to develop drawing and design skills, especially color and theory, through regular exercises in these areas. Through these assignments and the student-directed concentration projects, students create a body of work representing their own personal style for their portfolio. Students may opt to take this course for Advanced Placement Studio Art credit at their own expense by submitting a portfolio completed through the work created in this course.

*This course is also available as Advanced Placement.*

Survey of World Art I*  
916600  
Grade 11, 12  
1 Elective credit  

**Pre-requisite: None**  
This course is a traditional art history survey course. It covers artistic traditions from Prehistoric art to the transition from the art of the Middle Ages to the art of the Renaissance. Students will learn about art from an historical and cultural perspective during this period of time by examining major forms of artistic expression from world cultures including European, African, Near Eastern, Asian, and Central, South, and Native American. Students will analyze and critique these artistic styles in architecture, sculpture, painting, and other art media. Part of the course is also devoted to art appreciation. Students develop skills in evaluation and judgment through increased knowledge of the range of media, techniques, and stylistic approaches utilized by artists. Students will study aesthetics and criticism, in addition to art history.

*Blue Ridge Community College dual-enrollment credit available at student’s own expense (ART 201, 3 credits).*

Survey of World Art II*  
916700  
Grade 11, 12  
1 Elective credit  

**Pre-requisite: Survey of World Art I**  
This course is an introduction to art and architecture of the world from the Renaissance through Modern ages, including European Renaissance, Baroque, Enlightenment, 19th and 20th centuries, as well as Asian and African arts. Students will analyze and critique these artistic styles in architecture, sculpture, painting, and other art media. Part of the course is also devoted to art appreciation. Students develop skills in evaluation and judgment through increased knowledge of the range of media, techniques, and stylistic approaches utilized by artists. Students will study aesthetics and criticism, in addition to art history. They will learn to analyze, interpret, and judge.

*Blue Ridge Community College dual-enrollment credit available at student’s own expense (ART 202, 3 credits).*

Art Craft and Skills Workshops I/II*  
916300/916400  
Grade 11-12  
1 Elective credit  

**Pre-requisite: None**  
Students will specialize in exploration of specific media and techniques through study with guest professional artists who are willing to share their knowledge and skills with them. Students will be offered two- and three-dimensional topics on a six to eight week basis. Classes may be taught at SVGS or may be taught at studio spaces in the community. By working with professional artists, students will learn about the career of an artist and the experience of working in the art world. The students also receive an in-depth studio experience in which experimentation, exploration, and individual development are encouraged.
MATHEMATICS

Pre-Calculus* 316220
Grade 11 1 Mathematics credit
Students increase their understanding of functions and their characteristics including graphing techniques, using exponential, logarithmic and trigonometric functions to solve application problems, arithmetic and geometric sequences and series, mathematical induction, limits, first and second order derivatives, and integration. Students explore the use of mathematics in the natural sciences, thus fostering an application-oriented approach to mathematics that is enhanced through the use of technology. Students make extensive use of technology as an integral part of their learning. Students improve their facility with graphing calculators and the computer packages, Maple and Excel.

Calculus* 317725
Grade 11 or 12 1 Mathematics credit
Pre-requisite: Any Pre-calculus course
Students become proficient with limits, the derivative and differentiation techniques, the integral and integration techniques, basic applications of differentiation and integration, and infinite series, including Taylor Series. Students explore the fundamental relationship between the derivative, the integral, and the Riemann Sum. Students begin their study of multidimensional calculus including vectors and parametric equations. Students enhance their learning through computer-based activities utilizing Maple and Excel.
Blue Ridge Community College dual-enrollment credit available at student’s own expense (MTH 263-264, 4 credits each, total of 8 credits).

AP Calculus BC* 317730
Grade 11 or 12 1 Mathematics credit
Pre-requisite: A SVGS or dual-enrollment Pre-Calculus class (grade of A- or better). Prerequisites may be waived by the Director.
Students master limits, derivatives and anti-derivatives of polynomial, exponential and trigonometric functions and their inverses, as well as parametric, polar and vector functions for planar curves; techniques of differentiation and anti-differentiation; continuity of functions and the Intermediate Value Theorem and Mean Value Theorem; Fundamental Theorem of Calculus; physical applications of derivatives and anti-derivatives; series of constants and tests for convergence of series; Taylor’s series approximations of functions with radii of convergence and error bounding. Students become proficient with Maple and Excel. This course prepares students to take the BC version of the Advanced Placement Calculus test, which is a required activity.

Statistics* 319220
Grade 12 1 Mathematics credit
Pre-requisite: completion of Pre-Calculus (grade of C or better) and prior completion or concurrent enrollment in any Calculus class.
Students become proficient with the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Four broad themes woven throughout the course are experimental design, measures of central tendency, anticipating patterns, mathematical modeling and statistical inference. Students enhance their understanding through the use of computer software packages such as Excel and JMP, which are used extensively to analyze, display and aide in the interpretation of data. This course prepares students to take the Advanced Placement Statistics test, which is a required activity.
Blue Ridge Community College dual-enrollment credit available at student’s own expense (MTH 245-246, 3 credits each, total of 6 credits).

Discrete Mathematics* 315410
Grade 12 1 Mathematics credit
Strongly recommended for students taking AP Computer Science
Discrete Mathematics is the branch of mathematics dealing with objects that can assume only distinct, separated values. This course offers a nice counterpoint to the study of continuous mathematics that students pursue in calculus. Students will study logic, set theory, and matrices. Students will understand elementary number theory, the basic techniques of proof, and the basics of counting including combinatorics and probability. The ideas of discrete mathematics inform the study of computer science and this course will emphasize the connections between them. It is strongly recommended for students taking AP Computer Science.
James Madison University dual enrollment credit available (Math/CS 227) at student’s own expense.

71
Advanced Calculus: Multivariable Calculus*  317800
Grade 12  1 Mathematics credit
Pre-requisite: A.P. Calculus B.C. or SVGS Calculus (grade of B or better).
Students apply concepts learned during the first year of calculus to advanced problems in multi-dimensional analysis. Students investigate topics including rectangular, spherical and cylindrical coordinates, three-dimensional vectors, partial differentiation, multiple integrals and matrices. Students’ understanding of multi-dimensional mathematics is enhanced with computer visualization techniques. This course is designed for students who have exceptional math skills.

Mathematical Modeling*
Grade 12  1 Mathematics credit
Pre-requisite: A.P. Calculus B.C. or SVGS Calculus (grade of B or better).

Mathematical modeling is an area of applied mathematics that uses mathematical tools for exploring and studying real world problems. It is the process of applying mathematical reasoning to understand some aspects of our physical, biological, social, and economic environment. In this course, students will study and create models, analyze the assumptions used in forming those models, and test the models against real-world data. Students will utilize mathematics from a variety of different mathematical branches.

PERFORMING ARTS

Acting I*  143525
Grade 11  1 Elective credit
Pre-requisite: None
Acting is a craft involving skills that can benefit everyone. Through this course, students will explore acting technique that may be used to further a career, as well as improving their abilities to communicate, create, focus, analyze, carry themselves with confidence, and work with others effectively. Students will have the opportunity to explore the fundamentals of the acting process, including basic terminology, use of voice and body, creativity and imagination, working/communicating with an ensemble, analyzing a dramatic text, and creating and portraying characters.

Acting II*  144010
Grade 12  1 Elective credit
Pre-requisite: Acting I
Students will review and expand upon basic stage terminology, the importance of ensemble, scene and character analysis, the rehearsal process, criticism, audition preparation, and acting as a business. Students will work primarily with Michael Shurtleff’s Audition and Melissa Bruder’s A Practical Handbook for the Actor, as well as with any scenes and monologues selected or assigned from various plays. The emphasis of Studio Acting II will be on preparation for collegiate and professional auditions; refinement of rehearsal and performance practices culminating in a senior showcase, familiarization with acting techniques that a working actor needs; and exploration of different styles of acting that may arise in collegiate and professional theatre situations, including the methods of the major acting teachers.

Craft and Skills Workshops I/II*  144910/144920
Grade 11 and 12  1 Elective credit
Pre-requisite: None
Students work with guest artists and practicing professionals on location in diverse acting spaces, including professional theatres. Students develop their skills in areas including voice and diction, Shakespeare, stage combat, movement, dance, design for the stage (lighting, costumes, set, and sound), puppetry and mask work, street theatre, children’s theatre, improvisation, acting styles, and related audio-visual media skills. Students develop an understanding of life as a professional artist. [Note: Due to the importance of basic skills such as voice and movement, some Skills and Craft course offerings will be mandatory for first-year students.]
**Introduction to Theatre**

*144825*

**Grade 11**  
1 Elective credit

**Pre-requisite: None**

This course provides an overview of the theater as an art form, including historical and production points of view. It is designed as: (1) an introduction to the broad spectrum of the collaborative theatrical crafts including acting, playwriting, directing, designing (set, lighting, costuming, sound), (2) a brief overview of the history of performance and theatrical traditions, and (3) a vehicle for theatre appreciation.

*Blue Ridge Community College dual-enrollment credit available at student’s own expense (CST 130, 3 credits).*

**Dramatic Theory and Criticism**

*144325*

**Grade 12**  
1 Elective credit

**Pre-requisite: Introduction to Theatre or demonstrate exceptional talent and discipline and/or a thorough background in theatre history and dramatic literature.**

Students will use a variety of critical tools and perceptual viewpoints as a basis for making informed judgments about theatre art. With Aristotle’s Poetics as the starting point, students will read and discuss works of dramatic literature, criticism, and dramaturgy, observe and critique theatre performances (both live and filmed), and research and compose play analyses, creative projects, and production concepts. This course focuses on major western theatrical periods, including 20th century reactions against and modifications to realism.

**SCIENCE**

**College Physics**

*451025*

**Grade 11 or 12**  
1 Science credit

**Pre-requisite: Algebra II/Trigonometry**

Students conduct extensive laboratory investigations on topics including Newtonian mechanics, optics, electromagnetism, and materials science. Students’ investigations and assignments integrate the physical sciences with mathematics. Students enhance their learning through the use of technology to analyze and present data, and simulate experiments.

*Blue Ridge Community College dual-enrollment credit available at student’s own expense (PHYS 201 & PHYS 202, 4 credits each, total of 8 credits).*

**AP Chemistry**

*447000*

**Grade 12**  
1 Science credit

Advanced Placement Chemistry is designed to be equivalent to a first-year college chemistry course. Students will participate in lectures, demonstrations, activities & extensive laboratory experiments on topics such as atomic structure & quantum theory, chemical compounds, reactions & stoichiometry, states of matter & solutions, thermo-chemistry & kinetics, equilibrium, acids & Bases, electro-chemistry, nuclear Chemistry & organic Chemistry. AP Chemistry also involves applying these concepts to “every-day” life with projects such as calorimetry, efficiency, crystal growth, catalysis and water treatment.

**AP Environmental Science**

*427025*

**Grade 12**  
1 Science credit

**Pre-requisite: Biology, Chemistry, Physics and Pre-Calculus, completion of Earth Science is strongly recommended**

Students explore geology, paleontology, atmospheric science, ecology, and technology in the context of environmental problems facing humans today. Students conduct extensive laboratory and field studies including water and air quality, soil processes, population dynamics, and community and ecosystem processes. Students enhance their learning through the use of computer simulations and models, and the use of technology to analyze and present data. Students are prepared to take the Advanced Placement Environmental Science test, which is a required activity.

*James Madison University dual enrollment credit available (ISAT 112, 3 credits) at student’s own expense.*
Molecular and Microbiology* 432025
Grade 12 1 Science credit
Pre-requisite:  Biology, Chemistry, Physics (all with grades of B or better) and Pre-Calculus
Students investigate fundamental life processes through the use and study of rapidly developing technologies such as genetic engineering, pharmaceutical developments, and treatment and prevention of infectious diseases. Students conduct extensive laboratory investigations on DNA extraction, gel electrophoresis, culture and identification of microbial organisms, and biochemistry. Students enhance their understanding of biological molecules through the use of mechanical and computer molecular modeling. Students become proficient in the use of technology to analyze and present data.

James Madison University dual enrollment credit available at student’s own expense (ISAT 113, 3 credits).

Environmental Chemistry* 447025
Grade 11 or 12 1 Science credit
Pre-requisite: Physics
This class is required of any SVGS student who will not otherwise have completed high school chemistry prior to graduation.
Students master basic principles of chemistry and statistical analysis in the context of the chemical and physical characteristics of water, soils, rocks, the atmosphere and natural fuels. Students conduct extensive laboratory analysis and field sampling utilizing EPA methods where feasible. Students investigate anthropogenic influences on natural materials cycles from the viewpoint of the classical chemist. Students enhance their learning through the use of instrumental analysis, which supplements traditional micro and wet chemistry methods. Students will demonstrate mastery of computerized data recording, calculation and analysis; graphical presentation; researching primary and popular literature; and formal report writing and scientific presentation. This class is required of any SVGS student who will not otherwise have completed high school chemistry prior to graduation.

James Madison University dual enrollment credit available (ISAT 112, 3 credits) at student’s own expense.

Modern Physics* 452020
Grade 12 1 Science credit
Pre-requisite: GS Physics, and GS Pre-Calculus or GS Calculus (grades of A- or better). Co-requisite: Calculus or above (offered pending enrollment).
Students explore the theoretical study of Special Relativity and Quantum Mechanics with an emphasis on computer models of the processes involved. Topics covered include Special Relativity, the Schrödinger equation, tunneling phenomena, General Relativity, Elementary Particle Physics, and the Hydrogen Atom. Students enhance their learning through extensive laboratory investigations and simulations. Students become proficient in the use of technology to analyze and present data.

Scientific Research* 432120
Grade 11 1 Science credit
Pre-requisite: None
Students discover and put into practice research methods and engineering design. Students apply principles of the natural sciences and applied statistics in solving research and engineering problems. Students complete an individual research project, write a scientific paper, and submit their results for presentation at various venues, including the SVGS Research Symposium (participation is required), Regional Science Fair (participation is required) and Virginia Junior Academy of Science (optional, paper submission and participation, if accepted, is required). They make use of on-line libraries and review scholarly scientific resources.

Advanced Scientific Research* 461200 Grade 11 or 12
Grade 12 1 Science credit
Pre-requisite: Gov. School Scientific Research
Students extend their study of research methods through independent research and work with a scientific mentor. Students apply principles of the natural sciences and applied statistics in solving research and engineering problems. Students complete an individual research project, write a scientific paper, and submit their results for presentation at various venues, including the SVGS Research Symposium (participation is required), science fairs, and paper submission to student research journals for publication. They make use of on-line libraries and scholarly scientific resources.
**TECHNOLOGY**

**Advanced Technology***  
Grade 12  
1 Elective credit  

*Pre-requisite: None*

The primary focus is the exploration of computer technology as a tool for communicating powerful ideas in mathematics and science. Students learn to animate in two-dimensions and build interactive presentations. Students will learn to create web sites and will develop an understanding of good design. Students will also explore digital photography and digital video production. Students will build podcasts and other means of using MP3 players such as iPods. Students will develop projects in conjunction with their mathematics and science courses. Students will also be asked to discuss ethical issues related to modern technology and to learn vocabulary associated with computers.

**AP Computer Science (A)*  
Grade 12  
1 Mathematics credit  

*Pre-requisite: completion of Pre-Calculus, Scientific Research and Engineering, and Physics (grades of A- or better) OR permission of the Director and Instructor.*

Students design, implement and interpret computer-based solutions to problems in several application areas using Java. Students become knowledgeable about programming concepts, algorithm designs, and documentation of the computer solution and proficient at writing and debugging code. The course material emphasizes those concepts outlined by the College Board and prepares students to take the Advanced Placement Computer Science test.

**Introduction to Computer Science  
Grade 11  
1 Mathematics credit**

This course is designed to provide an introduction to two major areas of computer science – networking and programming. Students will first examine the parts of a computer (software/hardware), how each functions, and what constitutes a good example of those parts. Students will then examine how to build a network by adding computers to a small network in the class and connecting to them to the internet. Additionally, students will create mobile apps using App Inventor and will use Python to develop coding and programming skills to creatively interact with technology. This course also serves to provide background for advanced courses in network security and AP Computer Science available at SVGS in the second year.

**Cyber Security and Software Operations**  
Grade 12  
1 Elective credit  

Students are provided instruction in the basics of computer networking, operating systems, system administration and network security. Course content includes an overview of networking, operating systems and other software applications, learning to perform common administrative functions in scripting environments. Students will examine PHP and PERL in the context of an Apache webserver, and use GNU BASH and Microsoft Powershell scripting from the command line to complete every day administrative functions. Course content also includes risk management, network security policy, security training, security keys, confidentiality, integrity, access, accountability, and audit ability. Participation in various industry sponsored contests such as Cyber Challenge and other contests are expected. *Course offering is dependent on student interest, sufficient enrollment and staffing.*

**Engineering I***  
Grade 11  
1 Elective credit  

*Pre-requisite: None*

This course is an introductory course designed to help aspiring engineers develop knowledge, skills and understanding of the engineering design process. Key topics include the historical significance of engineering, along with the modern engineering skills, tools and practices related to civil, mechanical, environmental and electrical engineering. Emphasis will be on teamwork and developing the ability to analyze complex problems and implementing effective solutions. This is a project-based class that will require independent thinking, communication & documentation.
**Engineering II***  849140  
Grade 12  1 Elective credit  
**Pre-requisite: Engineering I**  
Students develop the “thought-work” behind applying concepts of multi-disciplinary engineering methods. Students are immediately immersed in advanced tenements of: static and dynamic equilibrium of particles, tools, and complex elements (like the human body); use of Computer Aided Design in basic engineering modeling; test and evaluation concepts; evaluation of structural and mechanical relationships; evaluation and application of problem design criteria, design for failure concepts, precision and safety-factors mark some but are not inclusive of all the principals touched-on during the course. Engineering Methodology combines mathematics and the physical sciences to resolve problems and reverse engineer solutions. Students complete a dozen team Design Projects and solutions are presented via CAD, schematics, and detailed technical write-ups. Individuals improve math, physics and material science skills by combining them to resolve problems.

**Geospatial Information Systems***  849800  
Grade 12  1 Elective credit  
**Pre-requisite: None**  
Students will develop the skills and knowledge necessary to make use of geographic technologies such as geospatial information systems (GIS), global positioning systems (GPS), and remote sensing. The class will focus on applying GIS technology to different fields, such as environmental science, city planning, ecology and many others. Students will work with a variety of data sets, collect data, and develop their own GIS research project.

*Students in this class must enroll for dual enrollment credit at James Madison University at student’s expense (GEOG 161, 3 credits).*

**Senior Capstone**  229973  
Grade 12 (required for returning seniors only)  1 Elective credit  
**Pre-requisite: None**  
The Senior Capstone is a long-term project embedded in your SVGS curriculum. Its purpose is to encourage you to use your academic work to design and carry out an original, significant, real-life, project outside the classroom. The project will demonstrate your ability to synthesize and make use of all that you are learning at SVGS by designing and implementing your own authentic learning experience. This course supports the completion of your capstone project which will give you the opportunity to challenge yourself to put together your interests, skills and abilities and apply them to a real-life project. Students will network and make professional connections in a field that interests them as a possible career; grow in their ability and skill to plan and execute a project of this nature, including: organizing and managing a complex project; finding resources; doing research; creative problem-solving; collaborating; managing time; using technology effectively; communicating, and people skills; presenting their work to others; and honest and constructive self-evaluation.