Dear Students and Parents:

This planning guide, which describes Henrico County Public Schools middle and high school programs and courses, is being provided to assist students and parents in making prudent educational decisions in preparing for the 21st century.

Parents, thank you for continuing to work with counselors, teachers, and administrators to help your child develop an Educational Plan. When students take advantage of the many options in Henrico County Public Schools, they will ready themselves for the challenges of college and the workplace.

Students, thank you for continuing to develop important habits and attitudes as you learn the content of the courses described in this guide. Success in school, just as in all walks of life, requires planning, hard work, self-discipline, and respect for others.

Together, as a team, we will continue to provide excellent opportunities for all students. The employees of Henrico County Public Schools are here to serve you and welcome your questions, comments, and suggestions.

Sincerely,

Patrick C. Kinlaw, Ed.D.
Superintendent

http://www.henrico.k12.va.us
An Equal Opportunity Employer
### Henrico County Public Schools

**Academic & Career Plan**

**Name:** __________________________
**DOB:** __________________________

**Middle School** __________________________ **High School** __________________________

**Specialty Center Program** __________________________

**Diploma Choice:**
- [ ] Advanced
- [ ] Standard
- [ ] Modified

This individualized plan is tentative and will be reviewed annually. Your school counselor will help you develop your plan and will monitor your progress.

**Post Secondary Plans**

<table>
<thead>
<tr>
<th>Course</th>
<th>Grade 9 Year-Verified Course</th>
<th>Grade 10 Year-Verified Course</th>
<th>Grade 11 Year-Verified Course</th>
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<td>English 11</td>
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<td><strong>Total Credits</strong></td>
<td><strong>Total Credits</strong></td>
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</table>

Requirements for a student to earn a diploma from a Virginia High School are those in effect when a student enters ninth grade for the first time. Please see the charts in Section 1 of the Planning Guide for details.

**Notes:** _________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________

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Rev. 10/15/12

**http://www.henrico.k12.va.us**
# Program of Studies Grades 6-12: A Planning Guide for Students and Parents

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Arts, A/V Technology & Communications  Information Technology
Business Management & Administration  Law, Public Safety, Corrections & Security
Education & Training  Manufacturing
Finance  Marketing
Government & Public Administration  Science, Technology, Engineering & Mathematics
Health Science  Transportation, Distribution & Logistics

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SECTION I
Requirements and Options
Graduation Requirements – State of Virginia
Standard Diploma
Effective with students entering ninth grade in 2003-04 through 2010-2011

NOTE: Requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters ninth grade for the first time.

<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</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Laboratory Science</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>History &amp; Social Sciences</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Health &amp; Physical Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Fine Arts or Career &amp; Technical Education</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Student Selected Test</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

NOTE 1: Courses completed to satisfy this requirement shall be at or above the level of Algebra and shall include at least two course selections from among: Algebra I, Geometry, Algebra II, or other mathematics courses above the level of Algebra and Geometry.

NOTE 2: Courses completed to satisfy this requirement shall include course selections from at least two different science disciplines: Earth Sciences, Biology, Chemistry, or Physics.

NOTE 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.

NOTE 4: Courses to satisfy this requirement shall include at least two sequential electives. Sequential Electives:
- Sequential electives may be in any discipline as long as the courses are not specifically required for graduation.
- Courses used to satisfy the one unit of credit in a fine arts or career and technical education course may be used to partially satisfy this requirement.
- An introductory course followed by another level of the same course of study may be used.
- Sequential electives do not have to be taken in consecutive years.

NOTE 5: A student may utilize additional tests for earning verified credit in Computer Science, Technology, career and technical education or other areas as prescribed by the Board in 8 VAC 20-131-10.

NOTE 6: Students who complete a career and technical [education] program sequence and pass an examination or occupational competency assessment in a career and technical education field that confers certification or an occupational competency credential from a recognized industry, or trade or professional association or acquires a professional license in a career and technical education field from the Commonwealth of Virginia may substitute the certification, competency credential, or license for (1) the student selected verified credit and (2) either a science or history or 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.

A **standard credit** is awarded for a course in which the student receives 140 clock hours of instruction and successfully completes the objectives of the course as evidenced by a passing grade.

A **verified credit** is awarded for a course in which the student earns a standard unit of credit and achieves a passing score on a corresponding end-of-course Standards of Learning test or a substitute assessment approved by the Board of Education.

Regular education students who successfully complete all academic coursework required for the Standard or Advanced Studies Diploma, but who have not earned/been awarded the necessary number of verified credits required by the state for the awarding of a diploma, will be awarded a Certificate of Program Completion. These students may continue to take the SOL tests needed to upgrade their Certificate of Program Completion to a diploma.

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Graduation Requirements – State of Virginia

Standard Diploma

Effective with students entering the ninth grade in 2011-2012 & 2012-2013

NOTE: Requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters ninth grade for the first time.

<table>
<thead>
<tr>
<th>Discipline Area</th>
<th>Standard Credits</th>
<th>Verified Credits-Effective</th>
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</thead>
<tbody>
<tr>
<td>English</td>
<td>4</td>
<td>2</td>
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<tr>
<td>Mathematics [Note 1]</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Laboratory Science [Notes 2 &amp; 6]</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>History &amp; Social Sciences [Notes 3 &amp; 6]</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Health &amp; Physical Education</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>World Language, Fine Arts, or Career &amp; Technical Education [Note 7]</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Economics &amp; Personal Finance</td>
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<td></td>
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<tr>
<td>Electives [Note 4]</td>
<td>4</td>
<td></td>
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<tr>
<td>Student Selected Test [Note 5]</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

NOTE 1: Courses completed to satisfy this requirement shall be at or above the level of Algebra and shall include at least two course selections from among: Algebra I, Geometry, Algebra II, or other mathematics courses above the level of Algebra and Geometry.

NOTE 2: Courses completed to satisfy this requirement shall include course selections from at least two different science disciplines: Earth Sciences, Biology, Chemistry, or Physics.

NOTE 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.

NOTE 4: Courses to satisfy this requirement shall include at least two sequential electives. Sequential Electives:
- Sequential electives may be in any discipline as long as the courses are not specifically required for graduation.
- Courses used to satisfy the one unit of credit in a fine arts or career and technical education course may be used to partially satisfy this requirement.
- An introductory course followed by another level of the same course of study may be used.
- Sequential electives do not have to be taken in consecutive years.

NOTE 5: A student may utilize additional tests for earning verified credit in Computer Science, Technology, career and technical education or other areas as prescribed by the Board in 8 VAC 20-131-110.

NOTE 6: Students who complete a career and technical [education] program sequence and pass an examination or occupational competency assessment in a career and technical education field that confers certification or an occupational competency credential from a recognized industry, or trade or professional association or acquires a professional license in a career and technical education field from the Commonwealth of Virginia may substitute the certification, competency credential, or license for (1) the student selected verified credit and (2) either a science or history or social science verified credit when the certification, license, or credential confers more than one verified credit. The examination or occupational competency assessment must be approved by the Board of Education as an additional test to verify student achievement.

NOTE 7: For students entering the ninth grade for the first time in 2011-2012 and beyond: Pursuant to Section 22.1-253.13:4, Code of Virginia, credits earned for this requirement shall include one credit in fine or performing arts, career and technical education and/or world language.

A standard credit is awarded for a course in which the student earns a standard unit of credit and achieves a passing score on a corresponding end-of-course Standards of Learning test or a substitute assessment approved by the Board of Education.

A verified credit is awarded for a course in which the student receives 140 clock hours of instruction and successfully completes the objectives of the course as evidenced by a passing grade.

Regular education students who successfully complete all academic coursework required for the Standard or Advanced Studies Diploma, but who have not earned/been awarded the necessary number of verified credits required by the state for the awarding of a diploma, will be awarded a Certificate of Program Completion. These students may continue to take the SOL tests needed to upgrade their Certificate of Program Completion to a diploma.

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Graduation Requirements – State of Virginia
Standard Diploma

Beginning with students entering the ninth grade for the first time in 2013-14 and beyond

• Requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters ninth grade for the first time.

• Beginning with students entering the ninth grade for the first time in 2013-14 and beyond, a student must also:
  • Earn a board-approved career and technical education credential to graduate with a Standard Diploma, and
  • Successfully complete one virtual course, which may be non-credit bearing.

• The modified diploma will no longer be an option for students beginning 9th grade for the first time in 2013-2014 and beyond. Credit accommodations are available to students with disabilities as pathways to a standard diploma. The 504 or IEP team determines the provision of credit accommodations.

<table>
<thead>
<tr>
<th>STANDARD DIPLOMA COURSE REQUIREMENTS</th>
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</thead>
<tbody>
<tr>
<td>Discipline Area</td>
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<td>Laboratory Science [Notes 2 &amp; 6]</td>
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<tr>
<td>History &amp; Social Sciences [Notes 3 &amp; 6]</td>
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<td>Health &amp; Physical Education</td>
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<td>World Language, Fine Arts, or Career &amp; Technical Education</td>
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<td>Economics &amp; Personal Finance</td>
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<tr>
<td>Electives [Note 4]</td>
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<tr>
<td>Student Selected Test [Note 5]</td>
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<tr>
<td>Total</td>
</tr>
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</table>

NOTE 1: Courses completed to satisfy this requirement shall be at or above the level of Algebra and shall include at least two course selections from among: Algebra I, Geometry, Algebra II, or other mathematics courses above the level of Algebra and Geometry.

NOTE 2: Courses completed to satisfy this requirement shall include course selections from at least two different science disciplines: Earth Sciences, Biology, Chemistry, or Physics.

NOTE 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.

NOTE 4: Courses to satisfy this requirement shall include at least two sequential electives. Sequential Electives:
  • Sequential electives may be in any discipline as long as the courses are not specifically required for graduation.
  • Courses used to satisfy the one unit of credit in a fine arts or career and technical education course may be used to partially satisfy this requirement.
  • An introductory course followed by another level of the same course of study may be used.
  • Sequential electives do not have to be taken in consecutive years.

NOTE 5: A student may utilize additional tests for earning verified credit in Computer Science, Technology, career and technical education or other areas as prescribed by the Board in 8 VAC 20-131-110.

NOTE 6: Students who complete a career and technical [education] program sequence and pass an examination or occupational competency assessment in a career and technical education field that confers certification or an occupational competency credential from a recognized industry, or trade or professional association or acquires a professional license in a career and technical education field from the Commonwealth of Virginia may substitute the certification, competency credential, or license for (1) the student selected verified credit and (2) either a science or history or 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.

A standard credit is awarded for a course in which the student receives 140 clock hours of instruction and successfully completes the objectives of the course as evidenced by a passing grade.

A verified credit is awarded for a course in which the student earns a standard unit of credit and achieves a passing score on a corresponding end-of-course Standards of Learning test or a substitute assessment approved by the Board of Education.

Regular education students who successfully complete all academic coursework required for the Standard or Advanced Studies Diploma, but who have not earned/been awarded the necessary number of verified credits required by the state for the awarding of a diploma, will be awarded a Certificate of Program Completion. These students may continue to take the SOL tests needed to upgrade their Certificate of Program Completion to a diploma.
Graduation Requirements – State of Virginia
Advanced Studies Diploma
Effective with students entering ninth grade in 2003-2004 through 2010-2011

NOTE: Requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters ninth grade for the first time.

<table>
<thead>
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<th>Discipline Area</th>
<th>Standard Credits</th>
<th>Verified Credit</th>
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<td>Mathematics [Note 1]</td>
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<td>Laboratory Science [Note 2]</td>
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<td>History &amp; Social Sciences [Note 3]</td>
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<td>World Languages [Note 4]</td>
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<td>Health &amp; Physical Education</td>
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<td>Fine Arts or Career &amp; Technical Education</td>
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<td>Electives</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
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</tbody>
</table>

NOTE 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.

NOTE 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 or completion of the sequence of science courses required for the International Baccalaureate Diploma.

NOTE 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.

NOTE 4: The Advanced Studies Diploma contains a requirement for either three years of one world language or two years of two languages.

NOTE 5: A student may utilize additional tests for earning verified credit in computer science, technology, career or technical education or other areas as prescribed by the Board in 8 VAC 20-131-110.

A **standard credit** is awarded for a course in which the student receives 140 clock hours of instruction and successfully completes the objectives of the course as evidenced by a passing grade.

A **verified credit** is awarded for a course in which the student earns a standard unit of credit and achieves a passing score on a corresponding end-of-course Standards of Learning test or a substitute assessment approved by the Board of Education.

Regular education students who successfully complete all academic coursework required for the Standard or Advanced Studies Diploma, but who have not earned/been awarded the necessary number of verified credits required by the state for the awarding of a diploma, will be awarded a Certificate of Program Completion. These students may continue to take the Standards of Learning tests needed to upgrade their Certificate of Program Completion to a diploma.
Graduation Requirements – State of Virginia
Advanced Studies Diploma

Effective with students entering the ninth grade in 2011-2012 & 2012-2013

NOTE: Requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters ninth grade for the first time.

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<thead>
<tr>
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<th>Verified Credits</th>
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</thead>
<tbody>
<tr>
<td>English</td>
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<td>2</td>
</tr>
<tr>
<td>Mathematics [Note 1]</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Laboratory Science [Note 2]</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>History &amp; Social Sciences [Note 3]</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>World Languages [Note 4]</td>
<td>3</td>
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<tr>
<td>Health &amp; Physical Education</td>
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<tr>
<td>Fine Arts or Career &amp; Technical Education</td>
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</tr>
<tr>
<td>Economics &amp; Personal Finance</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Student Selected Test [ Note 5]</td>
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<tr>
<td>Total</td>
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<td>9</td>
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</tbody>
</table>

NOTE 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.

NOTE 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 or completion of the sequence of science courses required for the International Baccalaureate Diploma.

NOTE 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.

NOTE 4: The Advanced Studies Diploma contains a requirement for either three years of one world language or two years of two languages.

NOTE 5: A student may utilize additional tests for earning verified credit in computer science, technology, career or technical education or other areas as prescribed by the Board in 8 VAC 20-131-110.

A **standard credit** is awarded for a course in which the student receives 140 clock hours of instruction and successfully completes the objectives of the course as evidenced by a passing grade.

A **verified credit** is awarded for a course in which the student earns a standard unit of credit and achieves a passing score on a corresponding end-of-course Standards of Learning test or a substitute assessment approved by the Board of Education.

Regular education students who successfully complete all academic coursework required for the Standard or Advanced Studies Diploma, but who have not earned/been awarded the necessary number of verified credits required by the state for the awarding of a diploma, will be awarded a Certificate of Program Completion. These students may continue to take the Standards of Learning tests needed to upgrade their Certificate of Program Completion to a diploma.
Graduation Requirements – State of Virginia
Advanced Studies Diploma

Beginning with students entering the ninth grade for the first time in 2013-2014 and beyond

• Requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters ninth grade for the first time.

• Beginning with students entering the ninth grade for the first time in 2013-2014 and beyond, a student must successfully complete one virtual course, which may be non-credit bearing.

<table>
<thead>
<tr>
<th>ADVANCED STUDIES DIPLOMA COURSE REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discipline Area</td>
</tr>
<tr>
<td>English</td>
</tr>
<tr>
<td>Mathematics  [Note 1]</td>
</tr>
<tr>
<td>Laboratory Science  [Note 2]</td>
</tr>
<tr>
<td>History &amp; Social Sciences  [Note 3]</td>
</tr>
<tr>
<td>World Languages  [Note 4]</td>
</tr>
<tr>
<td>Health &amp; Physical Education</td>
</tr>
<tr>
<td>Fine Arts or Career &amp; Technical Education</td>
</tr>
<tr>
<td>Economics &amp; Personal Finance</td>
</tr>
<tr>
<td>Electives</td>
</tr>
<tr>
<td>Student Selected Test  [Note 5]</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

NOTE 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.

NOTE 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 or completion of the sequence of science courses required for the International Baccalaureate Diploma.

NOTE 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.

NOTE 4: The Advanced Studies Diploma contains a requirement for either three years of one world language or two years of two languages.

NOTE 5: A student may utilize additional tests for earning verified credit in computer science, technology, career or technical education or other areas as prescribed by the Board in 8 VAC 20-131-110.

A standard credit is awarded for a course in which the student receives 140 clock hours of instruction and successfully completes the objectives of the course as evidenced by a passing grade.

A verified credit is awarded for a course in which the student earns a standard unit of credit and achieves a passing score on a corresponding end-of-course Standards of Learning test or a substitute assessment approved by the Board of Education.

Regular education students who successfully complete all academic coursework required for the Standard or Advanced Studies Diploma, but who have not earned/been awarded the necessary number of verified credits required by the state for the awarding of a diploma, will be awarded a Certificate of Program Completion. These students may continue to take the Standards of Learning tests needed to upgrade their Certificate of Program Completion to a diploma.

http://www.henrico.k12.va.us
The Modified Standard Diploma is intended for certain students at the secondary level who have a disability and are unlikely to meet the credit requirements for a Standard Diploma. The student’s Individualized Education Program (IEP) team and the student’s parents determine eligibility and participation at any point after the student’s 8th grade year.

- The modified diploma will no longer be an option for students beginning 9th grade for the first time in 2013-2014 and beyond. Credit accommodations are available to students with disabilities as pathways to a standard diploma. The 504 or IEP team determines the provision of credit accommodations.

## MODIFIED STANDARD DIPLOMA COURSE REQUIREMENTS

<table>
<thead>
<tr>
<th>Discipline Area</th>
<th>Standard Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics [Note 1]</td>
<td>3</td>
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<tr>
<td>Laboratory Science [Note 2]</td>
<td>2</td>
</tr>
<tr>
<td>History &amp; Social Sciences [Note 3]</td>
<td>2</td>
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<tr>
<td>Health &amp; Physical Education</td>
<td>2</td>
</tr>
<tr>
<td>Fine Arts or Career &amp; Technical Education</td>
<td>1</td>
</tr>
<tr>
<td>Electives [Note 4]</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
</tr>
</tbody>
</table>

In addition to these credits, students must

- Pass the 8th grade English (Reading, Literature, and Research) Standards of Learning test **OR**
- Pass the 11th grade English (Reading, Literature, and Research) Standards of Learning test
  **AND**
- Pass the 8th grade mathematics Standards of Learning test **OR**
- Earn a verified credit in high school mathematics

Note 1: Courses completed to satisfy this requirement shall include content from among applications of algebra, geometry, personal finance and statistics in courses that have been approved by the Board.

Note 2: Courses complete shall include content from at least two of the following: applications of earth science, biology, chemistry, or physics in courses approved by the Board.

Note 3: Courses completed to satisfy this requirement shall include one unit of credit in U.S. and Virginia History and one unit of credit in U.S. and Virginia Government in courses approved by the Board.

Note 4: Courses to satisfy this requirement shall include at least two sequential electives in the same manner required for the Standard Diploma. Sequential Electives:

- Sequential electives may be in any discipline as long as the courses are not specifically required for graduation.
- Courses used to satisfy the one unit of credit in a fine arts or career and technical education course may be used to partially satisfy this requirement.
- For career and technical education electives, check with the Office of Career and Technical Education at (804) 225-2051.
- An exploratory course followed by an introductory course may not be used to satisfy the requirement.
- An introductory course followed by another level of the same course of study may be used.
- Sequential electives do not have to be taken in consecutive years.

A **standard credit** is awarded for a course in which the student receives 140 clock hours of instruction and successfully completes the objectives of the course as evidenced by a passing grade.

A **verified credit** is awarded for a course in which the student earns a standard unit of credit and achieves a passing score on a corresponding end-of-course Standards of Learning test or a substitute assessment approved by the Board of Education.

### Graduation Requirements – State of Virginia

**Special Diploma**

To receive a Special Diploma, a student must receive exceptional education services and meet the requirements specified in his/her Individualized Education Plan (IEP).
# Overview of High School Program Options
## Henrico County Public Schools

### Middle School

**Exploring Careers and Planning for High School**

### High School Options

#### Comprehensive High Schools

<table>
<thead>
<tr>
<th>Academic Core</th>
<th>Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Fine Arts</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Career and Technical Education</td>
</tr>
<tr>
<td>Science</td>
<td>General Academics</td>
</tr>
<tr>
<td>Social Studies</td>
<td>World Languages</td>
</tr>
</tbody>
</table>

#### Career Clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Food &amp; Natural Resources</td>
<td></td>
</tr>
<tr>
<td>Architecture &amp; Construction</td>
<td></td>
</tr>
<tr>
<td>Arts, A/V Technology &amp; Communications</td>
<td></td>
</tr>
<tr>
<td>Business Management &amp; Administration</td>
<td></td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td></td>
</tr>
<tr>
<td>Government &amp; Public Administration</td>
<td></td>
</tr>
<tr>
<td>Health Sciences</td>
<td></td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td></td>
</tr>
<tr>
<td>Human Services</td>
<td></td>
</tr>
<tr>
<td>Information Technology</td>
<td></td>
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<tr>
<td>Law, Public Safety, Corrections &amp; Security</td>
<td></td>
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<tr>
<td>Manufacturing</td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
</tr>
<tr>
<td>Science, Technology, Engineering &amp; Mathematics</td>
<td></td>
</tr>
<tr>
<td>Transportation, Distribution &amp; Logistics</td>
<td></td>
</tr>
</tbody>
</table>

#### Specialty Centers

- Specialized college-preparatory programs requiring application for admission
  - Center for the Arts (Henrico High School)
  - Center for Communications (Varina High School)
  - Center for Education and Human Development (Glen Allen High School)
  - Center for Engineering (Highland Springs High School)
  - Center for the Humanities (Hermitage High School)
  - Center for Information Technology (Deep Run High School)
  - Center for the International Baccalaureate Program (Henrico and J. R. Tucker High School)
  - Center for Science, Mathematics, and Technology (Mills E. Godwin High School)
  - Center for World Languages (J. R. Tucker High School)

#### Technical Centers

- Specialized technical concentrations available to all high school students beginning in the 11th grade with an application for admission required during the 10th grade year.
  - Hermitage Technical Center (Career Clusters and Dual Enrollment)
  - Highland Springs Technical Center (Career Clusters, High Tech Academy, and Dual Enrollment)

#### JROTC

- Military studies at six high schools
  - Naval JROTC - Henrico High School
  - Marine JROTC - Hermitage High School, Highland Springs High School, J. R. Tucker High School
  - Air Force JROTC - Deep Run High School

#### Nontraditional Programs

- Personalized program of studies requiring application for admission
  - Academy at Virginia Randolph: GRAD/Performance Learning Center
  - Center for Diversified Studies: GAD/ISAEP/GED
  - Creative School Involvement: Online Credit Recovery
  - Evening School of Excellence: Program for Academic and Career Empowerment

#### Advance College Academy

- A program in which students earn an advanced studies high school diploma while concurrently earning 60 credits from J. Sargeant Reynolds Community College.

#### Maggie L. Walker Governor’s School for Government & International Studies

- Regional high school offering a college-preparatory program requiring application for admission

### Post-Secondary Options

- Four-Year College
- Two-Year College
- Other Professional Training
- Apprenticeship
- Military Service
- Work Force

### Living and Working in the 21st Century

[http://www.henrico.k12.va.us](http://www.henrico.k12.va.us)

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SECTION II

General Information
General Information

Accreditation

Henrico County Public Schools are accredited by the Virginia Department of Education.

Adding or Dropping High School Courses

ADD:
1) Year-long courses may not be added after the first nine-weeks' grading period.
2) Semester courses may not be added after the first interim report of either semester.

DROP:
1) Any year-long courses dropped on or before the end of the first nine-weeks' grading period will not appear on the high school transcript.
   Any semester courses dropped on or before the first interim report for that semester will not appear on the high school transcript.

2) Any courses dropped after the first nine-weeks' grading period OR after the first interim report for semester courses will result in one of the following:
   a) WP = (Withdrawn Passing) **NOT** calculated in student GPA. WP appears on transcript in place of grade.
   b) WF = (Withdrawn Failing) **WILL BE** counted in the GPA calculation. WF will appear on transcript.

3) Year-long courses may not be dropped after the third nine-weeks' interim report.
   Semester courses may not be dropped after completion of the first nine weeks' grading period of either semester.

Advance College Academy (ACA)

The ACA programs located at J. R. Tucker and Highland Springs High School provide students the opportunity to earn an associate’s degree from J. Sargeant Reynolds Community College (JSR) while also earning an advanced studies high school diploma. A student successfully completing the ACA at Tucker High School will earn an associate’s degree in social sciences and a student successfully completing the ACA at Highland Springs High School will earn an associate’s degree in business administration. All 8th grade students are eligible to apply to the ACA through the same application process that is used for specialty centers. Students who are selected will take mostly honors and AP level high school classes while also earning 60 credits from JSR at no cost to students and their parents. The 60 JSR credits are eligible for transfer to over 20 top colleges and universities in the state of Virginia.

Advanced Placement Examinations Program

The Advanced Placement (AP) Examinations Program is a service provided by College Board. High school students enrolled in Advanced Placement courses will take Advanced Placement College Board exams each May, and depending upon their scores, may be awarded college credit and/or advanced placement at *participating colleges and universities.

Henrico expects students taking an AP course to sit for the AP exam. Although most students who take the AP examinations are enrolled in exit-level courses with an "AP" designation, any highly motivated student may elect to take an AP exam in the subject area of his/her choice. According to information provided by College Board, the student's "learning experience may take the form of an honors class, a strong regular course, a tutorial, or an independent study."

Advanced Placement Examinations are administered in May of each year by the school's designated AP Coordinator. In June the examinations are graded on a five-point scale: 5 = extremely well-qualified; 4 = well-qualified; 3 = qualified; 2 = possibly qualified; and 1 = no recommendation. In July the scores are sent to the students, their designated colleges, and their home schools. **Colleges which participate in the Advanced Placement Examinations Program will then consider full or partial credit for scores of three or better.**
For additional information on the Advanced Placement Examinations Program, students should see their school counselors or the school's AP Coordinator. Information concerning financial assistance for exam fees (for those who qualify) is available from their school counselor.

*The College Board requires an $89.00 fee for each AP examination which must be paid by the student.
**Students should refer to the catalogue from each college or university for information concerning the institution's AP policies.

**Apprenticeship**

The student apprenticeship program blends school and work-site experiences that integrate high-level academics, structured technical training, and paid on-the-job experience in a wide variety of occupations. The student apprenticeship program connects the student 16 years of age or older and in the 11th or 12th grade with business and industry to begin career training before high school graduation. Additional information is available from the school counseling department.

**College Credit**

Students must complete the *Non HCPS Course Request Form* and submit it to their principal for approval in order to take college-level courses at local colleges and universities. Courses will only be added to the students’ HCPS transcript if they are replacing a course that is required for graduation. To earn the verified credits, students must pass the course and the corresponding SOL end-of-course tests. They should see their school counselor for specific course and graduation requirements. Also, students must meet the admissions' requirements set forth by the university and pay the full cost for the college course taken.

**Community Service Learning**

Students in grades 9-12 may participate in voluntary assignments and activities to serve organizations as well as individuals in the community. Students who complete a minimum of 80 hours of community service during grades 9-12 will receive the Community Service Learning seal on their diploma and transcript notation. Interested students and parents may request a brochure from each school's community service contact person, a social studies teacher, or online at: [http://www.henrico.k12.va.us](http://www.henrico.k12.va.us).

**Competency-Based Career and Technical Education (CBCTE)**

Competency-Based Career and Technical Education is a systematic approach to improve the teaching/learning process. Essential elements of a CBCTE program include tasks/competencies to be achieved, student performance objectives for each of the tasks/competencies, criterion-referenced measures for evaluating performance, and formal procedures for documentation with possible industry certification and/or state/national licensing.

**Comprehensive High Schools**

Henrico County high schools offer a rigorous academic core program as well as Career and Technical Education programs to prepare students for higher education and for the work force. Students have the option to pursue a Standard or Advanced Studies Diploma and to participate in the following academic core programs: Advanced Placement/International Baccalaureate/Honors, College Prep, and Standard Academic Prep (See "Instructional Grouping" in this section). A Modified Standard Diploma is also available for students who entered the 9th grade prior to the 2013-2014 academic year. All students may select electives in the fine arts, career and technical education, and general academic areas.

**Comprehensive School Health Programs**

The Comprehensive School Health Programs include health and physical education, student health services, school counseling, family life education, life skills instruction, and related services.

**Cumulative Grade Point Average (GPA)/Class Rank**

◆ Students who successfully complete high school courses prior to promotion from middle school earn high school credit toward graduation; however, grades earned in these courses are not counted as part of the high school cumulative grade-point average (GPA).

After promotion from the eighth grade, rising ninth graders who take high school courses in summer school earn credits toward graduation, and their grades are included in the GPA calculation.
◆ **Cumulative Grade Point Average (GPA)** - A four-point system, based on quality of achievement, is used in computing GPA and class rank for each student.

NOTE: NCAA and/or academic scholarships have specific grade point average requirements. See your school counselor and/or coach for details.

<table>
<thead>
<tr>
<th>Semester GPA Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Grade Points</td>
</tr>
<tr>
<td>+ 0.17x each honors, IB, or AP credit</td>
</tr>
<tr>
<td>Total Credits Attempted</td>
</tr>
</tbody>
</table>

The following formula is used to calculate the **cumulative** GPA.

<table>
<thead>
<tr>
<th>Cumulative GPA Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Grade Points</td>
</tr>
<tr>
<td>+ 0.17x each honors, IB, or AP credit</td>
</tr>
<tr>
<td>Total Credits Attempted</td>
</tr>
<tr>
<td>number of years</td>
</tr>
</tbody>
</table>

Use the following **definitions** to figure the above calculations:

**Points per Grade Unit** =

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4</td>
</tr>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
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<td>1.7</td>
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<td>D+</td>
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<tr>
<td>WF</td>
<td>0</td>
</tr>
<tr>
<td>WP</td>
<td>Not counted in calculation</td>
</tr>
</tbody>
</table>

Definitions as reflected on the transcript:

**Total Grade Points** = the sum of (number of credits earned x Points per Grade Unit)

**Total Credits Attempted** = total credit of courses taken whether passed or failed

NOTE: Dropping a course may affect your GPA.

1) Any **year-long** courses dropped on or before the end of the first nine-weeks' grading period will not appear on the high school transcript.

   Any **semester** courses dropped on or before the first interim report for that semester will not appear on the high school transcript.

2) Any courses dropped after the first nine-weeks' grading period **OR** after the first interim report for semester courses will result in one of the following:

   a) **WP** = (Withdrawn Passing) **NOT** calculated in student GPA. WP appears on transcript in place of grade.

   b) **WF** = (Withdrawn Failing) **WILL BE** counted in the GPA calculation. WF will appear on transcript.

3) Year-long courses may not be dropped after the third nine-weeks' interim report.

   Semester courses may not be dropped after completion of the first nine-weeks' grading period of either semester.

Call your school counselor if you have questions regarding GPA calculations.

◆ **Class Rank**

Students are ranked numerically, in ascending order, according to GPA at the end of the junior year and at the end of first semester of the senior year. Class rank is computed into a percentile with 0% being the highest and 100% being the lowest.

NOTE: Only students earning verified credit are included in class rank.
Diploma Seals

Regulations Establishing Standards for Accrediting Public Schools in Virginia contain provisions for awards for exemplary performance for students who meet the requirements for graduation. Students who demonstrate academic excellence may be eligible for one or more of the following awards:

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

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

3. **The Board of Education Career and Technical Education Seal** will be awarded to students who earn a Standard or Advanced Studies Diploma and complete a prescribed sequence of courses in a career and technical education concentration or specialization that they choose and maintain a "B" or better average in those courses; or (i) pass an examination or an occupational competency assessment in a career and technical education concentration or specialization that confers certification or occupational competency credential from a recognized industry, trade or professional association or (ii) acquire a professional license in that career and technical education field from the Commonwealth of Virginia. The Board of Education shall approve all professional licenses and examinations used to satisfy these requirements. Please view the following Web link for additional information: http://www.doe.virginia.gov/instruction/graduation/diploma_seals/

4. **The Board of Education Seal of Advanced Mathematics and Technology** will be awarded to students who earn either a Standard or Advanced Studies Diploma and (i) 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 (ii) 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. The Board of Education shall approve all professional licenses and examinations used to satisfy these requirements. Please view the following Web link for additional information: http://www.doe.virginia.gov/instruction/graduation/diploma_seals/

5. **The Board of Education Seal for Excellence in Civics Education** will be awarded to students who earn either a Standard or Advanced Studies Diploma and: (i) complete Virginia and United States History and Virginia and United States Government courses with a grade of "B" or higher; and, (ii) have good attendance and no disciplinary infractions as determined by local school board policies and, (iii) complete 50 hours of voluntary participation in community service or extracurricular activities. Activities that would satisfy the requirements of clause (iii) of this subdivision include: (a) volunteering for a charitable or religious organization that provides services to the poor, sick or less fortunate; (b) participating in Boy Scouts, Girl Scouts, or similar youth organizations; (c) participating in JROTC; (d) participating in political campaigns or government internships, or Boys State, Girls State, or Model General Assembly; or (e) participating in school-sponsored extracurricular activities that have a civics focus. Any student who enlists in the United States military prior to graduation will be deemed to have met this community service requirement.

6. Students may receive other seals or awards for exceptional academic, career and technical, citizenship, or other exemplary performance in accordance with criteria defined by the local school board.
Dual Enrollment

Dual enrollment is a plan that allows high school juniors and seniors (with some exceptions) to meet the requirements for high school graduation while simultaneously earning *college credit. Most dual-enrollment students are served by the division-wide plan with J. Sargeant Reynolds Community College, ECPI University, and John Tyler Community College. Students participating in the High Tech Academy at Highland Springs Technical Center receive dual credits from Virginia Commonwealth University. In order to participate in dual enrollment courses, students are recommended by their high school principal or school counselor and have permission from their parents. Students must meet course prerequisites and may have to take and pass a college-readiness placement test. More information may be acquired from the school counseling office.

Course offerings have been designed to meet the needs of students in planning their program of study. Decisions depend on student enrollment, availability of faculty, facilities, and financial resources. In the event that a course cannot be offered, the student may, however, have the option to take a concurrent course at the college location. Dual enrollment course offerings are subject to agreement between Henrico County and the respective colleges.

Note: Most dual enrollment courses are not awarded weighted credit; students should carefully read each course description.

*Students should consult college catalogues about the transfer of college credit between colleges and universities as policies may vary.

Eligibility for Activities

◆ Middle School Eligibility

To be eligible for athletics, a student must maintain a 2.0 minimum grade point average and pass English, mathematics, science, social studies, and one additional course. Eligibility for fall sports requires that students pass five courses (referenced above) the preceding year; winter sport participants must have passed the five courses at the end of the previous year and at the end of the first semester of the current year if the season goes into second semester; spring sport participants must have passed the five courses at the end of the first semester of the current year. Before practicing, trying out, or becoming a member of any athletic team, the student must submit to the principal an accurate Middle School Athletic Participation/Parental Consent/Physical Examination Form that is completely filled in and properly signed.

◆ High School Eligibility

To be eligible to participate in interscholastic athletics, a student must maintain a 2.0 minimum grade point average. For athletics and any other performance-related activities sponsored by the Virginia High School League, the student must meet the following requirements:

◆ Must be a bona fide student in good standing of the school represented.
◆ Must have been promoted to the ninth grade (eighth-grade students may be eligible for junior varsity competition in sports not offered at the middle school level).
◆ Must have enrolled no later than the fifteenth day of the current semester.
◆ Must have passed at least five credit courses the preceding year and must be currently taking no fewer than five credit courses for participation during the first semester.
◆ Must have passed at least five credit courses the previous semester and must be currently taking no fewer than five credit courses for participation during the second semester.
◆ Must not have reached his or her nineteenth birthday on or before the first of August of the current school year.
◆ Must not, after entering the ninth grade for the first time, have been enrolled in or have been eligible for enrollment in high school more than eight consecutive semesters.
◆ Must submit to the principal before practicing, trying out, or becoming a member of any school athletic team, a High School Athletic Participation/Parental Consent/Physical Examination Form, completely filled in and properly signed. The form attests that the student has been examined after May 1 of the previous school year and found to be physically fit for athletic competition and that his or her parents consent to participation.
Eligibility to participate in interscholastic athletics is a privilege earned by meeting not only the above listed minimum standards, but also all other standards set by the Virginia High School League, district, and school. Students or parents who have questions regarding eligibility or who are in doubt about the effect an activity might have on eligibility should check with the principal or director of student activities.

**English as a Second Language (ESL)**

ESL is provided to all students who are designated as limited English proficient (LEP) at proficiency levels 1-5 in grades K-12 at all schools. A full-day program is offered as part of the Academy at Virginia Randolph for high school English learners (ELs) who have limited schooling, limited literacy in their native language, and limited proficiency in English. Half-day zone center programs for Level 1 middle school students are offered at Brookland Middle School and Byrd Middle School. Half-day zone center programs for Level 1 and Level 2 ELs from Deep Run High School, Glen Allen High School and Godwin High School are offered at Highland Springs High School and Hermitage High School.

**Examinations**

An examination, 100 minutes in length, is given at the end of each semester in all high school equivalent courses. For a semester course the examination score counts 20% of the final grade; for a year-long course each semester's examination score counts 10% of the final grade. (See "Grading Scale" in this section.)

**Exceptional Education**

Exceptional education and related services are available for all students with identified disabilities that adversely affect their educational performance. This specially designed instruction is described in the student’s individualized education plan (IEP) and is provided to the student in the least restrictive environment. Exceptional education services are available to all students found eligible through an evaluation/eligibility process, and who have an IEP. Students with disabilities may participate in all school activities. They may earn any type of diploma based on completion of curriculum and assessment requirements and/or individualized plans. (Refer to "Graduation Requirements" in Section I.)

The programs available at Virginia Randolph Education Center (VREC) serve students with significant behavior difficulties and/or significant physical and intellectual disabilities. Programs are provided according to individual student needs as designated in the student's IEP.

**Gifted and Advanced Learners**

The following middle and high school services are offered to gifted and other advanced learners:

**Grades 6-8**

- Direct gifted services for identified students are provided by the Secondary Gifted Resource Teacher assigned to each middle school. Sixth grade gifted students are required to take a gifted enrichment seminar class.
- Advanced sections in English provide students the opportunity to examine topics in greater depth and breadth. The grade-level curriculum is modified to include complex learning tasks, variations in pacing, and in-depth independent investigations.
- Acceleration allows students to take high school credit courses in world history, world language, earth science, mathematics (Algebra I, geometry), Art I, family and consumer sciences, technology education, and business and information technology.
- The International Baccalaureate Middle Years Program at Fairfield, Moody, and Tuckahoe Middle Schools contains a curriculum model that emphasizes the importance of a holistic view of knowledge, intercultural awareness, and communication.

*Note: For any high school credit-bearing course taken in middle school, parents may request that grades be omitted from the student's high school transcript. However, the passing SOL test will be posted on the student's test results record. The deadline for making such a request is June 30. The student will not earn course credit or verified credit for the course until the course is retaken and passed. Contact the student's middle school for procedures and more detailed information.*
Grades 9-12

- Direct gifted services for identified students are provided by the Secondary Gifted Resource Teacher assigned to each high school.
- Honors courses that provide advanced challenges in all core content areas.
- Advanced placement courses that provide the means for colleges to grant credit, placement, or both to students who have applied themselves successfully to introductory college level work.
- Specialty center programs that address a wide range of student interests.
- Maggie L. Walker Governor's School for Government & International Studies. (For further information, see "Maggie L. Walker Governor's School" in this section.)
- Dual enrollment courses. Note: Most of these courses do **not** carry weighted credit. (See "Dual Enrollment" in Section III.)
- International Baccalaureate courses that provide the means for colleges to grant credit, placement, or both.

Grading Scale and Honor Roll

The grading scale for Henrico County Public Schools is as follows:

### 2015-16 Grading Scale

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percent Grade</th>
<th>4.0 Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
<td>4.0</td>
</tr>
<tr>
<td>A</td>
<td>93-96</td>
<td>3.7</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td>3.3</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
<td>3.0</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
<td>2.7</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percent Grade</th>
<th>4.0 Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C+</td>
<td>77-79</td>
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<tr>
<td>C</td>
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<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>Below 65</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Henrico County teachers use an electronic grading system to calculate all grades. This system uses standard rounding procedures to determine marking period grades.

Final grades for semester courses are averaged as Marking Period 1 (40%), Marking Period 2 (40%), and Final Exam (20%). Final grades for year-long courses are averaged as Marking Period 1 (20%), Marking Period 2 (20%), First Semester Exam (10%), Marking Period 3 (20%), Marking Period 4 (20%), and Final Exam (10%).

NOTE: Exam exemptions will alter these percentages. The following formulas are used:

- **Final Full Year course (non-exempt):** \(\frac{(MP1*2)+(MP2*2)+EX1+(MP3*2)+(MP4*2)+EX2}{10}\)
- **Final Full Year course (exempt):** \(\frac{(MP1*2)+(MP2*2)+EX1+(MP3*2)+(MP4*2)}{9}\)
- **Second Semester course (non-exempt):** \(\frac{(MP3*4)+(MP4*4)+(EX2*2)}{10}\)
- **Second Semester course (exempt):** \(\frac{(MP3*4)+(MP4*4)}{8}\)

### Guidelines for Honor Roll

Honor Roll is calculated each marking period and each semester as well as for final and cumulative (MP1-MP3) grades. Specific criteria for students' gaining honor roll status include (but are not limited to) the following:

- Students must be taking four academic subjects.
- Students may not have a D or an F in any marking period, semester, final, or cumulative grade. (Students may have any grade on exams.)
- Students with an "I" or an "N" in a course will be flagged for consideration at the school level.
• Students' non home-school courses will be considered in all calculations.
• Students receiving U, WP, and WF will be excluded from Honor Roll.
• Letter grades of S (Satisfactory) or P (Pass) are not considered in Honor Roll calculations.

NOTE: Honor Roll and GPA are calculated differently. Please see your school counselor for honor roll calculation information.

**Homebound Instruction**

Homebound instruction is provided as a temporary instructional service by teachers assigned by Henrico County Public Schools when a medical determination is made that a student is unable to attend classes for an extended period of time. A professional’s (M.D., psychiatrist, clinical psychologist) written recommendation and treatment plan are necessary. Requests for homebound instruction should be made to the school counselor. A *Certification for Need for Homebound Instruction* form is available through your school's counseling department.

Home-based services authorized through an Individualized Education Program Team serve as a short-term transitional placement until an appropriate long-term placement can be arranged.

**Instructional Grouping**

Students are often grouped for instruction in core academic middle and high school courses, specialty center courses, and some elective courses. Grouping is based on a student's motivation, post-secondary and career goals, prior academic performance, standardized test scores, and recommendations from teachers, parents, and counselors.

Most high schools offer the following levels of grouping:

- **College Preparatory and Standard Academic**
  - Rigorous implementation of the Standards of Learning to assure high performance on SOL end-of-course tests (Refer to Standards of Learning (SOL), End-of-Course Tests, Verified Credits, and Substitute Assessments in this section.)
  - College preparatory curriculum designed for students who plan to pursue higher education in the liberal arts, in the fine and performing arts, in mathematics and science
  - Career preparation emphasizing high performance standards required for successful pursuit of higher education and/or gainful employment (See Career Clusters in Section III.)
  - Independent reading, writing, and short-range and long-range projects required outside of class
  - Emphasis on critical thinking, stressing comprehension, application, analysis, synthesis, and evaluation
  - Technical and business-world application of subject matter

- **Advanced Placement/International Baccalaureate/Honors**
  - Rigorous coursework designed to challenge the highly motivated and academically gifted/advanced student
  - Independent reading, writing, and long-range projects required outside of class
  - Emphasis on critical thinking skills, stressing higher order analysis, synthesis, and evaluation
  - Preparation for four-year college/university and Advanced Placement and IB Examinations in exit-level courses (See "Advanced Placement Examinations Program" and "IB Diploma Program" in this section.)
  - Development of career awareness through appropriate connections between subject matter and a variety of career options

Note: *Advanced Placement, IB Diploma and Honors course numbers will be accompanied by the letter A, Y, Z, or IB on the student request form, report card, and transcript, indicating that a weighted credit is awarded. The letter “X” indicates a Specialty Center course and “XA” indicates a Specialty Center Honors course.*

**International Baccalaureate Diploma Program**

High school students enrolled in an International Baccalaureate Diploma Program will complete mandatory internal assessment in their IB course work and sit for corresponding International Baccalaureate examinations in May of each year.

Students can receive a score of 1 (poor or elementary) to 7 (excellent) for each subject studied. Universities and colleges typically expect individual Higher Level (HL) subject scores to be a minimum of 4 (satisfactory) or sometimes 5 (good) for credit considerations. See the IB Diploma recognition policy at the university website to determine course credit. Also consult the university or college website to determine second year enrollment status and scholarship availability for those students earning the IB Diploma.

[http://www.henrico.k12.va.us](http://www.henrico.k12.va.us)
Maggie L. Walker Governor's School for Government and International Studies

This regional high school offers an advanced college preparatory curriculum emphasizing government, international studies, world languages, science, mathematics, and fine arts as well as opportunities for international learning experiences. Eighth-grade students residing in Henrico County are selected on a competitive basis through an application process beginning mid-October through mid-March. Students are eligible to apply if they meet the following criteria:

- reside in Henrico County, Virginia.
- be enrolled in or have completed a World Language and successfully pass/passed the course for high school credit.
- be enrolled in Algebra I or a higher-level math course during the eighth grade year and successfully pass the course for high school credit.
- have a B average according to Henrico County's grading scale for the four core subjects at the end of the 7th grade year. Students who do not have a B average, but would like to be considered as an applicant due to special circumstances, must provide a letter of explanation to the Educational Specialist for Gifted Education Programs, Henrico County Public Schools.

To ensure regional representation at each public middle school, HCPS’ internal selection process has two phases. For phase one, HCPS will establish an applicant pool based on the composite score* from the MLWGS regional application evaluation process. HCPS will offer admission to the top-qualifying applicant from each public middle school that meets the regional established cut-off score in that pool. During phase two, the remaining slots will be offered to all applicants by numerical rank on the MLWGS composite score from highest to lowest. Applicants participating in a special program such as the IB Program or out of zone program will be considered with the public middle school they attend in eighth grade. All home-school or private school applicants will be considered in phase two of the selection process.

Admission handbooks and applications will be available beginning the middle of October with an application deadline in early December. Eighth-grade students enrolled in Henrico County Public Schools may obtain an application from their middle school counselor. Eighth-grade students residing in Henrico County and not enrolled in public schools should contact the Educational Specialist, Gifted Education Programs, Henrico County Public Schools, (804) 652-3765. For additional information, visit the Governor's School website at www.gsgis.k12.va.us.

Military Science/JROTC

Military Science/JROTC is offered at six of the county's high schools. Marine Corps JROTC is offered at Hermitage, Highland Springs, and J. R. Tucker. Naval JROTC is offered at Henrico and Varina, and Air Force JROTC is offered at Deep Run. (See Section V, Course Descriptions.)

NCAA Eligibility Center for College-Bound Athletes

Students who plan to participate as college freshmen in Division I or II athletic programs must register and be certified by the NCAA (National Collegiate Athletic Association) Eligibility Center. Please go to http://www.ncaa.org for the most up-to-date information regarding registering online and paying fees. Students should specifically review core course requirements, SAT/ACT requirements, recruiting rules and amateur status. There are specific GPA/SAT/ACT requirements for scholarships. See your school counselor for more information.

Checklist for College-Bound Student Athletes:

- Complete the registration process with the NCAA Eligibility Center at the beginning of your junior year at http://ncaaeligibilitycenter.org
- Ask your school counselor to send your transcript to the Eligibility Center at the end of your junior year.
- Take the ACT or SAT and use code 9999 to have scores sent directly to Eligibility Center.
- Request final amateurism certification during your senior year.
- Ask your high school counselor to submit your final transcript with proof of graduation.
Nontraditional Programs

Henrico County Public Schools offers a variety of nontraditional programs to meet the needs of all students. The following programs provide students with choices in their educational program to be prepared for life in the 21st century.

Note: The HCPS Code of Student Conduct applies to all students participating in any nontraditional program.

Academy at Virginia Randolph

The Academy at Virginia Randolph is open to all high school students who want or need an alternate approach to education. In a compassionate atmosphere fostered by a competent and concerned staff, students are encouraged to develop their talents and skills needed to meet the demands of the 21st century. Assisted by school counselors and instructors, students design their own programs of study to meet their needs and to serve as a foundation for their chosen career. The staff works closely with students and their families to pursue the students' educational and occupational career goals. School, family, and community involvement are all elements of the program. Students interested in enrolling at the Academy must complete an application signed by a parent and have school counselors supply the required student information. Once the application has been received, applicants will be notified of a required student and parent information session. Additionally, the prospective student and a parent must meet with the vocational instructor to develop a career plan. Acceptance to the Academy is based on space availability.

All students attending AVR will be working toward a standard or advanced high school diploma. Students may also choose to work toward a career and technical education certificate in addition to their high school diploma.

Center for Diversified Studies

The Center for Diversified Studies, located at the Academy at Virginia Randolph, provides personalized programs for students who want to complete their high school education and who, for various reasons, are unable to complete the last few courses required for graduation at their home high school. Options for courses range from college level to career and technical certificate classes. This nontraditional, flexible educational structure may lead to one of the diploma options described in Section I. The Center’s ultimate goal is to coordinate classes for students in order to help them obtain required credits for graduation. A personalized plan based on each student’s educational and career goals will be implemented to identify where the student will be taking classes.

Communities in Schools Performance Learning Center Program

The PLC program is designed for students who have struggled in the traditional high school setting, but still have a desire to get their diploma. The PLC program, which is located at 2915 Williamsburg Road, will structure a student’s learning to meet individual needs in a much smaller school setting. The individualization of the program allows for most students to complete the program within 18 months or less while earning a standard or advanced studies high school diploma.

Creative Student Involvement

Middle school students who have ongoing disciplinary concerns at identified middle schools will be provided with a behavior intervention teacher. The teacher will serve as a mentor and coach to the student on a daily basis to help assure student success. Students will be placed in the program to provide additional, one-on-one support to help students succeed socially and academically in the comprehensive middle school.

Evening School of Excellence

The Evening School of Excellence serves high school students who have experienced academic difficulties and/or personal challenges, and are at-risk of not graduating on time. Designed to help students get back on track, the program provides an opportunity for students to complete coursework and recover credits needed for graduation through evening classes offered at two sites, Highland Springs High School and the Academy at Virginia Randolph. The instructional program addresses the learning styles of students through smaller classes, more individualized attention, and differentiated teaching strategies. Students are referred through their home school administrator and/or school counselor. Please note there is an additional fee to take Evening School of Excellence courses.

Individual Student Alternative Education Plan (ISAEP) Program

- Serves eligible students who are at least 16.5 years old.
- Targets students with strong academic skills who have not been successful in a traditional school setting.
- Provides instruction for the GED (General Educational Development) Certificate.
- Provides career counseling and occupational skills training through participation in work-based learning and exploration of post-secondary opportunities.

http://www.henrico.k12.va.us
Online Credit Recovery
High school students who are behind in credits or those who need an alternative option within the comprehensive school will be given an opportunity to take courses online. Online courses are monitored by a licensed teacher and are taken along with regularly scheduled classes at the comprehensive school. Online courses can often be accelerated because the instruction and assignments are accessible to students 24/7.

Program for Academic and Career Empowerment at Virginia Randolph (PACE)
PACE is a nontraditional program that serves overage middle school students. The program is designed to remediate students and allow them to experience success with their peer group in high school the following school year. This unique program provides students with small class sizes, an individualized learning plan, faculty mentorship, blended online curriculum, and project-based learning steeped in collaboration, problem solving, critical thinking, and innovation. Students also explore a wide variety of careers as they earn up to three high school elective credits. Seventh and eighth grade students who are one or more years overage are eligible for the program. All overage students will be reviewed and recommended to the program by their comprehensive middle school. Overage students will be enrolled in PACE with the intent of them returning to the comprehensive high school or the Academy at Virginia Randolph with three to five high school credits the following year.

Number of Periods Per Day
All students shall maintain a full-day schedule of classes unless (1) the student is enrolled in a cooperative work/apprenticeship program or (2) the Superintendent of Schools or his designee grants the student a waiver.

Online Classes
Henrico County currently offers English 12, English 12 Honors, Earth Science, Geometry, U.S. History, U.S. History Honors, Government, Health/PE, and Personal Finance/Economics courses online at various times throughout the year. High school students should consult with their school counselor to determine when the online classes are offered and if it is an appropriate course for their diploma program.

Promotion Policies
Middle School
To qualify for promotion between middle school grades, or from middle school to high school, students must earn a passing final grade in the four core subject areas of English, mathematics, science and social studies. Students who fail one or more core subjects are retained and recommended to attend summer school to retake the failed courses. If the student does not attend summer school, he/she will be retained.

High School
Satisfactory completion of courses which meet graduation requirements determines promotion or retention on a course-by-course basis.

The requirements for classification of a student at specific grade levels are indicated below:
10th Grade - A student must have earned a minimum of 5 credits, 3 of which must be from the disciplines of English, social studies, mathematics, science, or physical education.
11th Grade - A student must have earned a minimum of 10 credits, 6 of which must be from the disciplines of English, social studies, mathematics, science, or physical education.
12th Grade - A student must have earned 15 credits, 10 of which must be from the disciplines of English, social studies, mathematics, science, or physical education.

High school students must have passed the previous required level of English before being permitted to take the next required level of English; i.e., they may not be enrolled in English 11 and English 12 in the same school year. Students may take an additional English credit during the Evening School of Excellence Credit Program, dual enrollment offering, and summer school. Exceptions to "doubling" may be made by the high school principal on a case-by-case basis.

Students must complete a practical (Career and Technical Education) or fine arts credit prior to graduation.
Recommendations for exceptions to the requirements regarding high school may be made by the high school principal to the Director of Secondary Education for a decision on a case-by-case basis.
School Counseling
School counseling is a planned, sequential program of services designed to aid children in mastering the academic, personal/social, and career tasks which are essential to the development of academic, technical, and life skills. The primary task of the school counselor is to assist students and their parents in identifying the appropriate pathways that will provide a positive academic, social, and career direction.

School/Parent Communication on Student Progress
The school year is divided into quarters of nine weeks each; every student receives a report card following each quarter. Parents are encouraged to participate in HCPSLink where they can check student progress weekly; however, interim reports are sent home in the middle of each quarter to parents who do not use this program. In addition, parents have opportunities for parent/teacher dialogue through conferences and telephone and/or e-mail contacts. Appointments are recommended for conferences.

Sequential Electives - Standard Diploma
In order to obtain a 22-credit Standard Diploma, students must take two electives that are sequential (coursework that builds similar skills as defined by the Virginia Department of Education). A course may satisfy the requirement for fine arts or Career and Technical Education and still meet the requirement for sequential electives. Ex. Art I followed by Art II counts as both the sequential electives and the fine arts or Career and Technical Education requirement.

Specialty Centers
Specialty Centers, located in each Henrico County comprehensive high school and three middle schools, offer unique choices for HCPS students who have specific educational and/or career goals. These centers provide opportunities for students to concentrate on specialized interests while completing a rigorous college-preparatory program. In addition to an informational booklet given to all 8th graders who are enrolled in HCPS, Zone Meetings and Open Houses during the first semester provide in-depth information about Center curriculum and the application process. Students must apply to Centers in December of their 8th grade year+ and may use the application available online at www.henrico.k12.va.us. Students who are accepted and choose to attend a Specialty Center will become full-time students at the high school which houses the Center; however, students who withdraw from a Specialty Center prior to their junior year will return to their home school to complete their remaining high school years. HCPS provides transportation to all Centers.
+ For IBMYP, students must apply during their 5th grade year.

Standards of Learning (SOL), End-of-Course Tests, Verified Credits, and Substitute Assessments
The State of Virginia has established a set of K-12 subject-area Standards of Learning (SOL) with corresponding grade level and end-of-course SOL tests. These SOLs are incorporated in the Secondary pacing guides found on the Henrico County Public Schools website. All middle and high school students enrolled in applicable high school credit-bearing courses are required to take corresponding end-of-course tests or substitute tests.

Note: For any high school credit-bearing course taken in middle school, parents may request that grades be omitted from the student's high school transcript. However, the passing SOL test will be posted on the student's test results record. The deadline for making such a request is June 30. The student will not earn course credit or verified credit for the course until the course is retaken and passed. Contact the student’s middle school for procedures and more detailed information.

Remediation opportunities (before, after, during school and summer school) will be provided in certain subject areas for students failing one or more of the Standards of Learning tests (SOL tests). Students and parents should check with principals in selecting appropriate programs.

http://www.henrico.k12.va.us
Students who pass the course and achieve a passing score on an end-of-course test are awarded a verified unit of credit in that course. A verified credit is defined as 140 clock hours of instruction, successful completion of the course requirements, and the achievement of a passing score on the SOL test for that course or on a substitute assessment. (See "Substitute Assessments" in this section.)

The State has established the number of standard credits and verified credits required for the Standard Diploma and for the Advanced Studies Diploma (See "Graduation Requirements" in Section I):

Students seeking a **Standard Diploma** must pass 6 end-of-course tests: 2 English plus 1 mathematics, 1 science, 1 social studies/history, and 1 of student's choice.

Students seeking an **Advanced Studies Diploma** must pass 9 end-of-course tests: 2 English, 2 mathematics, 2 science, 2 social studies/history, and 1 of the student's choice.

**Verified credits may be earned in each of the following core content areas:**

**ENGLISH**

For the 22-Credit Standard Diploma, the 24-Credit Advanced Studies Diploma, and the 26-Credit Advanced Studies Diploma, Virginia graduation requirements specify four (4) course credits with two (2) verified credits earned by passing the following SOL English end-of-program tests.

✔ SOL English end-of-course test, **EOC Writing** (covers grades 9-10 content; 2 parts, 1 verified credit) will be administered to all English tenth-grade students enrolled in the following courses:
  - English 10 (#1140)
  - IBMYP English, Level Five (#IB1140)

✔ SOL English end-of-course test, **EOC Reading** (covers grades 9-11 content; 1 verified credit) will be administered to all English eleventh-grade students enrolled in the following courses:
  - English 11 (#1150)
  - AP English 11 Language & Composition (#1196)
  - IBDP English HL (#IB1150)

**MATHEMATICS**

Virginia graduation requirements for the 22-Credit Standard Diploma specify three (3) course credits with one (1) verified credit; for the 24-Credit Advanced Studies Diploma and the 26-Credit Advanced Studies Diploma, four (4) course credits with two (2) verified credits are required.

✔ SOL Algebra I end-of-course test will be administered in the following classes:
  - Algebra I (#3130)
  - Algebra I - 2 year Sequence Pt. 2 (#3132)*
  - IBMYP Algebra I (#IB3130)

✔ SOL Geometry end-of-course test will be administered in the following classes:
  - IBMYP Geometry (#IB3143)
  - PSC Geometry (#3143)
  - Geometry - 2 year Sequence Pt. 2 (#3145)*

✔ SOL Algebra II end-of-course test will be administered in the following classes:
  - Algebra II (#3135)
  - IBMYP Algebra II (#IB3135)

*Exceptional Education only
SCIENCE

Virginia graduation requirements for the 22-Credit Standard Diploma specify three (3) laboratory science credits (from at least two (2) different science disciplines) with one (1) verified credit; for the 24-Credit Advanced Studies Diploma and the 26-Credit Advanced Studies Diploma, four (4) laboratory science credits (from at least three (3) different science disciplines) and two (2) verified credits are required.

✓ SOL Earth Science end-of-course test will be administered to students enrolled in the following courses:
   - Earth Science (#4210)
   - AP Environmental Science (#4270)
   - Earth Science I - Part 2 (4201)**

✓ SOL Biology end-of-course test will be administered to students enrolled in the following courses:
   - Biology I (#4310)
   - AP Biology (#4370)*
   - IBMYP Biology (#IB4310)
   - AP Biology - Research Based (#4341)*
   - Biology II - Advanced Survey of Biology Topics (#4320)*
   - Biology I - 2 year Sequence Pt. 2 (#4301)**

✓ SOL Chemistry end-of-course test will be administered to students enrolled in the following courses:
   - Chemistry I (#4410)
   - IBMYP Chemistry (#IB4410)
   - AP Chemistry (#4470)*

*Students would only sit for the SOL test if they had not taken or passed it with the first-year course.
**Exceptional Education only

SOCIAL STUDIES

Virginia graduation requirements for the 22-Credit Standard Diploma specify three (3) course credits with one (1) verified credit; for the 24-Credit Advanced Studies Diploma and the 26-Credit Advanced Studies Diploma, four (4) course credits with two (2) verified credits are required.

✓ SOL World History I end-of-course test will be administered to students enrolled in the following courses:
   - World History & Geography I (#2215)
   - IBMYP World History & Geography I, Level Three (#IB2215)

✓ SOL World History II end-of-course test will be administered to students enrolled in the following courses:
   - World History & Geography II (#2216)
   - IBMYP World History & Geography II Level Four (#IB2216)
   - Immersion World History & Geography II (#2216)

✓ SOL Virginia and United States History end-of-course test will be administered to students enrolled in the following courses:
   - Virginia and United States History (#2360)
   - IBDP History of the Americas HL (#IB2360)
   - AP Virginia and United States History (#2319)
   - Virginia and United States History - 2 year Sequence Pt. 2 (#2362)*

*Exceptional Education only

SUBSTITUTE ASSESSMENTS (FOR SOL TESTS)

Assessments which substitute for SOL tests and enable students to earn verified credit must meet the following minimum criteria:

1. The substitute test must be standardized and graded independently of the school or school division in which the test is given;
2. The substitute test must be knowledge-based;
3. The substitute test must be administered on a multistate or international basis;
4. To be counted in a specific academic area, the substitute test must measure content that incorporates or exceeds the SOL content in the course for which verified credit is given; and
5. The grade or cut score will be pre-determined for approved substitute tests.
The State Board of Education, using the criteria above, has approved various tests which may substitute for certain SOL tests. See the DOE website (www.doe.virginia.gov/testing/substitute_tests/index.shtml) for current listings and minimum acceptable scores.

**Student Activities**

Students are encouraged to explore interests and to participate in student activities that tend to promote and build self-esteem, character, and leadership qualities. Numerous opportunities available for students to excel in activities beyond the classroom include the following:

- athletics
- performing groups
- intramural activities
- academic competitions
- co-curricular organizations
- honorary societies
- community service
- service clubs
- publications
- interest clubs

For additional information check the school's website.

**Summer Programs**

Henrico County Public Schools offers a variety of programs every summer. Tuition is required for most courses. Academic and enrichment programs are offered at most of the middle schools. Career awareness programs for middle school students are also offered at both technical centers. A comprehensive summer school program either on-site or online is offered to all high school students. Remediation opportunities are provided for students failing one or more of the Standards of Learning tests (SOL tests) as well as for students referred by teachers. All schools have the appropriate forms and information for registration and enrollment of students. Information concerning possible financial assistance is available through each school's principal.

**Testing Program:**

**An overview of division-wide standardized tests and local assessments**

Testing is an essential part of a student’s education. With test results, students, parents, teachers, and administrators can determine not only the student’s strengths but also the school’s curricular strengths. State-mandated test scores are a part of the student’s school record.

The following standardized tests may be administered to middle and high school students through the Department of Research and Planning:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Test Description</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - 8</td>
<td>NWEA (Northwest Evaluation Association) - MAP (Measure of Academic Progress) assessment given to students in grades 6-8 in Reading and Math.</td>
<td>Fall, Winter (optional), Spring</td>
</tr>
<tr>
<td>6 - 12</td>
<td>Virginia Standards of Learning (SOL) Tests (Refer to &quot;Standards of Learning and End-of Course Tests.&quot;)</td>
<td>Spring Summer, Fall (for certain students)</td>
</tr>
<tr>
<td>6 - 12</td>
<td>Access/WIDA Test (LEP students only)</td>
<td>Spring</td>
</tr>
<tr>
<td>10 - 11</td>
<td>PSAT/NMSQT (see following paragraph)</td>
<td>Fall</td>
</tr>
</tbody>
</table>

Unique to Henrico County Public Schools is the opportunity for all 10th grade students to take, free of charge, the Preliminary Scholastic Aptitude Test (PSAT)/National Merit Scholarship Qualifying Test (NMSQT) given in October. The official PSAT/NMSQT taken during the fall of the junior year is a requirement for eligibility for some scholarships. (A fee is required.)

Henrico County Public Schools also administers the following local assessments/simulation assessments correlated to the Standards of Learning in the core content areas:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Content Areas</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 &amp; 10</td>
<td>English (writing)</td>
<td>Fall</td>
</tr>
<tr>
<td>6 - 7</td>
<td>Science</td>
<td>Spring</td>
</tr>
</tbody>
</table>

Also available to students is the opportunity to learn more about themselves through other tests/surveys.
SECTION III
Career and Technical Education (CTE)

• Career Clusters
• Descriptions and Course Offerings for Each Cluster and CTE Industry Credential Information
• Technical Center Programs: An Overview of Offerings
• High Tech Academy
### Career Cluster Descriptions

<table>
<thead>
<tr>
<th>Career Cluster</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.</td>
</tr>
<tr>
<td>Architecture &amp; Construction</td>
<td>Careers in designing, planning, managing, building and maintaining the built environment.</td>
</tr>
<tr>
<td>Business, A/V Technology &amp; Communications</td>
<td>Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.</td>
</tr>
<tr>
<td>Business Management &amp; Administration</td>
<td>Business Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy.</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>Planning, managing and providing education and training services, and related learning support services.</td>
</tr>
<tr>
<td>Finance</td>
<td>Planning, services for financial and investment planning, banking, insurance, and business financial management.</td>
</tr>
<tr>
<td>Government &amp; Public Administration</td>
<td>Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels.</td>
</tr>
<tr>
<td>Health Science</td>
<td>Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>Hospitality &amp; Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services.</td>
</tr>
<tr>
<td>Human Services</td>
<td>Preparing individuals for employment in career pathways that relate to families and human needs.</td>
</tr>
<tr>
<td>International, Public Safety, Corrections &amp; Security</td>
<td>Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.</td>
</tr>
<tr>
<td>Marketing</td>
<td>Planning, managing, and performing marketing activities to reach organizational objectives.</td>
</tr>
<tr>
<td>Science, Technology, Engineering &amp; Mathematics</td>
<td>Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.</td>
</tr>
<tr>
<td>Transportation, Distribution &amp; Logistics</td>
<td>Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.</td>
</tr>
</tbody>
</table>

The Career Clusters icons are being used with permission of the:
Career & Technical Education Course Offerings

CTE Industry Credentials may be available. A credential is defined as an industry certification, a state license and/or a national occupational competency assessment.

AGRICULTURAL EDUCATION
Detailed course descriptions can be found on page 70 in Section V of the Planning Guide.
- Greenhouse Management

BUSINESS and INFORMATION TECHNOLOGY
Detailed course descriptions can be found on pages 72-74 in Section V of the Planning Guide.
- Accounting
- Accounting II
- Advanced Database Design and Management (Oracle)
- Advanced Microsoft IT Academy (Honors)
- Advanced Web Development/Advanced Programming
- Business Law
- Business Management
- Career Interpretation
- Computer Applications
- Database Design and Management (Oracle)
- Desktop/Multimedia Presentations
- Digital Input Technologies
- Discovering Computers
- Economics & Personal Finance
- Exploring Business Computers
- Information Technology (IT) Fundamentals
- Legal Systems Administration
- Make It Your Business
- Medical Systems Administration
- Microsoft IT Academy
- Office Administration
- Principles of Business and Marketing
- Programming (Honors)
- 21st Century Computer Skills
- Web Development/Programming
- Word Processing

EDUCATION for EMPLOYMENT (EFE)
Detailed course descriptions can be found on page 96 in Section V of the Planning Guide.
- Introduction to Education for Employment
- Education for Employment I and II
- Work Experience Cooperative Education Program

FAMILY and CONSUMER SCIENCES
Detailed course descriptions can be found on pages 81-82 in Section V of the Planning Guide.
- Child Development and Parenting
- Creative Fashion (Intro to Fashion Careers)
- Culinary Arts I and II
- Early Childhood Education and Services I and II
- Foods and Wellness
- Independent Living
- Introduction to Culinary Arts
- Introduction to Housing, Home Furnishings, and Design
- Introduction to Virginia Teachers for Tomorrow, Grade 8 or 9
- Life Planning
- Relationships (Family Relations)
- Virginia Teachers for Tomorrow I and II
- Teen Living 6 & 7 (FACS Exploratory I and II)

HEALTH and MEDICAL SCIENCES
Detailed course descriptions can be found on page 82 in Section V of the Planning Guide.
- Emergency Medical Technician
- Nurse Aide
- Pharmacy Technician
- Practical Technician I & II
- Practical Nursing III
- Sports Medicine
- Veterinary Science I & II

http://www.henrico.k12.va.us
### MARKETING
Detailed course descriptions can be found on pages 83-84 in Section V of the Planning Guide.

- Advanced Global Marketing and Commerce
- Advanced Hotel and Catering Entrepreneurship
- Fashion Marketing
- Fashion Marketing II
- Internet Marketing
- Introduction to Marketing
- Marketing
- Marketing II
- Marketing Management
- Principles of Marketing and Business
- Sports, Entertainment, and Recreation Marketing
- Sports, Entertainment, and Recreation Marketing II
- Travel and Tourism

### TECHNOLOGY EDUCATION
Detailed course descriptions can be found on pages 92-93 in Section V of the Planning Guide.

- Advanced Drafting and Design
- Advanced Photography (Imaging Technology)
- Architectural Drawing/Design/CAD
- Career and Technical Occupational Exploration
- Communications Systems
- Construction Technology
- Digital Visualization
- Drafting and Design
- Electronic Systems I and II
- Energy and Power
- Engineering Drawing/Design/CAD
- Engineering Explorations I
- Engineering Studies (Honors)
- Geospatial Technology
- Introduction to Photography (Semester Imaging Technology)
- Introduction to Technology
- Inventions and Innovations
- Manufacturing Systems I and II
- Materials and Processes Technology with Metals
- Materials and Processes Technology with Woods
- Production Systems with Metals
- Production Systems with Woods
- Technical Drawing/Design/CAD
- Technological Systems
- Technological Systems/Manufacturing
- Technology Foundations
- Technology Transfer
- Video and Media Technology

### MILITARY SCIENCE
Detailed course descriptions can be found on page 86 in Section V of the Planning Guide.

- Air Force JROTC
- Marine Corps JROTC
- Naval Corps JROTC

CTE Industry Credentials may be available. A credential is defined as an industry certification, a state license and/or a national occupational competency assessment.
TRADE and INDUSTRIAL EDUCATION

Detailed course descriptions can be found on pages 94-95 in Section V of the Planning Guide.

- Air Conditioning, Refrigeration, and Plumbing I and II
- Auto Body Repair I and II
- Automotive Technology I and II
- Barbering I and II
- CAD-Computer-Aided Drafting/3D Animation I and II
- Carpentry I and II
- Computer Systems Technology I and II
- Cosmetology I and II
- Criminal Justice I and II
- Electricity and Cabling I and II
- Graphic Communications I and II
- Industrial Maintenance Repair/Welding I and II
- Masonry I and II
- Precision Machining Technology I and II
- Radio Broadcasting and Journalism I and II

CTE Industry Credentials may be available. A credential is defined as an industry certification, a state license and/or a national occupational competency assessment.
Career & Technical Education

Two technical centers offer one-year and two-year courses in skill-based programs to all Henrico County high school juniors and seniors. The mission of these programs is to prepare students for job-entry skills and/or post-secondary education. Students planning to take a technical center program should be in a rigorous core curriculum cluster at their home high school to prepare for 3 credit technical courses during their junior/senior years. All technical center programs lead to licensure or certification upon successful completion.

AGRICULTURE, FOOD AND NATURAL RESOURCES

**Greenhouse Management** (1 year, 3 credits) Grow annuals, perennials, vegetables and herbs in a garden center setting. Study horticulture therapy, techniques of floral design and wedding planning, plant propagation and transplanting.

**ARCHITECTURE AND CONSTRUCTION**

**Air Conditioning/Refrigeration/Plumbing** (2 years, 6 credits) Learn to install, troubleshoot, and service air conditioning, heating, plumbing, and refrigeration systems. Students may work toward EPA/CFC certification.

**Carpentry** (2 years, 6 credits) Explore careers in residential and commercial carpentry, including cost and materials estimating and remodeling, while learning comprehensive carpentry skills.

**CAD - Computer-Aided Drafting and 3D Animation** (2 years, 6 credits) Explore careers in drafting, animation and design while learning technical skills using AutoCad software.

**Electricity and Cabling** (2 years, 6 credits) Learn basic principles of direct and alternating current with emphasis on residential wiring. Earn one year of nationally accredited electrical apprenticeship through standardized tests.

**Masonry** (2 years, 6 credits) Explore careers in residential and commercial brick and masonry construction while learning how to read blueprints, mix mortar and construct walls, corners, piers and chimneys.

**ARTS, A/V TECHNOLOGY AND COMMUNICATIONS**

**Graphic Communications** (2 years, 6 credits) Instruction on digital layout and design with Adobe Creative Suite as well as designing and publishing HTC newsletter; production procedures, digital 4-color printing, screen printing of T-shirts and hoodies, vinyl signs and decals.

**Radio Broadcasting and Journalism** (2 years, 6 credits) Explore careers in commercial production, digital editing, news broadcasting, script writing, and radio programming while participating in live broadcasting.

**Web Development/Programming** (2 years, 6 credits) Learn to design and construct Web pages using HTML, JavaScript, Java, Dreamweaver, Flash, and other programming languages. Learn project-management skills and become a Certified Internet Webmaster (CIW).

**BUSINESS MANAGEMENT AND ADMINISTRATION**

**Legal Systems Administration** (1 year, 3 credits) Learn business skills, legal terminology, and various legal documents that are utilized in the legal field. Also, participate in mock trial simulations with real life court officials (judges, attorneys, etc.).

**Medical Systems Administration** (1 year, 3 credits) Learn business skills, medical terminology & abbreviations, record keeping, and various insurance documents that are utilized in the medical field. Also, participate in a dual-enrollment class to receive college credit.

**EDUCATION AND TRAINING**

**Early Childhood Education and Services** (2 years, 6 credits) Prepare for child-care related professions such as child care, teaching, child psychology, etc. Experience in-class instruction and on-the-job training in a preschool setting. Students who successfully complete the two-year program will receive an industry certification upon passing a certification exam.

Key:
- **HTC** Offered at Hermitage Technical Center
- **HSTC** Offered at Highland Springs Technical Center
- **VCU** Offered for dual enrollment at Virginia Commonwealth University

http://www.henrico.k12.va.us
Technical Center Programs – An Overview

Students from Deep Run, Freeman, Glen Allen, Godwin, Hermitage, and Tucker high schools attend Hermitage Technical Center unless the technical program is offered only at Highland Springs Technical Center. Students from Henrico, Highland Springs, and Varina High Schools attend Highland Springs Technical Center unless the technical program is offered only at Hermitage Technical Center. Admission is through an application process.

HEALTH SCIENCE

Emergency Medical Technician (1 year, 3 credits) Gain knowledge and learn the skills to become a certified emergency medical technician. This course is an excellent introduction to any health/medical occupation or public safety career.

Nurse Aide (1 year, 3 credits) This course provides clinical experience in long-term care settings and is an excellent introduction to basic nursing skills. Learn anatomy, physiology, nutrition, and geriatrics.

Pharmacy Technician (1 year, 3 credits) Learn how to assist a pharmacist in ordering, stocking, packaging, and dispensing medications for related medical careers.

Practical Nursing I (Seniors only, 3 credits) Explore nursing in med-surg and long-term care. After successful completion of Practical Nursing I, II, and III (9 months post-graduation) the student is eligible to take the NCLEX-PN to become a Licensed Practical Nurse.

Sports Medicine (1 year, 3 credits) Develop skills required by professional athletic trainers, physical therapists, nutritionists, and other health and medical personnel.

Veterinary Science (2 years, 6 credits) Explore a career in the veterinary field through hands-on experiences in order to learn proper health care and maintenance of animals. Students may become certified in VeterinaryAssisting.

HOSPITALITY AND TOURISM

Culinary Arts (2 years, 6 credits) Learn the art and science of culinary preparation from a certified executive chef and gain hands-on experience in the restaurant business. This program is accredited by the American Culinary Federation.

Travel and Tourism (1 year, 3 credits) Explore careers in travel and tourism by gaining knowledge of the travel/tourism industry to include cruises, airlines, lodging, and car rental.

HUMAN SERVICES

Barbering (2 years, 6 credits) Learn technical skills and job opportunities of a licensed barber. Successful completion of this two-year program will qualify students to take the state board exam and become a licensed barber.

http://www.henrico.k12.va.us
The High Tech Academy is a dual enrollment credit program offered by Henrico County Public Schools (HCPS) and Virginia Commonwealth University (VCU). Located at Highland Springs Technical Center, this collaborative program prepares secondary students for future careers in high tech industries.

Students in this two-year program follow a rigorous academic curriculum which incorporates industrial applications in a high tech atmosphere. Working in teams through project based learning, the students engage in coursework in advanced mathematics and science within the framework of high tech industrial applications. HTA students can receive up to 28 dual enrollment credit hours through VCU. Applicants must be registered in a Henrico County high school. Two curriculum tracks are available based on the student’s math background (see below). A completed application, transcript, and three teacher recommendations (one science, one mathematics, and one other) are required.

An orientation at High Tech Academy and VCU prior to attending High Tech Academy is required.

Sample Four-Year Curriculum

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 9</td>
<td>English 10</td>
<td>English 11</td>
<td>English 12</td>
</tr>
<tr>
<td>Social Studies</td>
<td>Social Studies</td>
<td>Virginia and United States History</td>
<td>Virginia and United States Government</td>
</tr>
<tr>
<td>*World Language</td>
<td>*World Language</td>
<td>Elective</td>
<td>Elective</td>
</tr>
</tbody>
</table>

**Track 1 Offered Every Year**

- Geometry
- Algebra II
- VCU Precalculus (4 cr. VCU)
- VCU Calculus (8 cr. VCU)
- Earth Science
- Biology
- VCU Chemistry** (8 cr. VCU)
- VCU Physics** (8 cr. VCU)
- Elective
- Elective
- Engineering Explorations I Honors
- Engineering Studies Honors

**Track 2 Not Offered Every Year**

- Algebra
- Geometry
- Algebra II Honors
- VCU Precalculus (4 cr. VCU)
- Earth Science
- Biology
- VCU Physics** (8 cr. VCU)
- VCU Chemistry** (8 cr. VCU)
- Elective
- Elective
- Engineering Explorations I Honors
- Engineering Studies Honors

*NOTE: Refer to Section I to determine which graduation requirements apply to you.*

**VCU Sciences may be taken in any order.**

*For information, call the Highland Springs Technical Center at 328-4075.*
SECTION IV
Specialty Centers and Programs: Curriculum Models with Course Descriptions
Advance College Academy
Highland Springs High School

- Students earn an advanced studies high school diploma by taking a wide range of honors and AP level classes.
- Students earn an Associate of Science degree in Business Administration from J. Sargeant Reynolds Community College (JSR) during their four years in high school.
- All 60 JSR credits are eligible for transfer to a four year college or university.
- College courses are taught by selected HCPS teachers, credentialed as adjunct professors with JSR.
- There is no charge for students to enroll in the program or earn an associates’ degree through the program.

Advance College Academy Curriculum

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
</table>
| Honors English 9  
Honors Biology  
Honors Geometry (or higher)  
Honors World History II  
**World Language  
Health and P.E.  
HCPS Elective | Honors English 10  
Honors Chemistry  
Honors Algebra II (or higher)  
AP European History  
**World Language  
Health and P.E.  
HCPS Elective | ENG 111 & 112*  
(AP English 11)  
AP Physics or AP Chemistry  
MTH 163 & 270*  
(Calculus)  
HIS 121 & 122*  
(US History)  
World Language  
BUS 100* & HCPS Elective or JSR Elective** (at cost)  
(Intro to Business) | ENG 241 & 242*  
(AP English 12)  
BIO 101 & 102*  
(AP Biology)  
ACC 211 & 212*  
(Accounting I & II)  
ITE 115* & ITE 140*  
(Microsoft IT Academy)  
Political Science 211 & 212*  
ECON 201 & 202* |

Additional Requirements:

- Students must successfully complete Algebra I and maintain a 3.0 GPA when applying. It is recommended that students complete World History I prior to enrolling in the academy.
- SDV 100/HLT 116 College Success Skills & Personal and Community Health - to be taken during the summer prior to Grade 11
- Economics & Personal Finance - must be taken online during the 4-year program
- 3 Years of one world language or 2 years, each, of two world languages is required for graduation from high school.
- Students that have not completed the Algebra I requirement in middle school may apply. These students may receive conditional acceptance. Full acceptance will only be given with the completion of Algebra I in summer school with a grade of B or higher.

NOTES:  
1 In order to take AP Chemistry students must take Earth Science in 8th grade.
* All courses identified with asterisks are JSR courses that will meet the requirements of an advanced studies high school diploma.
** JSR Electives  
• Curriculum is subject to change.
Advance College Academy
J. R. Tucker High School

- Students earn an advanced studies high school diploma by taking a wide range of honors and AP level classes.
- Students earn an Associate of Science degree in Social Sciences from J. Sargeant Reynolds Community College (JSR) during their four years in high school.
- All 60 JSR credits are eligible for transfer to a four year college or university.
- College courses are taught by selected HCPS teachers, credentialed as adjunct professors with JSR.
- There is no charge for students to enroll in the program or earn an associates’ degree through the program.

### Advance College Academy Curriculum

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honors English 9</td>
<td>Honors English 10</td>
<td>English 111 &amp; 112*</td>
<td>English 242 &amp; 243*</td>
</tr>
<tr>
<td>Honors Biology</td>
<td>Honors Chemistry</td>
<td>(AP English 11)</td>
<td>(AP English 12)</td>
</tr>
<tr>
<td>Honors Geometry</td>
<td>Honors Algebra II or</td>
<td>AP Physics or AP Chemistry¹</td>
<td>Biology 101 &amp; 102*</td>
</tr>
<tr>
<td>or Algebra II</td>
<td>Math Analysis</td>
<td>Math 163 or 270 &amp; Math 240*</td>
<td>(AP Biology)</td>
</tr>
<tr>
<td>Honors World History II</td>
<td>AP European History</td>
<td>(Precalculus or Applied Calculus &amp; Statistics)</td>
<td>AP Calculus or AP Statistics</td>
</tr>
<tr>
<td>World Language</td>
<td>World Language</td>
<td>History 121 &amp; 122*</td>
<td>Political Science 211 &amp; 212*</td>
</tr>
<tr>
<td>HCPS Elective</td>
<td>Finance</td>
<td>Spanish or French I &amp; II*</td>
<td>Psychology 200 &amp; 230*</td>
</tr>
<tr>
<td></td>
<td>Health and P.E.</td>
<td>(Beginner or Immediate</td>
<td>(Psychology 1 &amp; 2)</td>
</tr>
<tr>
<td></td>
<td>HCPS Elective</td>
<td>Spanish or French)</td>
<td>Intro to Computer Applications</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>115* (test out or at cost)</td>
</tr>
</tbody>
</table>

### Additional Requirements:

- Students must successfully complete Algebra I and maintain a 3.0 GPA when applying. It is recommended that students complete World History I prior to enrolling in the academy.
- SDV 100/ HLT 115 College and Life Success Skills/Personal and Community Health - to be taken during the summer prior to Grade 11
- Economics & Personal Finance - must be taken online during the 4-year program
- 3 Years of one world language or 2 years, each, of two world languages is required for graduation from high school.

**NOTES:**

1. In order to take AP Chemistry students must take Earth Science in 8th grade.
2. All courses identified with asterisks are JSR courses that will meet the requirements of an advanced studies high school diploma.
3. ACA students are eligible to test out of ITE computer science.
4. Curriculum is subject to change.
Center for the Arts
Henrico High School

- Faculty augmented with resident and visiting artists
- Four levels of musical theatre - vocal production, dance, acting techniques, theatre history, music theory and history, audition preparation, performance
- Four levels of dance - ballet and modern dance techniques, aesthetics, nutrition, anatomy, choreography, dance history, kinesiology, audition preparation, performance
- Four levels of theatre - acting techniques, creative expression, technical theatre, aesthetics, production, audition preparation, script and character analysis, character development, performance
- Four levels of visual arts - art and design principles, history, aesthetics, proficiency in a variety of artistic media and technique, exhibition of student art work

Sample Four-Year Curriculum

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Module I</td>
<td>Center Module II</td>
<td>Center Module III</td>
<td>Center Module IV</td>
</tr>
<tr>
<td>Acting Studio/Production Design I (2 periods)</td>
<td>Acting Studio/Production Design II (2 periods)</td>
<td>Acting Studio/Production Design III (2 periods)</td>
<td>Acting Studio/Production Design IV (2 periods)</td>
</tr>
<tr>
<td>or</td>
<td>or</td>
<td>or</td>
<td>or</td>
</tr>
<tr>
<td>Ballet/Modern Dance I (2 periods)</td>
<td>Ballet/Modern Dance II (2 periods)</td>
<td>Ballet/Modern Dance III (2 periods)</td>
<td>Ballet/Modern Dance IV (2 periods)</td>
</tr>
<tr>
<td>or</td>
<td>or</td>
<td>or</td>
<td>or</td>
</tr>
<tr>
<td>Visual Art I (2 periods)</td>
<td>Visual Art II (2 periods)</td>
<td>Visual Art III (2 periods)</td>
<td>Visual Art IV (2 periods)</td>
</tr>
<tr>
<td>or</td>
<td>or</td>
<td>or</td>
<td>or</td>
</tr>
<tr>
<td>Musical Theatre I (2 periods)</td>
<td>Musical Theatre II (2 periods)</td>
<td>Musical Theatre III (2 periods)</td>
<td>Musical Theatre IV (2 periods)</td>
</tr>
</tbody>
</table>

Arts Infused English 9  
Mathematics  
Arts Infused Science  
Arts Infused Social Studies  
*World Language  
+Health and P.E. 9  
.or  
Elective

Arts Infused English 10  
Mathematics  
Arts Infused Science  
*Arts Infused Social Studies  
or Elective

English 11 - Arts Infused/AP Language and Composition  
Mathematics  
Science  
Virginia and United States History  
*World Language  
Elective

English 12 - Arts Infused/AP Literature and Composition  
*Mathematics or Elective  
*Science or Elective  
Virginia and United States Government  
*World Language  
Elective

NOTES: * Refer to Section I to determine which graduation requirements apply to you.

+ Students participating in the Center for the Arts Dance, Theatre and Musical Theatre programs will receive credit for the Physical Education component of the Health and Physical Education 9 and 10 Courses. The students will be required to complete the Health portion of the Health and Physical Education courses through online Health modules. This will be required to receive the Health and Physical Education credits for graduation. It is recommended that students in the Visual Arts program complete Health and Physical Education credits in summer school or evening school.
### Act 1

**Acting Studio/Production Design I Honors**  
Course #1390  
36 weeks; (2 crs.); required for Center students; Grades 9-12  
- Study speech, vocal projection, movement, improvisation, dramatic literature, and creative writing.  
- Examine technical aspects of theatrical production and apply skills in performances.  
- Explore selected topics on the history of theatre, and examine relationships between theatre and other art forms.

**Acting Studio/Production Design II Honors**  
Course #1395  
36 weeks; (2 crs.); required for Center students; Grades 9-12  
- Develop acting techniques and theories with emphasis on script analysis and character development.  
- Undertake an in-depth exploration of Classical theatrical literature.  
- Application of skills is demonstrated through performances.

**Acting Studio/Production Design III Honors**  
Course #1396  
36 weeks; (2 crs.); required for Center students; Grades 10-12  
- Focus on audition preparation and professional practice, including the application of skills in performances.  
- Study of theatrical theories, techniques of direction, and selected history topics.  
- Expanded investigation in creative writing, including personal writing skills and critiques.

**Acting Studio/Production Design IV Honors**  
Course #1397  
36 weeks; (2 crs.); required for Center students; Grades 11-12; may be repeated for credit  
- Emphasis on theatrical literature, character development and production practices.  
- Apply skills in performance, direction, and production, culminating in a class-produced performance of an established script.

### Act 2

**Ballet/Modern Dance I Honors**  
Course #9303  
36 weeks; (2 crs.); required for Center students; Grades 9-12  
- Develop a positive attitude toward dance and explore the relationships of dance to the other arts.  
- Develop basic movement and techniques in ballet, modern dance, and other dance forms to develop the body.  
- Learn dance vocabulary, study selected topics in history, and share skills attainment through performances.

**Ballet/Modern Dance II Honors**  
Course #9311  
36 weeks; (2 crs.); required for Center students; Grades 9-12  
- Develop an appreciation of dance contributions and histories from different ethnic groups and historical periods.  
- Continue to develop traditional and new dance techniques and their vocabularies, as well as improvisation.  
- Emphasis on more complex choreography with the application of skills demonstrated in performance.

**Ballet/Modern Dance III Honors**  
Course #9312  
36 weeks; (2 crs.); required for Center students; Grades 10-12  
- Learn movement composition and interpretation and create dance sequences to prepare for auditions and performances.  
- Develop a movement vocabulary that will aid in self-discovery and individual choreography.  
- Develop an appreciation for the aesthetics of dance and the arts.

**Ballet/Modern Dance IV Honors**  
Course #9313  
36 weeks; (2 crs.); required for Center students; Grades 11-12; may be repeated for credit  
- Increase student proficiency in all areas of dance and movement.  
- Explore dance opportunities in college and universities, and pursue venues for professional development.  
- Explore creative expression through choreography that culminates in an original dance project.

**Visual Art I Honors**  
Course #9155  
36 weeks; (2 crs.); required for Center students; Grades 9-12  
- Understand the elements and principles of design and study selected topics in art history.  
- Learn essential skills and techniques for creative expression through drawing, painting, sculpture, and printmaking.  
- Explore the relationships between the visual artist, their products and the impact they have on society.

**Visual Art II Honors**  
Course #9156  
36 weeks; (2 crs.); required for Center students; Grades 9-12  
Participating in Visual Art I is not a prerequisite for taking Visual Art II.  
- Improve technical applications and techniques for creative expression in a variety of art forms.  
- Study selected topics in art history, color theory, architecture, and investigate elements and principles of design.  
- Explore artistic concepts through analysis, structure and production.
Visual Art III Honors
Course #9157
36 weeks; (2 crs.); required for Center students; Grades 10-12
Participating in Visual Art II is not a prerequisite for taking Visual Art III.

• Continue to study topics in art history with thematic units that emphasize creative problem solving.
• Demonstrate a thorough knowledge of the elements and principles of design and various artistic techniques.
• Participate in discussions and demonstrations with experts to foster professional development.

Visual Art IV Honors
Course #9158
36 weeks; (2 crs.); required for Center students; Grades 11-12; may be repeated for credit
Participating in Visual Art III is not a prerequisite for taking Visual Art IV.

• Investigate, create, and present a directed production of an independent, cumulative, and unified body of work.
• Explore contemporary art issues and research a variety of topics.

Musical Theatre I Honors
Course #9296
36 weeks; (2 crs.); required for Center students; Grades 9-12
• Begin development of essential skills in vocal production, music reading and ear-training, and dance techniques.
• Introduction to the history of the American musical theatre and the study of basic stage movement and character building.
• Participate in building group skills utilizing appropriate vocal literature with the application of skills demonstrated through performance.

Musical Theatre II Honors
Course #9297
36 weeks; (2 crs.); required for Center students; Grades 9-12
• Focus on acting techniques, speech and dialects, character building and script analysis.
• Refine individual skills in vocal and dance techniques, with an increased emphasis in ensemble work.
• Explore improvisation and acting exercises, scene work from musicals, and performance opportunities.

Musical Theatre III Honors
Course #9298
36 weeks; (2 crs.); required for Center students; Grades 10-12
• Focus on audition and monologue preparation, scene study, vocal production, dance skills, and acting methodologies.
• Continued study of selected theatre developments, dramatic theory and criticism.
• Explore educational opportunities in college and universities, and purse venues for professional development.

Musical Theatre IV Honors
Course #9299
36 weeks; (2 crs.); required for Center students; Grades 11-12; may be repeated for credit
• Apply skills in performance, direction, and production culminating in a class-produced performance.
• Emphasize the effect of American musical theatre on American culture.
• Comprehensive study and refinement of writing and speaking skills necessary for effective communication
• Applications of communications principles in areas such as television, multimedia, public speaking, photography, graphic design, journalism, advertising, web design, and public relations
• Ethical and technical aspects of communications
• Field trips, guest speakers, field experiences, and shadowing opportunities in partnership with the business community
• Production of student news shows, commercials, newspapers, speeches, multimedia presentations, websites, advertising campaigns, public service announcements, and a senior portfolio

Sample Four-Year Curriculum

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Module I English 9 Communications &amp; Technology Connections</td>
<td>Center Module II English 10 Communications Writing &amp; Production I (2 periods)</td>
<td>Center Module III AP English 11 Communications Writing &amp; Production II (2 periods)</td>
<td>Center Module IV AP English 12 Advanced Communications: Writing, Production, and Directed Research (2 periods)</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Mathematics</td>
<td>*Mathematics</td>
<td>Virginia and United States Government</td>
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<tr>
<td>Science</td>
<td>Science</td>
<td>*Science</td>
<td>*Mathematics or Elective</td>
</tr>
<tr>
<td>Health &amp; P.E.</td>
<td>Health &amp; P.E.</td>
<td>Virginia and United States History</td>
<td>*Science or Elective</td>
</tr>
<tr>
<td>+ World History &amp; Geography II</td>
<td>*World Language</td>
<td>*World Language</td>
<td>*World Language</td>
</tr>
</tbody>
</table>

NOTES: * Refer to Section I to determine which graduation requirements apply to you.
+ It is highly recommended that students complete World History & Geography I before enrolling in this Center.
• All students, beginning with the graduating class of 2015, must successfully complete Personal Finance and Economics or an acceptable alternative as an elective or online.

Course Descriptions

Communications and Technology Connections Honors
Course #1610
36 weeks; (1 cr.); required; Grade 9
• Write and deliver formal and informal speeches and presentations.
• Develop skills in news writing, reporting, script writing, and editing.
• Explore computer information systems, desktop publishing, graphic design, photography, and video production.

Communications Writing and Production I Honors
Course #1620
36 weeks (2 crs.); required; Grade 10
• Deliver persuasive speeches, oral interpretations, and presentations with visual aids.
• Further develop skills in news and script writing, desktop publishing, photography, video production, and editing.
• Study the newspaper, magazine, and book industries.

Communications Writing and Production II Honors
Course #1621
36 weeks (2 crs.); required; Grade 11
• Study the television and radio industries.
• Study and deliver on-air presentations.
• Apply skills in news and script writing, video editing, desktop publishing, web design, graphic design, and on-camera performance.

Advanced Communications: Writing, Production, and Directed Research Honors
Course #1622
36 weeks (2 crs.); required; Grade 12
• Design, produce, and present a variety of communications projects.
• Study the film, advertising, and public relations industries.
• Participate in shadowing experiences with professionals in the communications field.
Center for Education and Human Development
Glen Allen High School

- Exploration of human development and psychology as it relates to education and models best practices for teaching and other leadership roles
- An advanced studies program in social studies and English
- Comprehensive curriculum that explores the complexities of the learning process and utilizes the latest technology to develop educators and other leaders in the 21st Century
- Emphasis on research-based instructional practices and 21st Century skills necessary for success in the global society

Sample Four-Year Curriculum

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<tr>
<td>English 9</td>
<td>English 10</td>
<td>AP English 11</td>
<td>AP English 12</td>
</tr>
<tr>
<td>+World History and Geography II</td>
<td>Technology and Communication in the 21st Century</td>
<td>AP US History</td>
<td>AP Government</td>
</tr>
<tr>
<td>Child Growth and Development</td>
<td>AP Psychology</td>
<td>Foundations of Teaching and Learning (1/2)</td>
<td>Internship/Organizational Development and Leadership Education Dual Enrollment</td>
</tr>
<tr>
<td>+Mathematics</td>
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<td>*Mathematics or Elective</td>
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NOTES: * Refer to Section I to determine which graduation requirements apply to you.
+ It is highly recommended that the students complete World History & Geography I before enrolling in this Center. This course is required for the Advanced Studies Diploma and the Center Diploma Seal but is NOT included in the Center’s curriculum.
** All students, entering 9th grade in 2011 and beyond, must complete Economics and Personal Finance or an acceptable alternative as an elective or online.

Course Descriptions

All Center courses will be taught in the interdisciplinary model. Teachers will demonstrate and model methods of best practice, differentiation of instruction, and student centered lessons. The curriculum will encourage students to become active and engaged participants in the lessons presented.

Child Growth and Development Honors
Course #2992
36 weeks (1 cr.); required for Center Students
Level I: Grade 9
- Examine the different stages of development from childhood to young adulthood from a psychological standpoint.
- Develop skills in perception and psychological research to enhance understanding of mental processes and behavior.

Technology and Communication in the 21st Century Honors
Course #9826
36 weeks (1 cr.); required for Center Students
Level II: Grade 10
- Explore the fundamentals of advancing technology and how it relates to classroom instruction.
- Develop skills in the creation and implementation of lessons using appropriate technology. (Investigate the evolution of technology over time as it relates to best practice in education.)
- Gather, analyze, and interpret data. (Develop and implement student created curriculum.)

Foundations of Teaching and Learning Honors
Course #2993
18 weeks (1/2 cr.); required for Center students
Level III: Grade 11
- Examine the historical and philosophical foundation for educational practice.
- Observe and analyze teaching methods and the use of modern educational theory.
- Develop skills in lesson plan creation modeling best practices and differentiation of instruction.
Instructional Design Honors
Course #2722
18 weeks (1/2 cr.); required for Center students
Level III: Grade 11
• Systematically analyze the learning needs and goals of organizations.
• Develop solutions to organizational problems that improve employee performance and organizational effectiveness.
• Use data and current standards to drive instruction and lesson creation in education.

Organizational Development and Leadership Honors
Course #2997
18 weeks (1/2 cr.); required for Center students
Level IV: Grade 12
• Examine and evaluate effective instruction and uses of best practices in the 21st Century model.
• Analyze and observe the traits of effective leadership.

Internship
Course #2999
18 weeks (1/2 cr.); required for Center students
Level IV: Grade 12
• Complete 60 hour internship with a local agency or community organization.
• Seek opportunities to practice instruction and model leadership qualities during internship experience.

Education Dual Enrollment
Course #2501
36 weeks (1 cr.); required for Center students
Level IV: Grade 12 Dual Enrollment
• Explore differentiated instructional strategies for learning and performance focusing on the strengths and needs of diverse learners.
• Determine alternative methods of instruction for diverse learners.
• Explain how specific teaching strategies can best serve individuals of varying levels of development, ability, and achievement.
Center for Engineering
Highland Springs High School

- Rigorous pre-engineering program founded in advanced studies of mathematics and science applicable to both a college engineering curriculum and many technical careers
- Field studies, mentoring, and internships in partnership with business
- Use of computer-aided drafting (CAD) systems in engineering, architecture, and design
- Modern technologies, including telecommunications, networking, and computer software applications
- Exploratory and summer programs

Sample Four-Year Curriculum

<table>
<thead>
<tr>
<th>Grade 9</th>
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<th>Grade 12</th>
</tr>
</thead>
</table>
| Center Module I  
Foundations of Engineering and Design  
*Engineering Mathematics I Biology | Center Module II  
Engineering I  
Design I  
Engineering Mathematics II  
*Chemistry | Center Module III  
AP Chemistry  
Engineering II  
Analysis/Trig.  
AP Calculus AB  
Practicum in Engineering I (optional)  
Aerospace Technology I (optional) | Center Module IV  
Engineering Design and Methods (cluster of four dual enrollment courses)  
Practicum in Engineering I or II (optional)  
AP Calculus BC  
AP Physics  
Aerospace Technology I (optional) |
| English 9  
Social Studies  
Health and P.E.  
World Language | English 10  
Social Studies  
Health and P.E.  
World Language  
Optional Semester Electives - (2 if P.E. taken in summer) | English 11  
Virginia and United States History  
World Language Electives | English 12  
Virginia and United States Government  
World Language |

NOTE: * Students must meet Center criteria through successful completion of Algebra I prior to enrolling in this Center
• All students, beginning with the graduating class of 2015, must successfully complete Personal Finance and Economics or an acceptable alternative as an elective or online.

Course Descriptions

Foundations of Engineering and Design Honors
Course #8449
36 weeks (1 cr.); required for Center students; Grade 9
• Explore history and fundamental concepts of the engineering profession.
• Use a variety of technologies for research and problem solving.
• Use AutoCAD in conjunction with engineering projects and problem solving.

Engineering I Honors
Course #8493
36 weeks (1 cr.); required for Center students; Grade 10
• Explore energy and power as applied to engineering and transportation.
• Apply mathematical and scientific principles to substantiate engineering problem solving skills.
• Develop and present research projects that explore energy and power applications.

Design I Honors
Course #8451
36 weeks (1 cr.); required for Center students; Grade 10
• Develop skills in material selection, prototyping, and documentation through hands-on projects.
• Apply advanced research methods and design technologies to solve design problems.
• Analyze existing products and apply this information to designing prototype projects.

Engineering II Honors
Course #8494
36 weeks (1 cr.); required for Center students; Grade 11 (18 weeks of Engineering Economics and 18 weeks of Statics)
• Learn and apply concepts of statics.
• Learn and apply principles of engineering economics.
• Explore material applicability to problems through cost analysis, performance, and feasibility.

Engineering Mathematics I Honors
Course #3343
36 weeks (1 cr.); required for Center students; Grade 9
✓ SOL Geometry end-of-course test
• Introduce geometric concepts stressed in engineering and/or design professions.
• Apply 2D and 3D geometrical principles to engineering related problems.
• Model and analyze structures using computers and other technological tools.

Engineering Mathematics II Honors
Course #3333
36 weeks (1 cr.); required for Center students; Grade 10
✓ SOL Algebra II end-of-course test
• Introduce and stress the Algebra II concepts used in engineering-related problems.
• Apply algebraic modeling principles to engineering-related principles.
• Investigate discrete topics related to engineering and/or design.
Math Analysis/Trigonometry Honors  
Course #3162  
36 weeks (1 cr.); required for Center students;  
Grade 11  
(See Course #3162 in Section V for specific course content.)

AP Calculus AB  
Course #3177  
36 weeks (1 cr.); required for Center students;  
Grade 11  
(See Course #3177 in Section V for specific course content.)

AP Calculus BC  
Course #3179  
36 weeks (1 cr.); required for Center students;  
Grade 12  
(See Course #3179 in Section V for specific course content.)

Biology I Honors  
Course #4310  
36 weeks (1 cr.); required for Center students;  
Grade 9  
✓ SOL Biology end-of-course test  
(See Course #4310 in Section V for specific course content.)

Chemistry I Honors  
Course #4410  
36 weeks (1 cr.); required for Center students;  
Grade 10  
✓ SOL Chemistry end-of-course test  
(See Course #4410 in Section V for specific course content.)

AP Chemistry  
Course #4470  
36 weeks (1 cr.); required for Center students;  
Grade 11  
(See Course #4470 in Section V for specific course content.)

AP Physics  
Course #4570  
36 weeks (1 cr.); required for Center students;  
Grade 12  
(See Course #4570 in Section V for specific course content.)

ENGINEERING DESIGN AND METHODS HONORS (cluster of four dual enrollment courses listed below)  
Courses #8488, 8489, 8490, and 8491  
36 weeks (2 crs.); required for Center students; Grade 12  
These dual enrollment courses are taught by professors from J. Sargeant Reynolds Community College:

JSR EGR110 Engineering Graphics  
Course #8488 (3 semester hours college credit; 1/2 high school credit, is awarded weighted credit)  
• Presents theories and principles of orthographic projection  
• Analysis and graphic presentation of fundamental geometric elements  
• Includes instruction in computer-aided drafting

JSR EGR124 Introduction to Engineering and Engineering Methods  
Course #8489 (3 semester hours college credit; 1/2 high school credit, is awarded weighted credit)  
• Introduce the engineering profession, professionalism, and ethics.  
• Explore problem presentation and engineering calculations.  
• Apply MATLAB, ALICE and other computer applications to engineering problems.

JSR EGR 140 Engineering Mechanics - Statics  
Course #8490 (3 college credits; 1/2 high school credit; weighted credit)  
• Introduces mechanics of vector forces and space, scalar mass and time, including S.I. and U.S. customary units.  
• Teaches equilibrium, free-body diagrams, moments, couples, distributed forces, centroids, moments of inertia analysis of two-force and multi-force members, and friction and internal forces.

JSR EGR 206 Engineering Economy  
Course #8491 (3 college credits, 1/2 high school credit, weighted credit)  
• Presents economic analysis of engineering alternatives  
• Studies economic concepts as applied in the field of engineering  
• Examines economic optimization in design and operation, depreciation and comparison of alternatives

Practicum in Engineering I Honors  
Course #8453  
36 weeks (1 cr.); elective;  
Grade 11, 12  
• Complete an independent study at the Engineering Center.  
• Strengthen engineering skills in research, design, prototyping, production and time-management.  
• Incorporate appropriate software and/or technologies into independent project.

Practicum in Engineering II Honors  
Course #8456  
36 weeks (1 cr.); elective;  
Grade 12  
• Complete an independent study at the Engineering Center.  
• Strengthen engineering skills in research, design, prototyping, production and time-management.  
• Explore STEM and emerging technologies in the research process

Aerospace Technology I Honors  
Course #8487  
36 weeks (1 cr.); optional for Center students;  
Grade 11 or Grade 12  
• Introduction to flight, space travel, and supporting technologies.  
• Hands-on approach to study concepts including the history of aviation, aerodynamics, aircraft components, flight conditions, airport and flight operations, space, rocketry, and the aviation and space industries.  
• Develop and present research projects that explore aerospace technology.
Center for the Humanities
Hermitage High School

- Comprehensive and challenging academic program specializing in literature, history, philosophy, and the arts
- Exploration of themes across courses which show the human ties within and among cultures from the past to the present
- Interdisciplinary instruction of related core academics with seminars for reflective dialogue relating the humanities to current events and issues
- Emphasis on the role of the humanities and on the value of a liberal arts background in a technological society
- All English, Social Studies and Humanities courses are honors credit

Sample Four-Year Curriculum

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Center Module I</td>
<td>Center Module II</td>
<td>Center Module III</td>
<td>Center Module IV</td>
</tr>
<tr>
<td>English 9</td>
<td>English 10</td>
<td>AP English 11</td>
<td>AP English 12</td>
</tr>
<tr>
<td>+World History &amp;</td>
<td>AP Human Geography</td>
<td>AP Virginia and United States History</td>
<td>AP Virginia and United States Government</td>
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<tr>
<td>Geography II</td>
<td>Development of World Cultures (a Humanities Honors Seminar)</td>
<td>Age of Discovery and the New World (a Humanities Honors Seminar)</td>
<td>Modernity and Global Cultures (a Humanities Honors Seminar)</td>
</tr>
<tr>
<td>Foundations of Civilization (a Humanities Honors Seminar)</td>
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<td>*World Language</td>
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</tbody>
</table>

NOTE: *Refer to Section I to determine which graduation requirements apply to you.

+ It is highly recommended that the students complete World History & Geography I before enrolling in this Center. This course is required for the Advanced Studies Diploma and the Center Diploma Seal but is NOT included in the Center’s curriculum.

• All students, beginning with the graduating class of 2015, must successfully complete Personal Finance and Economics or an acceptable alternative as an elective or online.
All Center courses emphasize the reading and analysis of primary sources, writing across disciplines, and provide an interdisciplinary approach to the study of the Humanities. All English, Social Studies and Humanities courses are connected through the themes outlined below for each grade level; therefore, the English and Social Studies courses may contain additional or varied readings and assignments while still allowing students to meet all the State and County requirements.

### Foundations of Civilization Honors
**Course #2715**
36 weeks (1 cr.); required for Center students, Level I; Grade 9
- Explore the human condition through literary, historical, cultural, and artistic expression with an emphasis on the foundations in the humanities.
- Study: pre-history, African folk and oral traditions, Ancient Egypt, Classical Greece and Rome, Greek philosophy, world religions, theater, sculpture, and architecture.
- Develop skills in expository, analytical and creative writing, research, creativity, logic and reasoning, use of contextual evidence, presentations with the appropriate use of technology, communication in a team environment, the Socratic method, and service learning.
- Examine the themes: *Myth and Global Tradition; Pursuit of the Ideal; The Faces of Love; and Heroes and Heroines.*

### Development of World Cultures Honors
**Course #2716**
36 weeks (1 cr.); required for Center students, Level II; Grade 10
- Explore the human condition through literary, historical, cultural, and artistic expression with an emphasis on the advancements in the humanities.
- Study: Renaissance art and thought, classical and traditional music, European architecture, East Asian art and philosophy, and the Western “Great Works.”
- Develop additional skills in critical thinking, inter-disciplinary learning, oral expression, analytical reading, research and writing, the Socratic method, and service learning.
- Examine the themes: *Influence and Innovation; Power and Authority; Mixed Message; and Challenge and Growth.*

### Modernity and Global Cultures Honors
**Course #2720**
36 weeks (1 cr.); required for Center students, Level IV; Grade 12
- Explore the human condition through literary, historical, cultural and artistic expression with an emphasis on the contemporary humanities.
- Study: modernism and post-modernism, genocide, social justice, gender, environmental and conceptual art, contemporary architecture, world film, globalization of cultures.
- Master skills in research, the Socratic method, presentation with the use of technology, use of contextual evidence, formulation of argument and reasoning.
- Develop additional skills in written and oral communication, aesthetic analysis and appreciation, cross-cultural awareness, self-guided learning, and community service leadership.

### Age of Discovery and the New World Honors
**Course #2719**
36 weeks (1 cr.); required for Center students, Level III; Grade 11
- Explore the human condition through literary, historical, and artistic expression with an emphasis on the humanities of America.
- Study: Native American cultures, development of American art and music, progression of American philosophy, reflections of the American Dream, Jazz and Blues, and American theater.
- Develop additional skills in descriptive writing, persuasive argument, inter-disciplinary thinking, self-directed learning, the Socratic method, and service learning.
- Examine the themes: *Identity: A Clash of Cultures and Ideas; Character: Defining America; Convergence: A New Way of Life; and Self-Discovery and Responsibility.*
**Center for Information Technology**
**Deep Run High School**

- Emphasis on the fundamentals for Information Technology
- Flexible/adaptable curriculum in-tune with changes in the technology world
- Rigorous program preparing students for a higher education and/or career in Information Technology and related fields
- Concentration in chosen IT field
- Realistic learning experiences within the IT community
- Industry Certifications

### CIT Course Sequence

<table>
<thead>
<tr>
<th>Grade 9</th>
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<th>Grade 12***</th>
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</table>
| Center Module I  
Computer Science Principles (AP Pilot)  
+Honors Algebra II or  
Honors Geometry  
Honors English 9 | Center Module II  
Honors Information Systems Design & Development  
Honors Algebra II or Honors Math Analysis  
Honors English 10 | Center Module III  
Honors Web Design & Development  
Honors Programming (Java)  
AP Calculus or Honors Math Analysis  
**Senior Internship** | Center Module IV  
AP Computer Science  
Honors Mathematical Structures with Discrete Topics  
Sr. Capstone Project  
**Senior Internship** |
| World History & Geography I  
Science  
Health and P.E.  
*World Language or  
*Elective | World History & Geography II  
Science  
Health and P.E.  
*World Language or  
*Elective | Honors English 11 or AP English 11  
Virginia and United States History  
Science (or Elective)  
*World Language or  
*Elective | Honors English 12 or AP English 12  
Virginia and United States Government  
Science (or Elective)  
*World Language or  
*Elective |

**NOTES:**
- * Refer to Section I to determine which graduation requirements apply to you.
- ** Senior Internship is completed during the summer between 11th and 12th grade (Summer tuition applies)
  OR during 12th grade year.
- *** Students must take at least two of the four Center classes during the senior year.
  + Students must meet Center criteria through successful completion of Algebra I prior to enrolling in this Center.
  - All students, beginning with the graduating class of 2015, must successfully complete Personal Finance and Economics or an acceptable alternative as an elective or online.

### Course Descriptions

**Computer Science Principles (AP Pilot)**
Course #3186  
36 weeks; (1 cr.); Required; Grade 9
- Explore seven Big Ideas of computer science: Creativity, Abstraction, Data, Algorithms, Programming, Internet and Impact.
- Develop problem-solving methodologies, computational and critical thinking skills.
- Create of knowledge, design and create computational artifacts.

**PSC Geometry Honors**
Course #3143  
36 weeks (1 cr.); required; Grade 9
- SOL Geometry end-of-course test
- Apply concepts and processes to information technology topics taught within the center.
- Refer to content in course #3143 in Course Descriptions, Section V.

**Information Systems Design and Development Honors**
Course #6671  
36 weeks (1 cr.); required; Grade 10
- Explore the full life cycle of systems/software development through various methods.
- Expand networking, systems architecture, programming and database skills.
- Introduce the differences between user and system interfaces and explore IT roles.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course Code</th>
<th>Duration</th>
<th>Credit</th>
<th>Grade(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 9 Honors</td>
<td>#1130</td>
<td>36 weeks</td>
<td>1</td>
<td>Grade 9</td>
<td>• Analyze the meaning and effect of a passage related to grammar and syntax in both fiction and non-fiction works, giving special emphasis on information technology and business writing.</td>
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<td>• Write increasingly complex essays as a result of studying professional writers. Develop writing skills necessary for various technological media sources.</td>
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<td></td>
<td>• Understand use of rhetorical and literary devices used to create meaning. Read, comprehend, critique, and analyze a variety of literature, professional and technical writing.</td>
</tr>
<tr>
<td>English 10 Honors</td>
<td>#1140</td>
<td>36 weeks</td>
<td>1</td>
<td>Grade 10</td>
<td>• Follow an interdisciplinary approach to integrate grammar, usage, writing, literature, and oral communication in assessing, evaluating, organizing, and presenting information as a part of the research process.</td>
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<tr>
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<td></td>
<td>• Develop persuasive, expository, and analytical writing skills, as well as fostering the writing skills necessary for various technological media sources.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>• Read, comprehend, critique, and analyze a variety of literature from various cultures and eras, with a focus on professional and technical writing within information technology and computer science.</td>
</tr>
<tr>
<td>Algebra II Honors</td>
<td>#3135</td>
<td>36 weeks</td>
<td>1</td>
<td>Grades 9 or 10</td>
<td>• Apply advanced algebraic concepts and processes to information technology topics taught within the center.</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
<td>• Refer to content in course #3135 in Course Descriptions, Section V.</td>
</tr>
<tr>
<td>Math Analysis/Trigonometry Honors</td>
<td>#3162</td>
<td>36 weeks</td>
<td>1</td>
<td>Grade 11</td>
<td>• Explore polynomials, logarithms, and exponential functions, matrices, theory of equations, curves, and conics.</td>
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<tr>
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<td></td>
<td>• Investigate limits, derivatives, vectors, permutations, and probability.</td>
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<td></td>
<td></td>
<td></td>
<td>• Explore, graph, and apply trigonometric and circular functions.</td>
</tr>
<tr>
<td>Web Design and Development Honors</td>
<td>#6672</td>
<td>36 weeks</td>
<td>1</td>
<td>Grade 11</td>
<td>• Develop skills to solve the communication needs for a local non-profit agency.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Create an effective, original website for a local non-profit agency.</td>
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<td></td>
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<td></td>
<td>• Develop skills in visual and functional design, evaluation, project and task management.</td>
</tr>
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<td>Web Design and Development Honors</td>
<td>#6672</td>
<td>36 weeks</td>
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<td>• Create an effective, original website for a local non-profit agency.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Develop skills in visual and functional design, evaluation, project and task management.</td>
</tr>
<tr>
<td>CIT Senior Capstone Project Honors</td>
<td>#6673</td>
<td>36 weeks</td>
<td>1</td>
<td>Grade 12</td>
<td>• Explore one of the following areas of IT concentration: game design, network security, database design and development, or IT management.</td>
</tr>
<tr>
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<td></td>
<td>• Develop and apply area specific skills to IT projects within the Center and the IT community.</td>
</tr>
<tr>
<td>Mathematical Structures with Discrete Topics Honors</td>
<td>#3158</td>
<td>36 weeks</td>
<td>1</td>
<td></td>
<td>• Explore logic, combinatorics, number theory, recursion, computational complexity, and graph theory.</td>
</tr>
<tr>
<td>Programming Honors</td>
<td>#6640</td>
<td>36 weeks</td>
<td>1</td>
<td></td>
<td>• Write code to create menus, sub procedures, sub functions, various controls &amp; modules.</td>
</tr>
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<td></td>
<td>• Enter, run, and compile a program; use variables and constants; program math operations and computer graphics.</td>
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<td>• Learn object oriented programming; work with arrays, templates and vectors.</td>
</tr>
<tr>
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<td>#3158</td>
<td>36 weeks</td>
<td>1</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<td>• Enter, run, and compile a program; use variables and constants; program math operations and computer graphics.</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>• Learn object oriented programming; work with arrays, templates and vectors.</td>
</tr>
</tbody>
</table>
The International Baccalaureate Middle Years Program (IBMYP), grades 6-10, at Fairfield, George H. Moody, and Tuckahoe Middle Schools, as well as Henrico and J. R. Tucker High Schools, offers an advanced curriculum for motivated students who have demonstrated an ability to achieve academically. Students are challenged to think globally and become self-directed learners. Interdisciplinary instruction connects Mathematics, the Arts, Language and Literature (English), Language Acquisition (world language), Individuals and Society, Design, Physical and Health Education, and the Sciences. The Arts and Design requirements are integrated through other MYP core subjects in Grades 6-8. The program is designed around Global Contexts, Key Concepts, and Approaches to Learning.

### International Baccalaureate Middle Years Program

#### Course of Study

<table>
<thead>
<tr>
<th>Grade 6, Level One</th>
<th>Grade 7, Level Two</th>
<th>Grade 8, Level Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBMY Language &amp; Literature (English)</td>
<td>IBMY Language &amp; Literature (English)</td>
<td>IBMY Language &amp; Literature (English)</td>
</tr>
<tr>
<td>IBMY Language Acquisition (French, Spanish)</td>
<td>IBMY Language Acquisition (French, Spanish)</td>
<td>IBMY Language Acquisition (French II, Spanish II)</td>
</tr>
<tr>
<td>IBMY Physical and Health Education</td>
<td>IBMY Physical and Health Education</td>
<td>IBMY Physical and Health Education</td>
</tr>
<tr>
<td>*IBMY Mathematics</td>
<td>*IBMY Mathematics</td>
<td>*IBMY Mathematics</td>
</tr>
<tr>
<td>IBMY Sciences</td>
<td>IBMY Sciences</td>
<td>IBMY Sciences</td>
</tr>
<tr>
<td>IBMY Individuals &amp; Societies, US History, Part I, Level One</td>
<td>IBMY Individuals &amp; Societies, US History, Part II, Level Two</td>
<td>IBMY Individuals &amp; Societies, World History and Geography I, Level Three</td>
</tr>
<tr>
<td>**Electives</td>
<td>**Electives</td>
<td>**Electives</td>
</tr>
</tbody>
</table>

**NOTES:**
* Entry level in mathematics is based on ability and preparation at the elementary level. In the IBMYP, students must complete Algebra I successfully before entering the ninth grade.
** Electives may include beginning band, intermediate band, advanced band, chorus, art, creative writing workshop, journalism, drama, independent living, word processing, keyboarding, Design, or gifted enrichment.

### Course Descriptions

Courses in the IBMYP incorporate the Virginia Standards of Learning, the Essentials of the Curriculum, and the standards set by the International Baccalaureate Organization.

#### IBMYP English, Level One
Course #IB1109
36 weeks; required; Grade 6
- Introduce the aims, objectives, and assessments of IBMYP arts (performing).
- Develop a writer’s vocabulary focusing on the writing process and writing structure.
- Introduce basic research and documentation skills including MLA style.
(See Course #1109 in Section V for additional course content.)

#### IBMYP English, Level Two
Course #IB1110
36 weeks; required; Grade 7
- Introduce second year IBMYP arts (performing) concepts for Level Two.
- Emphasize the analysis and interpretation of various genres of literature.
- Strengthen paragraph writing and introduce essay writing.
(See Course #1110 in Section V for additional course content.)

#### IBMYP English, Level Three
Course #IB1120
36 weeks; required; Grade 8
✓ Grade 8 three-part SOL test
- Focus on accelerated content.
- Prepare students to enter Level Four (Language Acquisition) of the IBMYP.
- Follow the standards in the IBMYP arts.
(See Course #1120 in Section V for additional course content.)
Center for the International Baccalaureate  
Middle Years Program - Fairfield, Moody & Tuckahoe Middle Schools  
Course Descriptions (cont.)

IBMYP French I, Part A  
Course #IB5113  
36 weeks; required; Grade 6  
This is a possible world language (Language Acquisition) course required of all students entering the IBMYP. Delivered with an interdisciplinary approach, the focus on global awareness connects French to other disciplines.  
(See Course #5113 in Section V for additional course content.)

IBMYP French I, Part B  
Course #IB5115  
36 weeks (1 cr.); required; Grade 7  
This is the second half of the world language (Language Acquisition) requirement for IBMYP. Placement is based on successful completion of IBMYP French I, Part I.  
(See Course #5115 in Section V for specific course content.)

IBMYP French II  
Course #IB5120  
36 weeks (1 cr.); required; Grade 8  
This is the second level of required world language (Language Acquisition) for all IBMYP students. The accelerated content is a preparation for those students entering the IBMYP at the high school level.  
(See Course #5120 in Section V for specific course content.)

IBMYP Spanish I, Part A  
Course #IB5513  
36 weeks; required; Grade 6  
This is a possible world language (Language Acquisition) course required of all students entering the IBMYP. Delivered with an interdisciplinary approach, the focus on global awareness connects Spanish to other disciplines.  
(See Course #5513 in Section V for additional course content.)

IBMYP Spanish I, Part B  
Course #IB5515  
36 weeks (1 cr.); required; Grade 7  
This is the second half of the world language (Language Acquisition) requirement for IBMYP. Placement is based on successful completion of IBMYP Spanish I, Part I.  
(See Course #5515 in Section V for specific course content.)

IBMYP Spanish II  
Course #IB5520  
36 weeks (1 cr.); required; Grade 8  
This is the second level of required world language (Language Acquisition) for all IBMYP students. The accelerated content is a preparation for those students entering the IBMYP at the high school level.  
(See Course #5520 in Section V for specific course content.)

IBMYP Physical and Health Education,  
Level One  
Course #IB7110  
36 weeks; required; Grade 6  
✓ Grade 6 SOL test  
This course is one option for Level One students in the IBMYP. Students entering the IBMYP at grade 6 will be placed appropriately based on their prior mathematical background, preparation, and assessment.  
(See Course #3110 in Section V for specific course content.)

IBMYP Mathematics, Course One, Level  
One  
Course #IB3110  
36 weeks; required; Grade 6  
3 Grade 6 SOL test  
This course is one option for Level One students in the IBMYP. Students entering the IBMYP at grade 6 will be placed appropriately based on their prior mathematical background, preparation, and assessment.  
(See Course #3110 in Section V for specific course content.)

IBMYP Physical and Health Education,  
Level Two  
Course #IB7120  
36 weeks; required; Grade 7  
• Learn how communicable diseases, physical and emotional changes and nutrition affect the body.  
• Demonstrate safety in physical activity setting. 
• Apply physical fitness concepts to achieve wellness-related fitness.

IBMYP Mathematics, Course One, Level  
One  
Course #IB7110  
36 weeks; required; Grade 6  
✓ Grade 6 SOL test  
This course is one option for Level One students in the IBMYP. Students entering the IBMYP at grade 6 will be placed appropriately based on their prior mathematical background, preparation, and assessment.  
(See Course #3110 in Section V for specific course content.)

IBMYP Physical and Health Education,  
Level Two  
Course #IB7120  
36 weeks; required; Grade 7  
• Learn about stimulants, depressants, narcotics, hallucinogens, and drug abuse.  
• Practice conflict resolution and violence prevention skills.  
• Apply principles of personal fitness for proficiency in the Virginia wellness fitness standards.
### IBMYP Mathematics, Course Two, Level One or Two

Course #IB3111
36 weeks; required; Grade 6 or 7
✓ Grade 7 SOL test

This course is one option for either Level One or Level Two students in the IBMYP. Students entering the IBMYP at grade 6 or 7 will be placed appropriately based on their prior mathematical background, preparation, and assessment. (See Course #3111 in Section V for additional course content.)

### IBMYP Life Science, Level One

Course #IB4115
36 weeks; required; Grade 6
- Emphasize the life sciences.
- Introduce the aims, objectives, and assessments of the IBMYP technology course, Level One.
- Combine the study of the IBMYP design cycle and the scientific method.
(See Course #4115V in Section V for additional course content.)

### IBMYP Physical Science, Level Two

Course #IB4125
36 weeks; required; Grade 7
✓ SOL Cumulative Grade 8 SOL Science test
- Introduce the physical sciences.
- Incorporate the IBMYP technology course, Level Two.
(See Course #4125V in Section V for additional course content.)

### IBMYP Algebra I, Level One, Two or Three

Course #IB3130
36 weeks (1 cr.); required; Grade 6, 7 or 8
✓ SOL Algebra I end-of-course test

Students entering the IBMYP at this level will be placed appropriately based on their prior mathematical background, preparation, and assessment.
(See Course #3130 in Section V for specific course content.)

### IBMYP Geometry, Level Two or Three

Course #IB3143
36 weeks (1 cr.); required; Grade 7 or 8
✓ SOL Geometry end-of-course test

This is the recommended sequential course for those students who have completed Algebra I. Students who enter IBMYP at this level will be placed appropriately based on their prior mathematical background, preparation, and assessment.
(See Course #3143 in Section V for specific course content.)

### IBMYP US History Part I, Level One

Course #IB2354
36 weeks; required; Grade 6
✓ SOL United States History I test

This course is for students who enter the IBMYP in the sixth grade.
(See Course #2354V in Section V for specific course content. Additionally, this course incorporates civics into the curriculum.)

### IBMYP US History Part II, Level Two

Course #IB2355
36 weeks; Grade 7
✓ SOL United States History II test

This course is for students in the second year of the IBMYP.
(See Course #2355V in Section V for specific course content. Additionally, this course incorporates civics into the curriculum.)

### IBMYP World History and Geography I, Level Three

Course #IB2215
36 weeks (1 cr.); required; Grade 8
✓ SOL World History I end-of-course test

Students will be challenged to think like historians and social scientists by analyzing primary and secondary sources and by using other tools of historical analysis including maps, pictures, stories, diagrams, charts, chronology, inquiry/research, and technology.
(See Course #2215 in Section V for additional course content.)
Center for the International Baccalaureate
IB Program - Henrico & Tucker High Schools

Students in grades 9 and 10 complete Levels Four and Five of the International Baccalaureate Middle Years Program (IBMYP). In order for students to qualify for the Henrico County IB Certificate, students in grades 9 and 10 are required to complete the following:

+ assessments in six subject groups.
+ Earn at least a 3 out of 7 on the personal project which is moderated by the IBO.
+ community and service requirements.
+ participation in the MYP for both grades 9 and 10.

Grade 9, Level Four

| IBMYP Language and Literature (English) |
| IBMYP Language Acquisition (French II or III or Spanish II or III, or Chinese III) |
| IBMYP Physical and Health Education |
| IBMYP Geometry, Algebra II or AP Statistics |
| IBMYP Biology |
| IBMYP World History & Geography II |
| *IBMYP Arts Elective |

Grade 10, Level Five

| IBMYP Language and Literature (English) |
| IBMYP Language Acquisition (French II or IV or Spanish III or IV, or Chinese IV) |
| IBMYP Physical and Health Education** |
| IBMYP Algebra II or IBMYP Extended Math |
| IBMYP Chemistry |
| IBMYP VA/US/Comparative Governments |
| *IBMYP Arts Elective |

NOTES: * The six subject groups include mathematics; sciences; Language and Literature; Language Acquisition; Individuals and Societies; and the Arts. The IBMYP Art choices are visual arts and performing arts. Grade 10 elective choice should match Grade 9 elective choice for concurrency of learning as required by the IBO.

**A student may take a non-weighted on-line or site based summer P.E. course to create an opportunity for an additional elective.

During the eleventh and twelfth grades, the student completes the IB diploma curriculum. The high standards implicit in the IB examinations assume advanced levels of achievement. The subjects that comprise the core of the IB curriculum are arranged in six groups. All students must complete their study in all six areas. Group 6, however, may include not only arts electives, but also subjects in other areas such as psychology or science. Requirements for the IB diploma candidate in Grades 11–12 are listed below:

- Internally graded and externally moderated assessments in each subject
- Examinations in six IB subjects: 3 at the higher level (HL) and 3 at the standard level (SL)
  - SL = Standard Level (at least one year of study); HL = Higher Level (2 years of study)
- Theory of Knowledge course
- Extended essay on a student-selected topic
- CAS Program (Creativity, Action, Service)

IB Subject Areas - Course Offerings by Groups

<table>
<thead>
<tr>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
</table>
| **1. Language & Literature**  
IBDP English HL | **1. Language & Literature**  
IBDP English HL |
| **2. Language Acquisition**  
IBDP French (IV or V) or  
IBDP Spanish (IV or V) | **2. Language Acquisition**  
IBDP French V SL or VI SL or HL  
or IBDP Spanish V SL or VI SL or HL |
| **3. Individuals & Societies**  
IBDP History of the Americas HL | **3. Individuals & Societies**  
IBDP World Topics HL |
| **4. Experimental Sciences**  
IBDP Biology SL or  
IBDP Chemistry SL | **4. Experimental Sciences**  
IBDP Biology SL or HL or  
IBDP Chemistry SL or HL |
| **5. Mathematics**  
IBMP Extended Mathematics or  
IBDP Mathematical Studies SL or  
IBDP Mathematics | **5. Mathematics**  
IBDP Mathematical Studies SL or  
IBDP Mathematics SL |
| **6. The Arts/Elective**  
IBDP Theatre Arts or  
IBDP Psychology SL  
IBDP Art/Design HL | **6. The Arts/Elective**  
IBDP Theory of Knowledge I (requirement for IB Diploma candidates) |

Students earning the IB diploma will have completed the requirements for graduation provided they have passed the end-of-course SOL tests to earn verified credits as required by the State of Virginia. (See “Graduation Requirements” in Section I.) The student who does not satisfy the requirements of the Diploma Program is awarded a certificate for the examination(s) completed.

Adhering to the full IB curriculum 9-12 satisfies the Virginia DOE Advanced Studies Diploma requirements.

Leaving the IB program prior to completion will require a student to meet the original state requirements for graduation.

http://www.henrico.k12.va.us

Section IV - Specialty Centers and Programs 59
Courses in the IBMYP and IB Diploma Program (IBDP) incorporate the Virginia Standards of Learning, the Essentials of the Curriculum, and the Standards set by the International Baccalaureate Organization.

IBMYP English, Level Four Honors
Course #IB1130
36 weeks (1 cr.); required (Language & Literature); Grade 9
- Follow an interdisciplinary approach to integrate grammar, usage, writing, literature, and research.
- Develop the Personal Project required for the HCPS MYP certificate.

IBMYP English, Level Five Honors
Course #IB1140
36 weeks (1 cr.); required (Language & Literature); Grade 10
✓ SOL English end-of-course EOC Writing test (2 parts, 1 verified credit)
- Continue the development of the academic skills necessary for IB courses.
- Complete the personal project and assessments required for the HCPS MYP certificate.

IBDP English HL Honors
Course #IB1160
36 weeks (1 cr.); required (Language & Literature); Grade 12
This course, in partnership with Course #IB1150, is required for all IB diploma candidates.
- Continue in-depth analytical study of major works of literature selected from an IB list of authors, genres, and time periods.
- Complete papers and oral commentary for external examiners.
- Prepare for the IB Literature (HL) written examinations.

IBDP Theory of Knowledge I Honors
Course #IB1197
36 weeks (1 cr.); required; Grade 11
- Compare and contrast knowledge systems to understand how they affect the nature of knowledge, language, perception, and logic.
- Understand the range of human knowledge by examining the belief systems inherent in various academic subjects.
- Complete oral presentation for internal assessment.

IBDP Theory of Knowledge II Honors
Course #IB1198
36 weeks (1 cr.); required; Grade 12
- Compare and contrast knowledge systems to understand how they affect the nature of knowledge, language, perception, and logic.
- Understand the range of human knowledge by examining the belief systems inherent in various academic subjects.
- Complete essay for external grading.

IBMYP French II Honors
Course #IB5122
36 weeks (1 cr.); Grade 9
This is the second level of required world language (Language Acquisition) for students entering Grade 9 IBMYP at the high school level.

IBMYP French III Honors
Course #IB5132
36 weeks (1 cr.); Grade 9 or 10
This course represents the third level of required world language (Language Acquisition) study for students prior to entering the IB Diploma Program. All tenth grade IBMYP students in this course will prepare for the HCPS MYP certificate assessments.

IBMYP French IV Honors
Course #IB5142
36 weeks (1 cr.); Grade 10 or 11
Levels IV and V of world language (Language Acquisition) study are required for IB Diploma candidates. All Grade 10 IBMYP students in this course will prepare for HCPS MYP certificate assessments.

IBDP French V SL Honors
Course #IB5152
36 weeks (1 cr.); Grade 11 or 12
This course prepares students to complete the IB French examination (SL or HL) at the end of Grade 12. Grade 11 students will continue their world language studies in Grade 12 and sit for the examination at the end of Grade 12.

IBDP French VI SL or HL Honors
Course #IB5162
36 weeks (1 cr.); Grade 12
This rigorous level of French is designed for Grade 12 IB diploma students. Students sit for the standard or higher level IB examinations.

IBMYP Spanish II Honors
Course #IB5522
36 weeks (1 cr.); Grade 9
This is the second level of required world language (Language Acquisition) for students entering Grade 9 IBMYP at the high school level.

Courses in the IBMYP and IB Diploma Program (IBDP) incorporate the Virginia Standards of Learning, the Essentials of the Curriculum, and the Standards set by the International Baccalaureate Organization.
### IBMYP Spanish III Honors

Course #IB5532  
36 weeks (1 cr.); Grade 9 or 10  
This course represents the third level of required world language (Language Acquisition) study for students prior to entering the IB Diploma Program. All Grade 10 IBMYP students in this course will prepare for the HCPS MYP certificate assessments.

### IBMYP Spanish IV Honors

Course #IB5542  
36 weeks (1 cr.); Grade 10 or 11  
Levels IV and V of world language (Language Acquisition) study are required for IB Diploma candidates. All Grade 10 IBMYP students in this course will prepare for HCPS MYP certificate assessments.

### IBDP Spanish V SL or HL Honors

Course #IB5552  
36 weeks (1 cr.); Grade 11 or 12  
This course prepares students to complete the IB Spanish examination (SL) at the end of Grade 12. Grade 11 students will continue their world language studies in Grade 12 and sit for the IB Spanish examination at the higher level in their senior year.

### IBDP Spanish VI SL or HL Honors

Course #IB5562  
36 weeks (1 cr.); Grade 12  
This rigorous level of Spanish is designed for Grade 12 IB diploma students. Students sit for the standard or higher level IB examinations.

### IBMYP Chinese III Honors

Course #IB5832  
36 weeks; (1 cr.); Grade 9  
This is the third level of required world language (Language Acquisition) for all IBMYP students. The accelerated content is a preparation for those students entering the IBDP at the high school level. All Grade 9 IBMYP students in this course will prepare for the IBMYP grade 10 assessments.

### IBMYP Chinese IV Honors

Course #IB5842  
36 weeks; (1 cr.); Grade 10  
This is the fourth level of required world language (Language Acquisition) for all IBMYP students. The accelerated content is a preparation for those students entering the IBDP at the high school level. All Grade 10 IBMYP students in this course will prepare for the IBMYP grade 10 assessments.

### IBDP Chinese V Honors

Course #IB5852  
36 weeks; required; (1 cr.); Grade 11  
This course prepares Grade 11 students to continue their rigorous world language studies in Grade 12 and sit for IB Chinese examination at the higher level in their senior year.

### IBMYP Physical and Health Education, Level Four Honors

Course #IB7300  
36 weeks (1 cr.); required; Grade 9  
In addition to following the county curriculum, there is an emphasis on nutrition and sports performance; developing, implementing, and evaluating a physical fitness plan; and designing aesthetic movement routines to prepare for the HCPS MYP certificate assessments.

### IBMYP Physical and Health Education, Level Five Honors

Course #IB7400  
36 weeks (1 cr.); required; Grade 10  
In addition to following the county curriculum, there is an emphasis on nutrition and sports performance; developing, implementing, and evaluating a physical fitness plan; and designing aesthetic movement routines to prepare for the HCPS MYP certificate assessments.

### IBMYP Geometry, Level Four Honors

Course #IB3143  
36 weeks (1 cr.); required; Grade 9  
✓ SOL Geometry end-of-course test  
This is the recommended sequential course for those students entering the IBMYP having completed Algebra I.

### IBMYP Algebra II, Level Four or Five Honors

Course #IB3135  
36 weeks (1 cr.); required; Grade 9 or 10  
✓ SOL Algebra II end-of-course test  
This is the recommended sequence for those students in the IBMYP who have completed geometry. All Grade 10 students will complete the HCPS MYP certificate assessments.

### IBDP Mathematical Studies Honors

Course #IB3199  
36 weeks (1 cr.); required; Grade 10 or 11  
This course is for Grade 10 IBMYP students who have completed Algebra II or Grade 11 IB Diploma students who have completed Algebra II. All Grade 10 students will complete the HCPS MYP certificate assessments.

- Incorporate IBMYP Extended Mathematics concepts in advanced algebra, trigonometry, statistics, and probability.
- Enhance students’ mathematical problem-solving skills.
- Enhance students’ ability to communicate and reason using mathematical language and conventions.

### IBDP Mathematical Studies SL Honors

Course #IB3198  
36 weeks (1 cr.); Grade 11 or 12  
(Prerequisite: IBMYP Extended Mathematics)  
This course prepares students to complete the IB Mathematical Studies examination. Course content focuses on the application of mathematics in the world outside the classroom. A required component of the course is a project involving original research and data collection.  
Core topics include:
- Number Systems and Algebraic Expressions
- Sets and Logic
- Geometry and Trigonometry
- Statistics and Probability
- Functions
- Financial Math
- Further Statistics and Probability
- Matrices and Graph Theory
- Differential Calculus
IBDP Mathematics SL Honors
Course #IB3197
36 weeks (1 cr.); Grade 11 or 12
(Prerequisite: IBMYP Extended Mathematics)
This course prepares students to take the IB Mathematics examination. Course content focuses on the development of mathematical concepts and theories that enable students to make connections to mathematics in the world outside the classroom. A project demonstrating achievement in all core topics is a required component of the course.

Core topics include:
- Number Systems and Algebraic Expressions
- Functions and Equations
- Circular Functions and Trigonometry
- Vector Geometry (2-dimensional)
- Statistics and Probability
- Calculus
- Statistical Methods
- Further Calculus
- Further Geometry

IBDP Biology HL Honors
Course #IB4390
36 weeks (1 cr.); Grade 12
- Continue to synthesize and relate biological information from different areas of biology.
- Complete the required study of two options.
- Prepare for the IB Biology HL examination.

IBDP Physics HL Honors
Course #IB4400
36 weeks (1 cr.); Grade 12
- Complete the required study of two options listed above with the duration of each to be 22 hours.
- Prepare for the IB Physics HL examination.

IBDPA Mathematics SL Honors
Course #IB4380
36 weeks (1 cr.); Grade 11
(Prerequisite: IBMYP Biology or teacher recommendation)
This course is required for the IB students who select biology from Group 4.
- Synthesize and relate biological information from different areas of biology.
- Prepare students for the IB Biology SL examination.
- Students may take this course as their IB elective or in grade 12 as an elective which does not apply to the diploma.

IBMYP World History & Geography II, Level Four Honors
Course #IB2216
36 weeks (1 cr.); required; Grade 9
- SOL World History II end-of-course test
This course is designed for students who will enter IB History in the eleventh and twelfth grades and fulfills one World History/World Geography requirement for graduation. It analyzes political, economic, and social change.

IBMYP VA/US/Comparative Governments, Level Five Honors
Course #IB2445
36 weeks (1 cr.); required; Grade 10
- SOL Virginia and United States History end-of-course test
This course, required of all IB Diploma candidates, is a substitute for the Virginia and United States History requirement for graduation, and partially prepares the student for the IB examination.

IBDP History of the Americas HL Honors
Course #IB2360
36 weeks (1 cr.); required; Grade 11
- SOL Virginia and United States History requirement for graduation.
- Also, this course and course #IB2361 prepare the student for the IB higher level examination.

IBDP World Topics HL Honors
Course #IB2361
36 weeks (1 cr.); required; Grade 12
(Prerequisite: IB History of the Americas HL)
This course, in partnership with Course #IB2445, fulfills the U.S. Government requirement for graduation. Also, this course and course #IB2360 prepare the student for the IB higher level examination.
- Focus on world history in the twentieth century.
- Continue the study of the Americas focusing on Latin America.
- Continue preparation for the IB higher-level examination.
IBDP Psychology SL Honors
Course #IB2903
36 weeks (1 cr.); elective; Grade 11 (or 12)
• Explore research methods, ethics and quantitative research methods.
• Complete an experimental study.
• Prepare for the IB Psychology SL examination.

IBDP Psychology SL or HL Honors
Course #IB2904
36 weeks (1 cr.); elective; Grade 12
This course is the second year of the two-year IB Psychology Course.
The higher level course requires that 100 hours be spent on perspectives, 60 hours on options, 50 hours on research methodology, and 30 hours on experimental study.
• Complete the study of biological, cognitive, learning, and humanistic perspectives that are compulsory.
• Complete experimental study.
• Prepare for the IB Psychology SL or HL exam.

IBMYP Visual Arts I, Level Four Honors
Course #IB9194
36 weeks (1 cr.); elective; Grade 9
This course is designed to fulfill the arts requirement of the IBMYP at Level Four.

IBMYP Visual Arts II, Level Five Honors
Course #IB9195
36 weeks (1 cr.); elective; Grade 10
This course is designed to fulfill the arts requirement of the IBMYP at Level Five. It prepares students for HCPS MYP certificate assessment in Grade 10.

IBDP Art/Design HL Honors
Course #IB9126
36 weeks (1 cr.); elective; Grade 12
This is the second year of the Group 6 offering described in Course #IB9125.

IBMYP Dramatic Arts I, Level Four Honors
Course #IB1432
36 weeks (1 cr.); elective; Grade 9
This course is an elective offering that fulfills the fine arts requirement of the IBMYP at Level Four.

IBMYP Dramatic Arts II, Level Five Honors
Course #IB1433
36 weeks (1 cr.); elective; Grade 10
This course is designed to fulfill the arts requirement of the IBMYP at Level Five and prepares students for HCPS MYP certificate assessments in Grade 10.

IBDP Theatre Arts SL or HL Honors
Course #IB1450
36 weeks (1 cr.); elective; Grade 11
This course prepares students to complete the Group 6 Arts elective component of the IB Diploma Program.
• Introduce ensemble work, performance techniques, characterization, and the principles of theatre production.
• Compare and contrast play texts from different theatrical traditions and cultures.
• Prepare for the IB Theatre Arts internal assessments.

IBDP Theatre Arts SL or HL Honors
Course #IB1451
36 weeks (1 cr.); elective; Grade 12
• Continue the study of theatre production including an in-depth research analysis project.
• Prepare for the IB Theatre Arts SL or HL examination.
Center for Leadership, Government, and Global Economics
Douglas S. Freeman High School

- Comprehensive curriculum preparing students to be knowledgeable, responsible, and ethical leaders
- An advanced studies program in government, history, and the free enterprise system
- Observation and interaction with leaders through partnerships and special programs
- Application of leadership skills and principles through curricular and co-curricular activities, community service, and enrichment programs
- Identification and development of personal leadership qualities through presentations, research, and mentorship programs

Sample Four-Year Curriculum

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<thead>
<tr>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
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<tbody>
<tr>
<td>Center Module I English 9 + World History &amp; Geography II Foundations of Leadership I</td>
<td>Center Module II English 10 Foundations of Leadership II AP Human Geography</td>
<td>Center Module III Leadership Ethics Seminar AP Virginia and United States History</td>
<td>Center Module IV AP Macroeconomics (1/2) AP Microeconomics (1/2) AP Government Senior Internship and Leadership Mentoring</td>
</tr>
</tbody>
</table>

NOTES: * Refer to Section I to determine which graduation requirements apply to you.
+ It is highly recommended that the students complete World History & Geography I or AP Human Geography before enrolling in this Center. This course is required for the Advanced Studies Diploma and the Center Diploma Seal but is NOT included in the Center’s curriculum.
• All students, beginning with the graduating class of 2015, must successfully complete Personal Finance and Economics, AP Economics or an acceptable alternative as an elective or online.

Course Descriptions

Foundations of Leadership I Honors
Course #2994
36 weeks (1 cr.); required for Center students; Grade 9
- Examine leadership styles of effective leaders.
- Focus on the theories and competencies of leadership and group dynamics.
- Emphasize knowledge of economic principles as a foundation for leadership growth.

Foundations of Leadership II Honors
Course #2995
36 weeks (1 cr.); required for Center students; Grade 10
- Explore fundamental principles of psychology and sociology, as well as individual and group roles as they relate to society.
- Study the impact of institutions on individuals, culture and society.
- Focus on leadership in the contexts of formal organizations, government systems, social movements, and community organizations.

AP Human Geography
Course #2212
36 weeks (1 cr.)
- Study human impact on the Earth’s resources and environment.
- Understand societal roles and relationships and their interdependence with one another.
- Examine population trends and cultural patterns.

Leadership Ethics Seminar Honors
Course #2996
36 weeks (1 cr.); required for Center students; Grade 11
- Examine major theories of philosophy and ethics from antiquity to the present.
- Analyze competing ethical systems from different cultures.
- Examine the relationship of law, justice and morality in contemporary American jurisprudence.

Senior Internship and Leadership Mentoring Honors
Course #2997
36 weeks (1 cr.); required for Center students; Grade 12
- Complete a 180 hour internship with a local business, agency, or community organization.
- Examine and evaluate effective leadership styles through an internship experience.
- Integrate prior knowledge and evaluate personal performance during an internship experience.

AP Microeconomics/AP Macroeconomics Honors
Course #2806 (micro); #2807 (macro)
18 weeks (1/2 cr.); required for Center students; Grade 12
- Develop a fundamental understanding of the global marketplace and the functioning of a market economy.
- Develop familiarity with economic performance measures, economic growth, and international economics.
- Evaluate the nature and functions of product markets, factor markets, and the role of government in promoting greater efficiency and equity in the economy.
Center for Science, Mathematics, & Technology
Mills E. Godwin High School

- Rigorous college preparatory curriculum providing an accelerated program of studies in the three disciplines
- Instructional delivery heavily infused with technology
- Science and mathematics applications in business and industry through on-site and electronic field investigations, internships, seminars, mentorships, and telecommunications projects
- Ethical considerations to issues relating to scientific inquiry
- Research experiences leading to collaborative and independent projects

Sample Four-Year Curriculum

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<tr>
<td>English 12 Virginia and United States Government Electives</td>
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</tbody>
</table>

NOTES: + Students must meet Center criteria through successful completion of Algebra I prior to enrolling in this Center.
* Refer to Section I to determine which graduation requirements apply to you.
^ Year of enrollment in AP Statistics or Research Stats will be determined by the math instructor.
** All students, entering 9th grade in 2011 and beyond, must complete Economics and Personal Finance or an acceptable alternative as an elective or online.

Course Descriptions

Science Investigations I: Honors Biology
Course #4610
36 weeks (1 cr.); required for Center students; Grade 9 laboratory science
✓ SOL Biology end-of-course test
- Investigate core curriculum concepts of biology through unifying themes.
- Use mathematics, technology, and lab experiences to solve problems.
- Engage in independent research.

Science Investigations II: Honors Chemistry
Course #4612
36 weeks (1 cr.); required for Center students; Grade 10 laboratory science
✓ SOL Chemistry end-of-course test
- Investigate core curriculum concepts of inorganic chemistry, introductory organic chemistry and biochemistry through unifying themes.
- Provide a technology-based learning, emphasizing field work, lab experiences.
- Engage in independent research.

AP Physics I
Course #4573
36 weeks (1 cr.); elective
High schools; Grades 10-12
- Study Newtonian mechanics (including rotational dynamics and angular momentum); work, energy and power; mechanical waves and sound; and electric circuits.
- Prepare for the Advanced Placement Physics I exam.

AP Physics C
Course #4571
36 weeks (1 cr.); elective
High schools; Grades 11-12
- Study kinematics; Newton’s laws of motion, work, energy, and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation.
- Prepare for the Advanced Placement Physics C exam.

http://www.henrico.k12.va.us
Center for Science, Mathematics, & Technology
Mills E. Godwin High School
Course Descriptions (cont.)

Mathematical Investigations I: Honors
Geometry
Course #3243
36 weeks (1 cr.); required for Center students; Grade 9
✓ SOL Geometry end-of-course test
• Master concepts and skills in graphing, data analysis, use of algorithms, functions, optimization, similarities, probability, matrices and rates of change.
• Investigate discrete tropics that are related to geometry.

Mathematical Investigations II: Honors
Algebra II
Course #3233
36 weeks (1 cr.); required for Center students; Grade 10
✓ SOL Algebra II end-of-course test
• Use computers, graphing calculators, and data collection devices to model and analyze structures.
• Use math to explore the physical, biological and social sciences.
• Promote problem solving through the use of mathematical modeling.

Math Investigations III: Honors
Trigonometry
Course #3262
36 weeks (1 cr.); required for Center students; Grade 11
• Use math technological tools to model and analyze structures.
• Connect math to investigate problems from the physical, biological, and social science.
• Investigate the characteristics of trigonometric functions.

Advanced Math Topics Honors
Course #3213
36 weeks (1 cr.); elective for Center students; Grade 11 or 12
• Become familiar with mathematical systems.
• Use linear algebra and probability concepts to solve applied problems.
• Study linear equations systems, vector space, linear dependence bases, dimensions, linear transformations, matrices, determinants, quadratic forms, orthogonal reductions to diagonal form and eigenvalues.

Mathematics Modeling with Discrete
Topics in Mathematics Honors
Course #3158
36 weeks (1 cr.); elective for Center students; Grade 11 or 12
• Use mathematical tools to model and analyze structures.
• Investigate graph theory and circuits; apportionment, voting, and game theory; growth of populations and finance; and algorithms and factials.
• Solve problems using finite graphs, matrices, sequences, and recurrence relationships.

Tools of Research Honors
Course #9820
36 weeks (1 cr.); required for Center students; Grade 9
• Design and conduct original student competitive research projects.
• Introduce statistical analysis tools.
• Present research in oral, written and electronic formats to juried competitions.

AP Statistics Honors
Course #3191
36 weeks (1 cr.); required for Center students; Grade 10, 11, or 12
• Develop statistical analysis tools, statistical and probabilistic reasoning.
• Use curve fitting to predict from data.
• Apply statistical knowledge to student’s independent research.

Medical Microbiology Honors
Course #4338
18 weeks (1/2 cr.); elective for Center students; Grade 11 or 12
• Develop techniques and skills in microbiology and microscopic techniques needed in identification of pathogenic organisms that cause disease in man.
• Investigate host infection/defense mechanisms, resistance, treatment and genetics of bacterial pathogens that maintain or alter the body’s homeostatic processes.

Genetics Biotechnology Honors
Course #3438
36 weeks (1 cr.); elective for Center students; Grade 11 or 12
• Develop techniques of restriction enzyme digestion, DNA profiling, population genetics and simple genetic engineering.
• Master techniques of gel electrophoresis, polymerase chain reaction, and Southern blotting.
• Investigate the advanced topics in genetics like, epistasis, chromosomal mapping and gene linkage.

AP Biology - Research Based Honors
Course #4341
36 weeks (2 crs.); elective for Center students; Grade 11 or 12
✓ SOL Biology end-of-course test
• Extensive lab research to include all of the AP lab investigations and preparation for the AP Biology test.
• Conduct independent research.
(See Course #4370 in Section V for additional course content.)

Visualizing Science through Technology Honors
Course #4615
36 weeks (1 cr.); elective for Center students; Grade 11 or 12
• Demonstrate skills with air and water physics.
• Examine the components of the local, terrestrial, fresh-water ponds and Chesapeake Bay.
• Develop knowledge of image process manipulation.
• Use current technologies to visualize experimental options in health sciences.
• Use statistical models and methods to solve applied problems.
• Conduct in-depth research projects for honors credit.

Introduction to Biomedical Engineering Honors
Course #4616
36 weeks (1 cr.); elective for Center students; Grade 11 or 12
• Explore the connection between science and engineering to solve health problems.
• Utilize current technologies to visualize experimental options in health sciences.
• Explore the components of the local, terrestrial, fresh-water ponds and Chesapeake Bay.
• Demonstrate skills with air and water quality testing, soil characteristics, and identification of life forms.

Statistics for Science and Research Honors
Course #3190
36 weeks (1 cr.); required for Center students; Grade 10, 11, or 12
• Introduction to the basic concepts of probability and statistics.
• Use statistical models and methods to solve applied problems.
• Augment students’ skills in scientific analysis and decision-making.

Environmental Problems Honors
Course #4623
18 weeks (1/2 cr.); elective for Center students; Grades 11, 12 or College Preparatory laboratory science
• Demonstrate skills with air and water quality testing, soil characteristics, and identification of life forms.
Center for World Languages
J. R. Tucker High School

- Development of a high level of language proficiency and cultural awareness
- Enrollment in accelerated language classes and other courses taught exclusively in the target language
- Opportunities to interact with guest speakers, business partners, elementary school students, and community members
- Ability to interact and establish relationships with the non-English speaking community locally and internationally

Sample Four-Year Curriculum

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<tr>
<th>Grade 9</th>
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</table>
| Center Module I
  Immersion Spanish 9
  Other World Language Level I
  Immersion Spanish Health & PE 9 | Center Module II
  Immersion Spanish 10
  Immersion World History & Geography II | Center Module III
  Immersion Spanish 11 AP
  Field Experience
  Immersion Elective | Center Module IV
  Immersion Spanish 12 AP
  Immersion Elective |
| English 9   | English 10                | English 11                | English 12                |

NOTE:  
* Please refer to Section I of the Planning Guide to determine which graduation requirements apply to you.  
In addition to the required Center language courses, students must complete an additional year of another world language.

Course Descriptions

Immersion Spanish 9 Honors
Course #5520 (Spanish)
36 weeks (1 cr.); required for Center students; Grade 9
- Develop proficiency skills where Spanish is the exclusive means of communication.
- Explore customs and cultures where the target language is spoken.
- Explore relationships with non-English speaking members of the local and international community.

Spanish Study Abroad
Course #5535 (Spanish)
36 weeks (1 cr.); elective
Center students may choose to travel after Grade 10 or 11.
- Pass/Fail
- Acquire knowledge of culture and history through a home-stay experience during the summer.
- Complete preparatory work before travel and post-travel projects.
Note: Students receive credit for the Center’s Exchange Program but do not receive credit for other travel experiences. Credit is posted on the student’s transcript during the school year following travel.

Immersion Spanish 10 Honors
Course #5530 (Spanish)
36 weeks (1 cr.); required for Center students; Grade 10
- Improve communication skills where Spanish is the exclusive means of communication.
- Apply language skills through analysis of customs and traditions.
- Develop relationships with non-English speaking members of the local and international community.
**Immersion Spanish 11, AP Spanish Language Honors**  
Course #5570 (Spanish)  
36 weeks (1 cr.); required for Center students; Grade 11  
- Refine fluency through the advanced study of language structures and vocabulary.  
- Analyze and evaluate various literary works and themes to prepare for the Advanced Placement Spanish Language exam.

**Immersion Spanish 12, AP Spanish Literature Honors**  
Course #5580  
36 weeks (1 cr.); required for Center students; Grade 12  
- Perfect Spanish language skills for use beyond the classroom.  
- Complete an in-depth study of authors and works to include all of the suggested readings and preparation for the Advanced Placement Spanish Literature exam.

**Immersion Health and PE 9**  
Course #7300  
36 weeks (1 cr.); required for Center students; Grade 9  
- Taught in the target language  
- Allows students the opportunity to increase their fluency through teamwork and cooperation.  
(See course #7300 in Section V for specific course content.)

**Cultures and Connections Honors**  
Course #1518  
36 weeks (1 cr.); elective; offered every other year; counts as 1 fine arts credit; Grades 10, 11 or 12; Instructed in Spanish.  
- Develop an understanding of/and an appreciation for the historical and cultural elements that contribute to the Spanish and Latin American civilizations.  
- Study the music, art, literature and culture of Spanish-speaking countries from early times to present.

**Field Experience Honors**  
Course #5998  
36 weeks (1 cr.); Grades 11 or 12 required for Center students; counts as a practical arts credit; instructed in Spanish.  
- Complete a minimum of 40 hours of approved community service.  
- Expand world language skills working with elementary school students or by working with an organization, business or agency that has international ties.

**Immersion World History & Geography II Honors**  
Course #2216  
36 weeks (1 cr.); required for Center students; Grade 10  
- SOL World History II end-of-course test  
- Taught in Spanish.  
- See Course #2216 in Section V for specific course content.

**Contemporary Perspectives Honors**  
Course #5997  
36 weeks (1 cr.); elective; offered every other year; Grades 10, 11, or 12. Instructed in Spanish.  
- Improve language skills and comprehension through Spanish newspapers, magazines, television and online resources.  
- Understand and respond to current issues using authentic materials and resources.

**Conversation and Composition Honors**  
Course #5505  
36 weeks (1 cr.); Grades 10, 11, or 12  
- Improve interpersonal and presentational communication, accent, intonation, and fluency.  
- Expand vocabulary.  
- Strengthen complex grammar and usage.
SECTION V
Course Descriptions
### AGRICULTURAL EDUCATION

**Greenhouse Management**  
Course #8035  
36 weeks (3 cr.); elective  
Hermitage Technical Center, The Academy at Virginia Randolph  
- Study the production of greenhouse crops by working in a greenhouse setting.  
- Study flower and plant arrangements, soils, nutrients, and the propagation and transplantation of plants.  
- Produce foliage and bedding plants.

### ART

**Art Exploratory Grade 6**  
Course #9103  
9-18 weeks; elective  
Middle schools  
- Appreciate art, its history, aesthetics and criticism.  
- Participate and create using a variety of art media and techniques including computer.  
- Explore art vocabulary, visual literacy and art from different cultures.

**Art 6**  
Course #9104  
36 weeks; elective  
Middle schools  
- Learn art, its history, aesthetics and criticism.  
- Study elements and principles of design using a variety of media including computer.  
- Maintain a portfolio; use art vocabulary, understand visual literacy and cultural art.

**Art 7**  
Course #9105  
36 weeks; elective  
Middle schools  
- Learn art, its history, aesthetics and criticism.  
- Study elements and principles of design using a variety of media including computer.  
- Maintain a portfolio; use art vocabulary, understand visual literacy and cultural art.

**Art Exploratory Grade 7 or 8**  
Course #9106  
18 weeks; elective  
Middle schools  
- Appreciate art, its history, aesthetics and criticism.  
- Participate and create using a variety of art media and techniques including computer.  
- Maintain a portfolio; explore art vocabulary, visual literacy and cultural art.

### Art 8

**Course #9115**  
36 weeks; elective  
Middle schools  
- Learn art, its history, aesthetics and criticism.  
- Study elements and principles of design using a variety of media including computer.  
- Maintain a portfolio; use art vocabulary, understand visual literacy and cultural art.

**Introduction to Computer Art**  
Course #9107  
18 weeks; elective  
Middle schools  
- Use computer and peripherals to create art and animation.  
- Study elements and principles of design, digital imaging.  
- Maintain a portfolio.

**Introduction to Art History**  
Course #9108  
18 weeks; elective  
Middle schools  
- Explore art relating it to world history, science and culture.  
- Study elements and principles of design, aesthetics and art criticism.  
- Enjoy studio experiences using various art techniques and media.

**Introduction to Crafts**  
Course #9109  
18 weeks; elective  
Middle schools  
- Explore role of crafts in different cultures.  
- Develop skills in a variety of craft techniques.  
- Explore the role of crafts within fine arts.

**Art I, Discovering Art**  
Course #9120  
36 weeks (1 cr.); elective  
Middle school - Teacher recommendation required  
High schools  
- Learn art, its history, aesthetics and criticism using written and oral formats.  
- Study elements and principles of design using a variety of media including computer.  
- Maintain a portfolio; use art vocabulary, understand visual literacy and cultural art.

**Introduction to Computer Art**  
Course #9107  
18 weeks; elective  
Middle schools  
- Use computer and peripherals to create art and animation.  
- Study elements and principles of design, digital imaging.  
- Maintain a portfolio.

**Introduction to Art History**  
Course #9108  
18 weeks; elective  
Middle schools  
- Explore art relating it to world history, science and culture.  
- Study elements and principles of design, aesthetics and art criticism.  
- Enjoy studio experiences using various art techniques and media.

**Introduction to Crafts**  
Course #9109  
18 weeks; elective  
Middle schools  
- Explore role of crafts in different cultures.  
- Develop skills in a variety of craft techniques.  
- Explore the role of crafts within fine arts.

**Art II, Exploring Art**  
Course #9130  
36 weeks (1 cr.); elective  
High schools  
- Expand study of art, its history, aesthetics and criticism.  
- Study elements and principles of design using a variety of media including computer.  
- Collect portfolio works; increase art vocabulary and understanding of visual culture.

**Art III, Applied Arts and Design**  
Course #9140  
36 weeks (1 cr.); elective  
High schools  
- Build on previous study of art, its history, aesthetics, criticism and vocabulary.  
- Apply personal themes to 2D and 3D projects. Differentiate between fine and commercial art.  
- Finalize a portfolio for advanced placements.

**Art IV, Advanced Art**  
Course #9145  
36 weeks (1 cr.); elective  
High schools  
- Develop works based on personal themes and assess using personal aesthetics.  
- Apply art vocabulary, history, aesthetics and criticism through written and verbal formats.  
- Organize and critique works for a final portfolio.

**Art IV, Advanced Art Honors**  
Course #9145  
36 weeks (1 cr.); elective  
See Course #9145 above for content.  
- Fulfill additional Honors requirements.

**Art V, Advanced Art**  
Course #9146  
36 weeks (1 cr.); elective  
High schools  
- Develop multi-media works based on personal themes and expression.  
- Apply art vocabulary, history, aesthetics and criticism through written and verbal formats.  
- Organize and critique works for a final portfolio. Research art careers and education opportunities.

**Art V, Advanced Art Honors**  
Course #9146  
36 weeks (1 cr.); elective  
See Course #9146 above for content.  
- Fulfill additional Honors requirements.
ART

Introduction to Art
Course #9123
18 weeks (1/2 cr.); elective
High schools
- Explore art, its history, aesthetics and criticism.
- Participate and create using a variety of art media and techniques including computer.
- Maintain a portfolio.

School Service Art
Course #9122
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
High schools
- Learn how to use elements and principles of design in daily living.
- Explore lettering, silkscreen, computers, layout and design.
- Apply skills to advertising, poster, bulletin board and display design and school service projects.

Drawing
Course #9142
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
High schools
- Explore history of drawing.
- Understand its relationship to artistic development and self-expression.
- Use a wide variety of drawing techniques and maintain a portfolio.

Painting
Course #9151
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
High schools
- Explore history of painting; use a variety of painting techniques and media.
- Understand its relationship to artistic development and self-expression.
- Use the elements and principles of design in painting; maintain a portfolio.

Design
Course #9141
18 weeks (1/2 cr.)
36 weeks (1 cr.)
Elective for students who have completed Art II. (may be repeated for credit)
High schools
- Use elements and principles of design relating to art and the environment.
- Combine art history, vocabulary, visual culture into 2 and 3D projects.
- Maintain a portfolio. Teacher recommendation required.

Directed Independent Study
Course #9147
18 weeks (1/2 cr.)
36 weeks (1 cr.)
Elective for students who have completed Art IV or equivalent advanced coursework.
High schools
- Complete research based on previous art experiences. Maintain a portfolio.
- Correlate art history with art projects related to major area of interest.
- Develop self-directed project that is specialized, experimental and researched.

AP Studio Art 2D Design
Course #9148
36 weeks (1 cr.); elective for students who are highly motivated and committed to the serious study of art
High schools
- Engage in artistic study and production based on excellence and personal interest.
- Develop 2D works that are specialized, experimental and research based.
- Produce required portfolio for the Advanced Placement exam.

AP Studio Art 3D Design
Course #9149
36 weeks (1 cr.); elective for students who are highly motivated and committed to the serious study of art
High schools
- Engage in artistic study and production based on excellence and personal interest.
- Develop 3D works that are specialized, experimental and research based.
- Produce required portfolio for the Advanced Placement exam.

AP Studio Art Drawing
Course #9150
36 weeks (1 cr.); elective for students who are highly motivated and committed to the serious study of art
High schools
- Engage in artistic study and production based on excellence and personal interest.
- Develop works that are specialized, experimental and research based.
- Produce required portfolio for the Advanced Placement exam.

Foundations of Digital Media, Art and Design
Course #9152
18 weeks (1/2 cr.); elective
High schools
- Explore the basic concepts of computer art and programs.
- Use the elements and principles of design in digital images.
- Understand the differences between fine and computer generated art.

Digital Media, Art and Design I
Course #9153
36 weeks (1 cr.); elective
High schools
- Creatively use computer software and peripherals.
- Study the history of computer art, graphics, fine art, art history, aesthetics and criticism.
- Apply the elements and principles of design to digital images. Maintain a portfolio.

Digital Media, Art and Design II
Course #9197
36 weeks (1 cr.); elective
High schools
- Develop computer art skills in commercial and fine art, image manipulation and more.
- Understand in depth art history, aesthetics and criticism and correlate to computer art.
- Apply the elements and principles of design to digital images. Maintain a portfolio.

Digital Media, Art and Design III
Course #9180
36 weeks (1 cr.); elective
High schools
- Refine computer art skills; categorize work based on personal themes and techniques.
- Increase knowledge of art history, aesthetics and criticism and correlate to computer art.
- Finalize a portfolio for advanced placements.

Digital Media, Art and Design IV Honors
Course #9181
36 weeks (1 cr.); elective
High schools
- Use advanced computer art skills in video, presentation, marketing, 3D and publication.
- Correlate art history, aesthetics and criticism to computer art. Explore copyright.
- Critique using proper vocabulary and organize a final portfolio.

Crafts
Course #9160
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
(may be repeated for credit)
High schools
- Explore the role of crafts in different cultures.
- Develop skills in selected crafts.
- Understand aesthetics and criticism in relation to crafts.
Foundations of Ceramics
Course #9162
18 weeks (1/2 cr.); elective
High schools
• Work with clay and ceramics techniques. Develop an appreciation for methods.
• Use elements and principles in ceramics.
• Learn the history of ceramics.

Ceramics I
Course #9163
36 weeks (1 cr.); elective
High schools
• Techniques emphasized: hand-building, wheel throwing, glazing and firing.
• Explore the role of ceramics in art history and various cultures.
• Understand the aesthetics and criticism relating to ceramics.

Ceramics II
Course #9164
36 weeks (1 cr.); elective
High schools
• Refine techniques: hand building, wheel throwing, experimental glazing and firing.
• Continue explorations in the role of ceramics in art history and various cultures.
• Understand the aesthetics and criticism relating to ceramics. Maintain a portfolio.

Art History Honors
Course #9170
36 weeks (1 cr.); elective: for students in grades 11 and 12
High schools
• Survey and correlate art and aesthetics with world history and humanities.
• Study major periods of art through a variety of media, critiques and gallery visits.
• Use art vocabulary to recognize, describe, analyze, and judge works of art.

AP Art History
Course #9171
36 weeks (1 cr.); elective
High schools
• See course #9170 above for basic course content.
• Fulfill additional requirements in preparation for AP Art History examination.

Business and Information Technology

Cooperative Education is a method of instruction that combines career and technical classroom instruction with paid employment directly related to the classroom instruction. Instruction is developed and conducted in consultation with employers having skills and considerable knowledge of the occupational field represented by the student's career objective. Individualized, written training plans are developed to correlate the classroom instructions with the on-the-job training. Formal and informal evaluations of student progress including feedback are completed to assist learners in improving their work performance. To participate in and earn cooperative education (co-op) credit, a student must combine classroom instruction and a minimum of 396 hours of continuous, supervised on-the-job training.

Make It Your Business
Course #8112
9 weeks; elective
Course #8114
18 weeks; elective
Middle schools
• Learn business terminology and business principles.
• Use the computer as a problem-solving tool to design business documents.
• Participate in team-building activities.

Exploring Business Computers
Course #6149
9 weeks; elective
Course #6150
18 weeks; elective
Middle schools
• Develop touch skills for entering alphabetic information on a keyboard.
• Learn computer terminology and concepts.
• Use equipment and materials efficiently.

21st Century Computer Skills
Course #6151
18 weeks (1/2 cr.); elective
8th grade/high schools
• Develop word processing concepts through writing activities.
• Compose notes, letters, stories/articles, and reports.
• Develop proofreading and editing skills.

Digital Input Technologies
Course #6160
18 weeks; elective
8th grade
• Explore the Digital Input Technologies Mix.
• Use Digital Imaging and Audio Devices.
• Learn Speech Recognition techniques.
Business Management
Course #6135
36 weeks (1 cr.); elective
Course #6135V
36 weeks (Co-op, 1 cr.); elective
Course #6136
18 weeks (1/2 cr.); elective
High schools
• Acquire overview of national and international business.
• Explore social and economic environments of business.
• Learn all aspects of business ownership.

Discovering Computers
Course #6152
36 weeks (1 cr.); elective
Course #6153
18 weeks (1/2 cr.); elective
Course may be offered at technical centers with a legal or medical specialization
High schools
• Develop skills for entering alphabetic, numeric, and symbol information.
• Apply keyboarding skills to produce letters, manuscripts, reports, and forms.
• Develop word processing concepts through writing activities.

Accounting
Course #6320
36 weeks (1 cr.); elective
Course #6320V
36 weeks (Co-op, 1 cr.); elective
High schools
• Learn accounting principles.
• Learn the need for financial management and records in business and home.
• Evaluate accounting done manually and by computers.

Accounting II
Course #6321
36 weeks (1 cr.); elective
Course #6321V
36 weeks (Co-op, 1 cr.); elective
High schools
• Use microcomputers to automate and interpret payroll, inventory, accounts payable, and accounts receivable.
• Learn management of financial records through business activities, partnership and corporate accounting, general ledger, and cost accounting.

Microsoft IT Academy
Course #6612
36 weeks (1 cr.); elective
Course #6612V
36 weeks (Co-op, 1 cr.); elective
High schools
• Learn microcomputer terminology.
• Learn fundamentals of MS Office Suite, Windows, and programming concepts.
• Use software employed in colleges and businesses in the Richmond area.

Advanced Microsoft IT Academy Honors
Course #6613
36 weeks (1 cr.); elective
Course #6613V
36 weeks (Co-op, 1 cr.); elective
High schools
• Create professional documents demonstrating principles of layout design.
• Use computer peripherals to produce multimedia presentations.
• Create, post, and maintain a website.

Office Administration
Course #6621
36 weeks (1 cr.); elective
Course #6621V
36 weeks (Co-op 1 cr.); elective
Course #6622
18 weeks (1/2 cr.); elective
High schools
• Develop office procedure skills.
• Learn operation of office equipment, document preparation, records management, recordkeeping, and information processing.
• Increase oral and written communication skills.

Word Processing
Course #6625
36 weeks (1 cr.); elective
Course #6625V
36 weeks (Co-op, 1 cr.); elective
High schools
• Learn intermediate/advanced word processing with desktop publishing.
• Integrate database and spreadsheet into word processing activities.
• Expand skills acquired through integrated applications and simulations.

Desktop/Multimedia Presentations
Course #6630
36 weeks (1 cr.); elective
Course #6630V
36 weeks (Co-op, 1 cr.); elective
Course #6632
18 weeks (1/2 cr.); elective
High schools
• Develop proficiency in using desktop publishing software.
• Work with hardware/software to develop interactive multimedia presentations.

Web Development/Programming
Course #6630 & #6640
36 weeks (3 cr.); elective
Hermitage Technical Center
• Understand the business of web site development.
• Construct web pages using HTML, CSS and javascript programming.
• Master concepts required to pass CIW Site Development Foundations exam.

Advanced Web Development/Advanced Programming
Course #6631 & #6641
36 weeks (3 cr.); elective
Hermitage Technical Center
• Develop real-world programming and application development skills.
• Develop real-world dynamic database driven web applications.
• Master concepts to pass CIW Design Specialist exam.

Programming Honors
Course #6640
36 weeks (1 cr.); elective
Course #6640V
36 weeks (Co-op, 1 cr.); elective
High schools
• Enter, run, and compile a program.
• Use variables and constants.
• Program math operations and computer graphics.

Database Design and Management (Oracle) Honors
Course #6660
36 weeks (1 cr.); elective
Course #6660V
36 weeks (Co-op, 1 cr.); elective
High schools; Grades 10-12
• Study database fundamentals to include database development, modeling, design, and normalization.
• Gain the skills needed to use features of database software and programming to manage and control access to data.

Database Design and Management with PL/SQL (Oracle) Honors
Course #6662
36 weeks (1 cr.); elective
High schools; Grades 11-12
• Write PL/SQL code that includes anonymous blocks, sub programs, built-in functions, control structures, procedures and triggers, all within a browser-based programming environment.

Information Technology (IT) Fundamentals
Course #6670
36 weeks (1 cr.); elective
Middle/high schools
• Master Information Technology basics.
• Learn programming, web page, graphics, and interactive media basics.
• Maintain, upgrade, and troubleshoot computers.

Medical Systems Administration
Course #6730
36 weeks (3 cr.); elective
Hermitage Technical Center
• Acquire skills used in doctors’ offices and hospital records departments.
• Learn medical terminology and procedures.
• Prepare medical correspondence and insurance forms/documents.
Legal Systems Administration
Course #6735
36 weeks (3 cr.); elective
Hermitage Technical Center
• Study terminology and procedures to prepare legal documents.
• Obtain preparation for continuing education in a law-related occupation.
• Prepare legal documents using microcomputer software.

Driver Education

Driver Education and Highway Safety
Course #7040
18 weeks (1/2 cr.); elective
Students must have a valid Virginia learner’s permit on the first day of class.

High schools
• Identify and interpret traffic safety regulations.
• Demonstrate decision-making skills to operate a motor vehicle, and explain the effects of alcohol and other drugs on driving tasks.
• Demonstrate knowledge of car systems and maintenance, as well as maintain a driving log.

DUAL ENROLLMENT COURSES

Refer to Section III entitled Career and Technical Education to identify dual enrollment courses.

ENGLISH/LANGUAGE ARTS

College and Career Readiness
Course #9813
18 weeks (1/2 cr.); elective
High schools
• Improve reading and writing skills with a focus on college entrance exams.
• Improve math skills with a focus on college entrance exams.
• Explore college application and search processes.
• Focus on career education and readiness.

English 6
Course #1109
36 weeks; required
Middle schools
✓ Grade 6 SOL Reading test
• Develop independence in vocabulary acquisition.
• Read for comprehension a variety of literature, nonfiction, and informational text.
• Develop narratives, descriptions, and explanations through the writing process.

English 6 Advanced
Course #1109
36 weeks; required
Middle schools
✓ Grade 6 SOL Reading test
• Experience inquiry-based instruction through the theme of "Change."
• Begin two-year research project.
• Read a variety of literature in connection to the theme.

English 7
Course #1110
36 weeks; required
Middle schools
✓ Grade 7 SOL Reading test
• Begin study of figurative language, connotations, and analogies.
• Read and analyze a variety of literature, nonfiction, and informational text.
• Develop persuasive and expository pieces through the writing process.

English 7 Advanced
Course #1110
36 weeks; required
Middle schools
✓ Grade 7 SOL Reading test
• Experience inquiry-based instruction through the theme of "Persuasion."
• Complete two-year research project.
• Read a variety of literature in connection to the theme.

English 8
Course #1120
36 weeks; required
Middle schools
✓ Grade 8 SOL Reading test
✓ Grade 8 SOL Writing test
• Describe themes and draw conclusions from literature.
• Continue to develop an appreciation of literary elements.
• Develop informational, persuasive, and expository pieces through the writing process.

English 8 Advanced
Course #1120
36 weeks; required
Middle schools
✓ Grade 8 SOL Reading test
✓ Grade 8 SOL Writing test
• Deepen analysis of a variety of literature through text annotation.
• Craft essays that increase insight into literature and life.
• Begin manipulating grammar and syntax for intended effect.

English 9
Course #1130
36 weeks (1 cr.); required
High schools
• Apply knowledge of literary terms and forms to analysis of literature and informational materials.
• Write in a variety of forms with an emphasis on analysis.
• Develop research skills in using a variety of print and electronic sources to access information.

English 9 Honors
Course #1130
36 weeks (1 cr.); required
High schools
• Analyze the meaning and effect of a passage related to grammar and syntax.
• Write increasingly complex essays as a result of studying professional writers.
• Understand use of rhetorical and literary devices to create meaning.

English 10
Course #1140
36 weeks (1 cr.); required
High schools
✓ SOL English end-of-course EOC Writing test (2 parts; 1 verified credit)
• Read, comprehend, critique, and analyze a variety of literature.
• Develop expository writing skills by analyzing and critiquing peers and professionals.
• Develop research skills in accessing, evaluating, and organizing information.

English 10 Honors
Course #1140
36 weeks (1 cr.); required
High schools
✓ SOL English end-of-course EOC Writing test (2 parts; 1 verified credit)
• Read more complex, layered texts with tone shifts and multiple tones.
• Connect tools of persuasion to the meaning of a work as a whole.
• Develop a distinct voice as a writer by choosing sentence structures, details, etc.

English 11
Course #1150
36 weeks (1 cr.); required
High schools
✓ SOL English end-of-course EOC Reading test (1 verified credit)
• Analyze relations among American literature, history, and culture.
• Refine writing skills with an emphasis on persuasion.
• Create a documented research project.

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ENGLISH/LANGUAGE ARTS

English 11 Honors
Course #1150
36 weeks (1 cr.); required
High schools
✓ SOL English end-of-course EOC
  Reading test (1 verified credit)
  Identify prevalent themes, universal characters, and genres in American literature.
  Use the tools of rhetoric to develop persuasive writing.
  Create an independent, documented, research project.

AP English 11, Language & Composition
Course #1196
36 weeks (1 cr.); may be taken in lieu of English 11
High schools
✓ SOL English end-of-course EOC Reading test (1 verified credit)
  Use nonfiction texts to identify and explain use of rhetorical strategies.
  Compose argumentative writing assignments based on readings.
  Prepare for the Advanced Placement Language and Composition Exam.

English 12
Course #1160
36 weeks (1 cr.); required
High schools
• Analyze world literature.
• Produce a well-documented research paper.
• Fine tune learning, thinking, studying, and writing skills.

English 12 Honors
Course #1160
36 weeks (1 cr.); required
High schools; Course is available online
• Analyze the development of world literature.
• Refine writing skills.
• Demonstrate independent and cooperative learning skills.

AP English 12, Literature & Composition
Course #1195
36 weeks (1 cr.); may be taken in lieu of English 12
High schools
• Focus on the historical and philosophical influences on literature.
• Write pieces that require analysis, synthesis, and evaluation.
• Prepare for the Advanced Placement Literature & Composition Exam.

Shakespeare Studies Honors
Course #1100
36 weeks (1 cr.); elective; recommendation required
High schools (online)
• Experience interactive, online learning of Shakespeare.
• Study a variety of Shakespeare's work.
• Attend required after-hours and off-site meetings.

Advanced Shakespeare Studies Honors
Course #1104
36 weeks (1 cr.); elective; recommendation required
High schools
• Study lesser-known works of Shakespeare.
• Examine Shakespeare's influence on other works of literature.
• Attend required after-hours and off-site meetings.

Dramatic Literature
Course #1188
36 weeks (1 cr.); elective
High schools
• Study classical and contemporary plays.
• Learn the theatrical conventions involved with acting styles, playhouses, and costuming.

World Literature
Course #1191
18 weeks (1/2 cr.); elective
High schools
• Expand knowledge of the western world.
• Investigate themes in art, music, and literature through a humanities approach.
• Study major writers, artists, and musicians that vary in time, place, and theme.

World Literature Honors
Course #1191
36 weeks (1 cr.); elective
High schools
• Survey Greek, French, Spanish, Italian, German, Scandinavian, and Russian cultures.
• Examine the social, aesthetic, and intellectual traits of world literature.
• Study a major work from each culture.

Middle School Introduction To Creative Writing
Course #1170
18 or 36 weeks; elective
Middle schools
• Explore the techniques used in writing short stories, plays, and poetry.
• Apply learned principles to creative writing.
• Submit compositions for publication in the school newspaper/literary magazine.

Creative Writing
Course #1171
18 weeks (1/2 cr.); elective
High schools
• Write short stories, poetry, drama, and essays.
• Focus on the process of writing rather than the product.
• Develop skills in rewriting.

Advanced Composition/Creative Writing Honors
Course #1172
36 weeks (1 cr.); elective
High schools; Grades 11-12; may be repeated for credit
• Learn that effective writing can be achieved through the application of certain skills.
• Explore writing as an art to refine natural talent.

Middle School Introduction To Journalism
Course #1199
36 weeks; elective
Middle schools
• Focus on collecting, writing, editing, and publishing news.
• Survey skills necessary to regularly publish a newspaper.
• Gain experience by publishing a school newspaper.

Journalism Skills
Course #1201
18 weeks (1/2 cr.); elective
High schools
• Examine media assaults on the public.
• Become aware of the responsibilities of journalists as well as the laws which govern them.
• Improve skills for work on school publications.

Journalism
Course #1200
36 weeks (1 cr.); elective; may be repeated for credit
High schools
• Develop skills in newspaper style, news, features, sports, editorials, captions, etc.
• Develop skills in graphics, production, and advertising.
• Explore legal restraints of free speech that affect high school publications.

Photojournalism
Course #1215
36 weeks (1 cr.); elective; may be repeated for credit
High schools
• Computerize journalistic procedures that record school year activities.
• Incorporate taking photographs with script and art work.
• Develop basic skills in desktop publishing.

Creative Communications for Middle School
Course #9803
18 or 36 weeks; elective
Middle schools
• Appreciate the power of words and the power of the media.
• Explore drama and speech.
• Experiment with a variety of methods for self-expression.

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Section V - Course Descriptions

ENGLISH/LANGUAGE ARTS

ENGLISH AS A SECOND LANGUAGE (ESL)

• Develop research strategies, arguments, and delivery;
• Study the elements of debate.

Course #1111
Debate
18 weeks (1/2 cr.); elective
High schools
• Prepare for public performances.
• Develop public speaking skills.
• Explore dramatic skills such as improvisation, gestures, and voice projection.
• Write scenes, dialogue, and speeches.

Oral Communication I
Course #1300
36 weeks (1 cr.); elective
High schools
• Apply techniques of speaking, organizing, and delivering information.
• Develop a variety of skills for presentations.
• Deliver in-class speeches for a variety of purposes and audiences.

Speech Communication
Course #1304
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
High schools
• Examine the techniques of speaking as well as the composition of effective speeches.
• Deliver in-class speeches for a variety of purposes and audiences.
• Develop diction, enunciation, and other skills for presentations.

Speech for Competition and the Stage
Course #1121
36 weeks (1 cr.); elective
High schools
• Study the competitive aspects of speech activities.
• Develop rehearsal techniques and individual styles.
• Prepare for public performances.

Debate
Course #1111
36 weeks (1 cr.); elective; may be repeated for credit
High schools
• Study the elements of debate.
• Develop research strategies, arguments, refutation and rebuttal, and delivery styles.
• Appreciate the skills involved in selling an idea.

Middle School Speech and Dramatics
Course #1389
36 weeks; elective
Middle schools

Middle School Theatre Arts
Course #1409
36 weeks; elective
Middle schools
• Express self through creative dramatics, improvisations, and role playing.
• Explore program design, set building, lighting, and props.
• Participate in a school play.

Theatre Arts I
Course #1410
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
High schools
• Develop skills of speech, acting, stagecraft, and improvisation.
• Experience acting exercises and improvisation.
• Explore theatre appreciation, participation, and history.

Theatre Arts II
Course #1420
36 weeks (1 cr.); elective
High schools
• Focus on technical theatre, speech, and play analysis for the actor.
• Study play structure, action, and characterization.
• Participate in live performances.

Theatre Arts III
Course #1430
36 weeks (1 cr.); elective
High schools
• Explore theatre history and dramatic literature.
• Produce and direct a one-act play.
• Study actors and their techniques.

Theatre Arts IV Directing Honors
Course #1440
36 weeks (1 cr.); elective
High schools
• Study the development of the director as an integral part of theatre.
• Prepare a prompt book.
• Apply the duties of a director to all performances.

Stagecraft/Technical Theatre
Course #1435
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective; may be repeated for credit
High schools
• Develop skills in set construction.
• Study the history of scene design.
• Explore areas of theatre management.

Introduction to the Humanities Honors
Course #1515
36 weeks (1 cr.); elective
High schools
• Examine the artistic and literary movements of the Western tradition and the political, economic, and social milestones of Western history.
• Study the philosophy, religion, art, music and literature of the major cultural movements in Western history.

African American Literature
Course #1519
36 weeks (1 cr.); elective
High schools
• Expand knowledge of African American culture through literature.
• Investigate themes in art, music, and literature.
• Study African American writers, artists, and musicians.

ESL Languages and Cultures I and II
Course #5701 (I) and Course #5702 (II)
36 weeks (1 cr.); required for ESL Levels I and II; may be repeated for credit
High schools
• Develop proficiency in English through the study of cultural topics.
• Develop an understanding of the American culture.
• Discuss the nature of signs, symbols and gestures as a form of communication.

ESL Reading Across the Curriculum I, II, III
Course #5711 (ESL Level I)
Course #5721 (ESL Level II)
Course #5731 (ESL Level III)
36 weeks (1 cr.); required for ESL Levels I, II, and III; may be repeated for credit
High schools
• Begin/improve reading skills.
• Acquire word-attack, comprehension and study skills.
• Apply reading skills to content reading.

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ESL I
Course #5710
36 weeks (1 cr.); required; may be repeated for credit
High schools
• Develop social and academic vocabulary.
• Begin/improve writing for communication and academic purposes.
• Practice oral/aural skills.

Vocational ESL I
Course #5713
36 weeks (1 cr.); required for ESL students enrolled in a tech course in the ETP program
High schools
• Focus on the language used in everyday working situations.
• Learn terminology used in specific vocational areas of study.

Content ESL I
Course #5714
36 weeks (1 cr.); elective for ESL students at proficiency level 1 or newcomers
High schools
• Practice listening, speaking, reading, and writing skills in English.
• Develop academic vocabulary to support core content.
• Develop basic math skills including addition, subtraction, multiplication and division.

ESL Job Readiness Skills I
Course #5715
18 weeks (1/2 cr.); elective for ESL students enrolled in the ETP program
High schools
• Develop an understanding of proper work habits, work relationships, and dress.
• Develop an understanding of paychecks, benefits and deductions.
• Focus on searching and applying for a job, and preparing for an interview.

ESL Independent Living Skills I
Course #5716
18 weeks (1/2 cr.); elective for ESL students
High schools
• Learn skills necessary for independent living.
• Study money management, problem solving, interpersonal relationships, and other practical skills.

ESL II
Course #5720
36 weeks (1 cr.); required; may be repeated for credit
High schools
• Expand social and academic vocabulary.
• Improve ability to read and write for communication and academic purposes.
• Practice oral/aural skills.

Vocational ESL II
Course #5723
36 weeks (1 cr.); required for ESL students enrolled in a tech course in the ETP program
High schools
• Focus on the terminology used in everyday working situations.
• Learn terminology used in specific vocational areas of study.
• Improve ability to read technical materials and instructions.

Content ESL II
Course #5724
36 weeks (1 cr.); elective for ESL students
High schools
• Practice listening, speaking, reading, and writing skills in English.
• Expand math skills.
• Increase academic vocabulary and basic core content knowledge.

ESL Job Readiness Skills II
Course #5725
18 weeks (1/2 cr.); elective for ESL students enrolled in the ETP program
High schools
• Expand understanding of proper work habits.
• Expand and develop skills for securing and maintaining employment.
• Participate in group counseling in career opportunities.

ESL Independent Living Skills II
Course #5726
18 weeks (1/2 cr.); elective for ESL students
High schools
• Broaden skills necessary for independent living.
• Expand knowledge in money management, home management, and consumer skills, decision-making skills, and problem solving.

ESL III
Course #5730
36 weeks (1 cr.); required or elective; may be repeated for credit
High schools
• Expand academic vocabulary.
• Improve ability to read and write for communication and academic purposes.
• Develop language skills to support performance in grade-level content courses.

ESL IV
Course #5731
36 weeks (1 cr.); required or elective; may be repeated for credit
High schools
• Expand academic vocabulary.
• Approach grade-level ability to read and write for communication and academic purposes.
• Expand language skills to support performance in grade-level content courses.

Content Writing
Course #1516
36 weeks (1 cr.); elective
High Schools
• Build communication skills through writing and reading.
• Improve skills in composing, mechanics and usage.
• Acquire skills in reading, interpreting literature, and research.

EXCEPTIONAL EDUCATION

Middle School Exceptional Education
Course Offerings, Required by IEP Team Placement

MIDDLE SCHOOL ENGLISH

English 6
Course #1109E
✓ Grade 6 SOL Reading test
• Develop independence in vocabulary acquisition.
• Read for comprehension a variety of literature, nonfiction, and informational text.
• Develop narratives, descriptions, and explanations through the writing process.

English 7
Course #1110E
✓ Grade 7 SOL Reading test
• Begin study of figurative language, connotations, and analogies.
• Read and analyze a variety of literature, nonfiction, and informational text.
• Develop persuasive and expository pieces through the writing process.

English 8
Course #1120E
✓ Grade 8 SOL Reading test
✓ Grade 8 SOL Writing test
• Describe themes and draw conclusions from literature.
• Continue to develop an appreciation of literary elements.
• Develop informational, persuasive, and expository pieces through the writing process.

MIDDLE SCHOOL READING

Courses #1177, 1178, 1179
• Improve overall level of achievement through individual and group instruction.
• Acquire word attack, vocabulary building, and comprehension skills.
• Focus on reading and test-taking skills.
**MIDDLE SCHOOL MATH**

**Middle School Math Course 1**  
*Course #3110E*  
- Grade 6 SOL test  
- Develop understanding and skills with fractions, decimals, and ratios.  
- Investigate geometry and probability; collect and analyze data.  
- Develop concepts of integers, variables, equations, and inequalities.

**Middle School Math Course 2**  
*Course #3111E*  
- Grade 7 SOL test  
- Use proportional reasoning to solve practical and consumer problems.  
- Investigate geometry, probability, data analysis, linear equation, and inequalities.  
- Use patterns, estimation, and simple algebraic techniques to solve problems.

**Middle School Math Course 3**  
*Course #3112E*  
- Grade 8 SOL test  
- Apply Pythagorean Theorem and transformations to geometric figures.  
- Analyze and represent relations and functions using tables, graphs, and rules.  
- Solve and graph multi-step linear equations.

**MIDDLE SCHOOL SCIENCE**

**Introduction to Earth and Environmental Science (6)**  
*Course #4105E*  
- Emphasize experimental design and the scientific method.  
- Explore fundamental concepts in meteorology, ecology, astronomy, and natural resources management.  
- Emphasize energy sources and their relationships to the natural world.

**Life Science (7)**  
*Course #4115E*  
- Explore cellular organization and the classification of organisms.  
- Explore the relationships among organisms, populations, communities, and ecosystems.  
- Examine the change that results from the transmission of genetic information from generation to generation.

**Physical Science (8)**  
*Course #4125E*  
- SOL Cumulative Grade 8 science test  
- Build on skills of systematic investigation emphasizing sources of error and data based conclusions.  
- Understand the relationship between graphs and what is occurring in an experiment.  
- Focus on introductory concepts in chemistry and physics.

**MIDDLE SCHOOL SOCIAL STUDIES**

**Social Studies 6**  
*Course #2354E*  
- SOL United States History I test  
  - Focus on the history of the United States from Pre-Columbian times until 1865.  
  - Study documents and events that lay the foundation of American ideals and institutions.  
  - Learn fundamental concepts in civics, economics and geography.

**Social Studies 7**  
*Course #2355E*  
- SOL United States History II test  
  - Focus on American history from 1865 to the present.  
  - Learn the concepts of economics, geography, and due process of law.  
  - Use reference sources to interpret graphs, charts, and maps.

**Social Studies 8: Civics and Economics**  
*Course #2220E*  
- SOL Civics and Economics test  
  - Study the U.S. and Virginia Constitutions and government at the national, state, and local levels.  
  - Learn the basic principles, structure, and operation of the American economy.  
  - Learn the electoral process.

**MIDDLE SCHOOL FUNCTIONAL ACADEMIC COURSE OFFERINGS, 6-8**

**Functional English for Middle School Students**  
*Course #7801*  
students with intellectual disabilities  
- Develop spelling, vocabulary, grammar, reading, and written and oral expression.

**Functional Math for Middle School Students**  
*Course #7802*  
students with intellectual disabilities  
- Apply basic mathematical concepts and vocabulary, including using whole numbers, fractions, decimals, and percentages.

**Functional Social Studies for Middle School Students**  
*Course #7803*  
students with intellectual disabilities  
- Develop fundamental understanding of society, cultures and systems as adapted from the middle school social studies curriculum.

**Functional Science for Middle School Students**  
*Course #7804*  
students with intellectual disabilities  
- Develop fundamental understanding of scientific processes and concepts as adapted from the middle school science curriculum.

**Functional Reading for Middle School Students**  
*Course #7805*  
students with intellectual disabilities  
- Develop reading skills in the areas of fluency, decoding and comprehension to be utilized across content areas and functional applications.

**Middle School Vocational Preparation**  
*Course #7896*  
students with intellectual disabilities  
- Acquire skills to become a contributing member of the community.  
- Develop skills for employment through vocational training in supervised school-based work settings.

**Middle School Daily Living Skills**  
*Course #7895*  
Middle schools; students with intellectual disabilities  
- Function independently at home and in the community.  
- Learn to care for personal needs, clothing, the household, and to prepare nutritious meals.  
- Develop independent mobility within the community.

**Leisure/Recreation**  
*Course #7806*  
36 weeks (0 cr.)  
Middle schools  
- Engage in age-appropriate recreation and leisure activities.  
- Participate in individualized and group competitive and noncompetitive games and leisure activities.

**MIDDLE SCHOOL EXCEPTIONAL EDUCATION ELECTIVES**

**Social Skills**  
*Course #7816*  
- Learn, apply, generalize, and maintain social skills across multiple contexts and environments.  
- Receive direct instruction, modeling, coaching and reinforcement in identified areas of need to improve interpersonal relationship skills, and peer interactions.

**Learning Strategies**  
*Course #7926*  
- Develop learning strategies.  
- Develop skills such as test taking, note-taking, proofreading, time management, and memory association.
HIGH SCHOOL EXCEPTIONAL EDUCATION COURSES, AS DICTATED BY IEP TEAM SERVICE DESCRIPTIONS

ENGLISH

English 9, Adapted Curriculum
Course #1161
36 weeks (1 cr.); IEP required
- Increase vocabulary, grammar and spelling skills.
- Strengthen oral and written language.
- Obtain help with reading disabilities.

English 10, Adapted Curriculum
Course #1162
36 weeks (1 cr.); IEP required
- Develop writing skills.
- Refine grammar usage and reading skills.
- Write simple sentences and paragraphs for use in everyday communication.

English 11, Adapted Curriculum
Course #1163
36 weeks (1 cr.); IEP required
- Build on the skills already acquired.
- Refine grammar, oral and written language, and vocabulary and spelling skills.
- Apply skills for future employment and leisure.

English 12, Adapted Curriculum
Course #1164
36 weeks (1 cr.); IEP required
- Refine language and communication skills needed in everyday life.
- Apply vocabulary and spelling skills to complete applications and other forms.
- Learn to read for information using dictionaries, reference materials, and newspapers.

MATH

Algebra I, 2-yr Sequence, Part I
Course #3131
36 weeks (1 cr.); elective; IEP required
- One half of the curriculum (Course #3130) is presented in one year for a full credit.
- Represent problem situations with geometric models.
- Use inductive and deductive reasoning from given assumptions.

Algebra I, 2-yr Sequence, Part II
Course #3132
36 weeks (1 cr.); elective; IEP required
- SOL Algebra I end-of-course test
- One half of the curriculum (Course #3130) is presented in one year for a full credit.
- Operate on expressions, equations and inequalities.
- Graph and solve linear and quadratic functions.

Geometry, 2-yr Sequence, Part I
Course #3144
36 weeks (1 cr.); elective; IEP required
- One half of the curriculum (Course #3143) is presented in one year for a full credit.
- Represent problem situations with geometric models.
- Use inductive and deductive reasoning from given assumptions.

Geometry, 2-yr Sequence, Part II
Course #3145
36 weeks (1 cr.); elective; IEP required
- SOL Geometry end-of-course test
- One half of the curriculum (Course #3143) is presented in one year for a full credit.
- Classify figures in terms of congruence and similarity.
- Use transformations to identify congruent figures.

Personal Living and Finance
Course #3120
36 weeks (1 cr.); IEP required
- Can be used as a math elective for students in exceptional education earning a standard diploma; Can be used as a math required course for a student in exceptional education earning a modified standard diploma.
- Learn banking concepts, including managing checking and savings accounts, and budgeting skills.
- Consider factors in establishing credit and acquiring loans for automobiles and mortgages.
- Understand state and federal tax computations.

Math 9, Adapted Curriculum
Course #3199
36 weeks (1 cr.); IEP required
- Develop computational skills needed in everyday living.
- Apply concepts related to money, measurements, and budgeting.

Math 10, Adapted Curriculum
Course #3200
36 weeks (1 cr.); IEP required
- Relate mathematics to the environment through activities, investigation, and projects.
- Reinforce money values, usage, and the concept of time.
- Apply computational skills to banking, measurement, buying, and budgeting.

Math 11, Adapted Curriculum
Course #3201
36 weeks (1 cr.); IEP required
- Apply computational skills to everyday situations.
- Use whole numbers, fractions, decimals, percents, tables, and measurement in recipes, spending and earning money, traveling, working, and buying insurance.

Math 12, Adapted Curriculum
Course #3202
36 weeks (1 cr.); IEP required
- Apply computational skills to making consumer decisions.
- Learn concepts related to earning money, buying food, shopping, budgeting, banking and investing, and paying taxes.

Consumer Economics, High School
Course #7889
36 weeks (1 cr.); IEP required
- Explore consumer skills.
- Learn concepts of banking and credit.
- Study legal protections and responsibilities of consumers.

SCIENCE

Earth Science I, Part I
Course #4200
36 weeks (1 cr.); elective; IEP required
- One half of the curriculum (Course #4210) is presented in one year for a full credit.
- Connect the study of Earth’s composition, structure, processes, and history; atmosphere, freshwater, and oceans; and its environment in space.
- Interpret maps, charts, tables, and profiles.

Earth Science I, Part II
Course #4201
36 weeks (1 cr.); elective; IEP required
- SOL Earth Science end-of-course test
- One half of the curriculum (Course #4210) is presented in one year for a full credit.
- Integrate technology in collecting, analyzing, and reporting data.
- Explore plate tectonics, rock cycle, Earth’s history, oceans, atmosphere, weather, climate, solar systems, and the universe.

Biology I, 2-yr Sequence, Part I
Course #4300
36 weeks (1 cr.); elective; IEP required
- One half of the curriculum (Course #4310) is presented in one year for a full credit.
- Understand living systems.
- Integrate scientific technology in collecting, analyzing, and reporting data.

Biology I, 2-yr Sequence, Part II
Course #4301
36 weeks (1 cr.); elective; IEP required
- SOL Biology end-of-course test
- One half of the curriculum (Course #4310) is presented in one year for a full credit.
- Emphasize the importance of research that validates or challenges ideas.
- Explore the history of biological thought and the evidence that supports it, biochemical life processes, cellular organization, mechanisms of inheritance, dynamic relationships among organisms, and changes in organisms.
Environmental Science I
Course #4313
36 weeks (1 cr.); IEP required
• Study early explorers, colonists, and the American Revolution.
• Explore the growth of government, democracy, and the development of territories in the United States.
• Study the Civil War, rise of industry, influx of immigrants, 20th century wars, modern cities, and America’s place in the world.

Environmental Science II
Course #7907
36 weeks (1 cr.); IEP required
• Examine the interdependence of people and their environment, and apply these concepts in everyday life situations.
• Study units on energy for a balanced diet in addition to the units introduced in Environmental Science I.
• Focus on daily living skills: personal hygiene, clothing care, safety, and meal planning.

Social Studies
Virginia and United States History, 2-yr Sequence, Part I
Course #2361
36 weeks (1 cr.); elective; IEP required
✓ SOL U.S. and Virginia History end-of-course test
• One half of the curriculum (Course #2360) is presented in one year for a full credit.
• Study the contributions of minority groups.
• Learn the political, economic, social, and cultural development of the United States from colonization to the present.

Virginia and United States History, 2-yr Sequence, Part II
Course #2362
36 weeks (1 cr.); elective; IEP required
• One half of the curriculum (Course #2360) is presented in one year for a full credit.
• Learn the political, economic, social, and cultural development of the United States from colonization to the present time.
• Appreciate our heritage.

Virginia and United States History, Adapted Curriculum
Course #7890
36 weeks (1 cr.); IEP required
• Study early explorers, colonists, and the American Revolution.
• Explore the growth of government, democracy, and the development of territories in the United States.
• Study the Civil War, rise of industry, influx of immigrants, 20th century wars, modern cities, and America’s place in the world.

Virginia and United States Government
Course #7891
36 weeks (1 cr.); IEP required
• Focus on the foundation, operation, and interrelationships of federal, state, and local governments.
• Determine the rights and responsibilities of citizens.
• Study the U.S. Constitution and the branches of federal government.

Functional Academic Course Offerings, High School Level
Practical Language Arts, 9-12
Course #7808-#7811
36 weeks (1 cr.); IEP required
• Apply reading recognition skills, oral and written spelling skills, and listening skills for communication in daily living.

Practical Mathematics, 9-12
Course #7812-#7815
36 weeks (1 cr.); IEP required
• Learn arithmetical operations through individual instruction.
• Focus on money measurement and finance skills to function independently and skillfully in the community.
• Develop application of skills in real life situations.

Basic Life Skills, 9-12
Course #7896
36 weeks (1 cr.); IEP required; may be repeated for credit
• Develop preparation for employment.
• Develop interpersonal skills, apply functional academic skills, follow directions, work independently, practice self-advocacy, and explore other community living skills.

Daily Living Skills, 9-12
Course #7897
36 weeks (1 cr.); IEP required
• Function independently at home and in the community.
• Care for personal needs including clothing, the household, and nutritious meals.
• Develop independent mobility and functional use of community facilities.

Leisure/Recreation
Course #7807
36 weeks (1 cr.); IEP required; may be repeated for credit
• Engage in age-appropriate recreation and leisure activities.
• Participate in individualized and group competitive and noncompetitive games and leisure activities.

Vocational Emphasis I, High School, Non-Competitive Employment Preparation
Course #7897
36 weeks (1 cr.); IEP required
• Examine the differences between going to school and going to work, the reasons for working, and pride in individual abilities.
• Learn procedures in seeking employment, applying for a job, and keeping the job.
• Examine unemployment, paychecks, wages, deductions, and other job-related concepts.

Vocational Emphasis II, High School, Non-Competitive Employment Preparation
Course #7898
36 weeks (1 cr.); IEP required
• Improve interpersonal relationships.
• Explore physical, mental, and emotional growth processes; family and peer relationships and pressures.
• Determine personal responsibilities in the role of worker, citizen, family member, and future parent.

Preparation for Employment, Competitive Employment Preparation
Course #7899
36 weeks (1 cr.); IEP required
• Explore jobs that exist in the community.
• Develop the personal qualities for securing and maintaining a job.

High School Exceptional Education Electives
Reading Strategies, High School
Course #1181; 9th and 10th grade, #1182; 11th and 12th grade
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective; may be repeated for credit
• Apply learned skills to subject area reading.
• Read for pleasure.
• Develop word attack, vocabulary building, comprehension, fluency and study skills.

Personal Development I, 9-10
Course #7892
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
• Learn study skills, time management, and communication skills.
• Focus on decision making/problem solving, values clarification, goal setting, stress management, and career awareness.
• Facilitate implementation of the Individualized Education Plan.

Virginia and United States Government
Course #7891
36 weeks (1 cr.); IEP required
• Focus on the foundation, operation, and interrelationships of federal, state, and local governments.
• Determine the rights and responsibilities of citizens.
• Study the U.S. Constitution and the branches of federal government.

Functional Academic Course Offerings, High School Level
Practical Language Arts, 9-12
Course #7808-#7811
36 weeks (1 cr.); IEP required
• Apply reading recognition skills, oral and written spelling skills, and listening skills for communication in daily living.

Practical Mathematics, 9-12
Course #7812-#7815
36 weeks (1 cr.); IEP required
• Learn arithmetical operations through individual instruction.
• Focus on money measurement and finance skills to function independently and skillfully in the community.
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36 weeks (1 cr.); IEP required; may be repeated for credit
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36 weeks (1 cr.); elective; may be repeated for credit
• Apply learned skills to subject area reading.
• Read for pleasure.
• Develop word attack, vocabulary building, comprehension, fluency and study skills.

Personal Development I, 9-10
Course #7892
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
• Learn study skills, time management, and communication skills.
• Focus on decision making/problem solving, values clarification, goal setting, stress management, and career awareness.
• Facilitate implementation of the Individualized Education Plan.
Personal Development II, 11-12  
Course #7893  
18 weeks (1/2 cr.); elective  
- Apply social and study skills.  
- Explore stress management, decision making/problem solving, career exploration, and family/financial planning.  
- Develop interpersonal and intrapersonal relations.  

Cooperative Work Experience Program  
CO-WEP I  
Course #9083  
36 weeks (1 cr. for work experience, 1 cr. for classroom experience); elective  
- Gain entry-level skills for employment.  
- Develop work competencies through career exploration, decision making, and preparation for employment in a combination of classroom instruction and work experiences.  
- Participate in work experiences within the school that are planned, supervised, and evaluated by the CO-WEP teacher/coordinator.  

Cooperative Work Experience Program  
CO-WEP II, ages 16 and older  
Course #9085  
36 weeks (1 cr. classroom, 1 cr. work experience); elective  
- Examine employment regulations, employee-employer expectations, and on-the-job attitudes expected by the employer.  
- Complete classroom instruction and complete supervised on-the-job training.  
- Participate in work experiences within the community that are supervised and evaluated by the CO-WEP teacher/coordinator.  

General Exploratory—Grade 6  
Course #9760, 9761, 9762, 9763  
36 weeks (1 cr. for classroom experience); elective  
- Examine employment regulations, employee-employer expectations, and on-the-job attitudes expected by the employer.  
- Complete classroom instruction and complete supervised on-the-job training.  
- Participate in work experiences within the school that are planned, supervised, and evaluated by the CO-WEP teacher/coordinator.  

General Exploratory—Grade 7  
Course #9750, 9751, 9752, 9753  
36 weeks (1 cr. for classroom experience); elective  
- Examine employment regulations, employee-employer expectations, and on-the-job attitudes expected by the employer.  
- Complete classroom instruction and complete supervised on-the-job training.  
- Participate in work experiences within the school that are planned, supervised, and evaluated by the CO-WEP teacher/coordinator.  

General Exploratory—Grade 8  
Course #9770, 9771, 9772, 9773  
36 weeks (1 cr. for classroom experience); elective  
- Examine employment regulations, employee-employer expectations, and on-the-job attitudes expected by the employer.  
- Complete classroom instruction and complete supervised on-the-job training.  
- Participate in work experiences within the school that are planned, supervised, and evaluated by the CO-WEP teacher/coordinator.  

EXPLORATORY COURSES – MIDDLE SCHOOLS  

FAMILY AND CONSUMER SCIENCES  

Teen Living 6 (FACS Exploratory I)  
Course #8206  
9 weeks; elective  
Middle schools  
- Identify roles and responsibilities of family members.  
- Practice positive behaviors for self, family, and friends.  
- Complete a simple sewing project and a variety of healthy snack activities.  

Teen Living 7 (FACS Exploratory II)  
Course #8263  
18 weeks; elective  
Middle schools  
- Explore individual skills and interests in nutrition, clothing, and relationships.  
- Describe responsible behavior in caring for children.  
- Plan and implement a teen project or event using the planning process.  

Independent Living  
Course #8219  
36 weeks (1 cr.); elective  
Middle/high schools  
- Create strategies for individual and family financial security.  
- Identify and evaluate issues of consumer choice.  
- Develop decision-making skills in the areas of housing, nutrition, and clothing.  

Life Planning  
Course #8227  
36 weeks (1 cr.); elective  
High schools  
- Develop a life management plan in the areas of finances, career, and community.  
- Apply the problem solving process to personal, family, and consumer issues.  
- Plan and prepare food choices that meet the health needs of the family.  

Relationships (Family Relations)  
Course #8225  
36 weeks (1 cr.); elective  
High schools  
- Maintain healthy relationships through effective communication.  
- Balance family & work roles through positive stress and conflict management.  
- Nurture human development in the family and evaluate parenting responsibilities.  

Foods and Wellness  
Course #8228  
18 weeks (1/2 cr.); elective  
High schools  
- Determine influences on food choices.  
- Analyze foods that promote wellness.  
- Practice proper food preparation and storage techniques.  

Creative Fashion (Intro to Fashion Careers)  
Course #8247  
18 weeks (1/2 cr.); elective  
High schools  
- Evaluate personal clothing decisions.  
- Explore the fashion design, manufacturing, and marketing process.  
- Complete a design project.  

Introduction to Housing, Home Furnishings, and Design  
Course #8254  
18 weeks (1/2 cr.); elective  
High schools  
- Investigate influences on environment and design of interior spaces.  
- Explore careers in interior design, construction, and real estate.  
- Develop a design project.  

Child Development and Parenting  
Course #8231  
18 weeks (1/2 cr.); elective  
Course #8232  
36 weeks (1 cr.); elective  
High schools  
- Analyze developmental needs of children.  
- Prepare for healthy parent/child relationships.  
- Develop effective methods of guidance and discipline.  

Introduction to Virginia Teachers for Tomorrow, Grade 8 or 9  
Course #9061  
36 weeks  
Middle/High schools  
- Explore careers in teaching and education.  
- Build positive learning environments through simulated teaching.  
- Introduces students to the high school Virginia Teachers for Tomorrow program.  

Early Childhood Education and Services I  
Course #8285  
36 weeks (3 cr.); elective  
For students with a great deal of interest in working with young children; Highland Springs Technical Center  
- Prepare for entry-level jobs in child care professions.  
- Study the developmental stages of the young child.  
- Work daily with children ages 2-5 years at Springer Preschool Academy.  

Early Childhood Education and Services II  
Course #8286  
36 weeks (3 cr.); elective  
Highland Springs Technical Center  
- Extend objectives in Early Childhood Education and Services I (above).  
- Learn occupational skills for workers in child care professions.  
- Plan and implement lesson plans in preschool classroom at Springer Preschool Academy.
### Introduction to Culinary Arts

Course #8250  
36 weeks (1 cr.); elective  
High schools  
- Explore culinary arts and related careers.  
- Investigate dietetics, nutrition, food preparation techniques, and food safety.  
- Identify contemporary cuisines and service styles.

### Culinary Arts I

Course #8275  
36 weeks (3 cr.); elective  
Hermitage Technical Center, The Academy at Virginia Randolph  
- Prepare for entry level jobs in the food service industry.  
- Learn basic industry accepted culinary and catering skills.  
- Acquire personal and business skills through business and community activities.

### Culinary Arts II

Course #8276  
36 weeks (3 cr.); elective  
Hermitage Technical Center, The Academy at Virginia Randolph  
- Build on knowledge gained in Culinary Arts I.  
- Expand occupational skills for a broad range of food service professions.  
- Participate in cooperative and simulated work experiences.

### Virginia Teachers for Tomorrow I Honors

Course #9062  
36 weeks (1 cr.); elective  
Hermitage Technical Center, Highland Springs H.S.  
- Assess injuries and illnesses, provide care, and design a basic rehab program.

### Virginia Teachers for Tomorrow II Honors

Course #9072  
36 weeks (1 cr.); elective  
Hermitage Technical Center, Highland Springs Technical Center; The Academy at Virginia Randolph  
- Study medical terminology, disease, infection control, and basic nursing skills.  
- Provide nursing care to clients in long term care facilities.

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### HEAL TH AND MEDICAL SCIENCES

### Pharmacy Technician

Course #8305/8306  
36 weeks (3 cr.); elective  
Hermitage Technical Center, Highland Springs Technical Center  
- Obtain a broad knowledge of pharmacy practice.  
- Learn to assist and support licensed pharmacists.  
- Learn techniques to order, stock, package, prepare and dispense meds.

### Veterinary Science I

Course #8310  
36 weeks (3 cr.); elective  
Hermitage Technical Center  
- Learn small animal health care.  
- Understand disease prevention and pet first aid.  
- Learn to assist a veterinarian with routine exams.

### Veterinary Science II

Course #8311  
36 weeks (3 cr.); elective  
Hermitage Technical Center  
- Learn to assist with large animals, exotics, and wildlife.  
- Develop skills to assist with surgical procedures.

### Emergency Medical Technician

Course #8333/8334  
36 weeks (3 cr.); elective  
Must be at least 16 years old  
Hermitage Technical Center  
- Learn to assess an individual's condition to determine appropriate emergency care.

### Nurse Aide

Course #8360/8362  
36 weeks (3 cr.); elective  
Graduates are eligible for state certification exam  
Hermitage Technical Center, Highland Springs Technical Center; The Academy at Virginia Randolph  
- Study medical terminology, disease, infection control, and basic nursing skills.  
- Provide nursing care to clients in long term care facilities.

### Practical Nursing I and II

Course #8357/8358  
36 weeks (3 cr.); elective; seniors only  
Hermitage Technical Center, Highland Springs Technical Center  
This program is approved by the Virginia Board of Nursing and is accredited by the National League for Nursing Accreditation Commission (NLNAC).  
- Apply anatomy and physiology, fundamentals, nutrition, geriatrics, pharmacology, and medical-surgical nursing.  
- Practice nursing care under the direct supervision of a registered nurse or physician licensed by the Virginia Department of Health Professions.  
- Progress to the full-time, nine-month Practical Nursing II phase.

### Practical Nursing III

Course #8359  
34 weeks; technical center/hospital and nursing home; graduates are eligible for national licensing exam  
Adult Education Center  
This program is approved by the Virginia Board of Nursing and is accredited by the Accreditation Commission for Education in Nursing (ACEN).  
- Experience in medical-surgical, mental health, pediatrics, mother/infant, and community.  
- Provide nursing care to patients in acute care settings with direct supervision.

### Sports Medicine

Course #7660/7662  
36 weeks (3 cr.); elective  
Hermitage Technical Center  
- Develop skills in prevention, recognition, assessment, management, disposition, and rehabilitation of injuries.  
- Learn the principles of designing exercise programs and proper diet therapy for healthy individuals.  
- Assess injuries and illnesses, provide care, and design a basic rehab program.
Health and Physical Education 7
Course #7120
36 weeks; required
Middle schools
- Learn about stimulants, depressants, narcotics, hallucinogens, and drug abuse.
- Practice conflict resolution and violence prevention skills.
- Apply principles of personal fitness for proficiency in the Virginia wellness fitness standards.

Health and Physical Education 8
Course #7200
36 weeks; required
Middle schools
- Identify behaviors that promote positive relationships.
- Practice conflict resolution and violence prevention skills.
- Participate in physical fitness screenings to achieve improvements in Virginia wellness-related fitness.

Adapted Health and Physical Education 6, 7, & 8
Course #7205
36 weeks; elective; IEP needed to be eligible
Middle schools
- Participate in health and physical activities adapted to meet individual needs.
- Participate in exercises and low organization activities designed to promote wellness.
- Focus on physical fitness.

Health and Physical Education 9
Course #7300
36 weeks (1 cr.); required
High schools
(Online course may be taken during the summer.)
- Analyze food labels to improve sports performance through nutrition.
- Identify resources that support those suffering from substance abuse.
- Learn about cardiac arrest and CPR.

Health and Physical Education 10
Course #7400
36 weeks (1 cr.); required
High schools
(Online course may be taken during the summer.)
- Identify how diseases affect the body.
- Review major body systems and ways to keep them healthy.
- Promote responsible behaviors in activity settings.

Advanced Physical Education
Course #7500
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
High schools
- Learn progressive fitness/wellness conditioning.
- Explore advanced level opportunities for sports management and certifications.
- Prepare for advanced health occupations.

Fundamentals of Sports
Course #7600
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
High schools
- Concentrate on lifetime sports such as tennis, golf, bowling, fishing, and archery.
- Maintain a health enhancing level of fitness.
- Explore new activities related to personal fitness.

Adapted Health and Physical Education
Course #7700
36 weeks (1 cr.); elective; IEP needed to be eligible; may be repeated for credit
High schools
- Participate in exercises and low organization games to increase physical activity and motor development.
- Participate in health and physical activities to meet individual needs.
- Focus on physical fitness and wellness.

MARKETING

Cooperative Education is a method of instruction that combines career and technical classroom instruction with paid employment directly related to the classroom instruction. Instruction is developed and conducted in consultation with employers having skills and considerable knowledge of the occupational field represented by the student's career objective. Individualized, written training plans are developed to correlate the classroom instruction with the on-the-job training. Formal and informal evaluations of student progress including feedback are completed to assist learners in improving their work performance. To participate in and earn cooperative education (co-op) credit, a student must combine classroom instruction and a minimum of 396 hours of continuous, supervised on-the-job training.

Introduction to Marketing
Course #8110
18 weeks (1/2 cr.); elective
36 weeks (1 cr.); elective
High schools
- Acquire an understanding of marketing and its importance.
- Develop marketing, job search, and occupational decision-making skills.

Marketing
Course #8120
36 weeks (1 cr.); elective
Course #8120V
36 weeks (Co-op, 1 cr.); elective
High schools
- Acquire marketing function knowledge and professional responsibilities.
- Develop product/service planning skills related to market positioning.
- Develop economics/social competencies related to marketing careers.

Marketing II
Course #8130
36 weeks (1 cr.); elective
Course #8130V
36 weeks (Co-op, 1 cr.); elective
High schools
- Acquire knowledge of marketing functions/supervisory responsibilities.
- Develop advanced marketing competencies.
- Develop economic/social competencies related to supervision of employees.

Principles of Marketing and Business
Course #8115
36 weeks (1 cr.); elective
High schools
- Explore the roles of business and marketing in the free enterprise system.
- Make decisions as consumers, wage earners, and business owners.

Marketing Management
Course #8132
36 weeks (1 cr.); elective
Course #8132V (Co-op, 1 cr.); elective
High schools
- Learn marketing theory and application foundations for future study.
- Acquire knowledge of “new” marketing priorities as identified by employers.

Advanced Global Marketing and Commerce
Course #8136
36 weeks (1 cr.); elective
High schools
- Explore careers in international trade, finance, shipping, and marketing.
- Blend macro and micro economic theory with international culture and concepts.
- Combine classroom instruction with community-based projects.

Fashion Marketing
Course #8140
36 weeks (1 cr.); elective
Course #8140V
36 weeks (Co-op, 1 cr.); elective
High schools
- Develop marketing competencies for employment in fashion merchandising.
- Develop marketing competencies applied to the apparel and accessories industries.
- Develop competencies unique to fashion merchandising.

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Fashion Marketing II
Course #8145
36 weeks (1 cr.); elective
Course #8145V
36 weeks (Co-op, 1 cr.); elective
High schools
• Gain knowledge of the apparel and accessories industries.
• Develop skills for supervisory employment in the apparel business.
• Develop advanced skills applied to the apparel and accessories industry.

Internet Marketing
Course #8125
36 weeks (1 cr.); elective
High schools
• Learn about the paperless exchange of information using technology.
• Understand the technology of web servers, clients, and E-Commerce.
• Conduct research projects related to electronic marketing.

Travel and Tourism
Course #8165
36 weeks (3 cr.); elective
Highland Springs Technical Center
• Gain knowledge of the travel/tourism industry to include cruises, airlines, lodging, and car rental.
• Develop skills in the areas of communication, human relations, customer service, industry technology.
• Obtain an understanding of the global nature of the industry, travel planning, and the career options available.

Advanced Hotel and Catering
Course #8162
36 weeks (3 cr.); elective
Highland Springs Technical Center
• Plan and cater events.
• Develop knowledge of marketing functions within the hotel industry.
• Develop advanced skills in the area of hotel operation specialty areas.

Sports, Entertainment, and Recreation
Marketing Course #8175
36 weeks (1 cr.); elective
Course #8175V
36 weeks (Co-op, 1 cr.); elective
High schools
• Identify occupations and analyze trends with the SERM industry.
• Develop public relations and publicity programs, and explain sponsorship and endorsement roles in each.

Sports, Entertainment, and Recreation Marketing II
Course #8177
36 weeks (1 cr.); elective
Course #8177V
36 weeks (Co-op, 1 cr.); elective
High schools
• Explore ethical and legal issues.
• Explore management, research, and market analysis.
• Understand event planning, management, and security.

Entrepreneurship
Course #9093
36 weeks (1 cr.); elective
High schools
• Analyze strategies that are essential to start a successful business.
• Develop business, operations, and financial plans.
• Develop management skills in employee and customer relations.

College and Career Readiness
Course #9813
18 weeks (1/2 cr.); elective
High schools
• Improve reading, writing and math skills with a focus on college entrance exams.
• Explore college application and search processes.
• Focus on career education and readiness.

Middle School Math Course 1
Course #3110
36 weeks; required
Middle schools
✓ Grade 6 SOL test
• Develop understanding and skills with fractions, decimals, and ratios.
• Investigate geometry and probability; collect and analyze data.
• Develop concepts of integers, variables, equations, and inequalities.

Middle School Math Course 2
Course #3111
36 weeks; required
Middle schools
✓ Grade 7 SOL test
• Use proportional reasoning to solve practical and consumer problems.
• Investigate geometry, probability, data analysis, linear equation, and inequalities.
• Use patterns, estimation, and simple algebraic techniques to solve problems.

Middle School Math Course 3
Course #3112
36 weeks; elective
Middle schools
✓ Grade 8 SOL test
• Apply Pythagorean Theorem and transformations to geometric figures.
• Analyze and represent relations and functions using tables, graphs, and rules.
• Solve and graph multi-step linear equations.

Accelerated Math 6/7
Course #3115
36 weeks (1 cr.)
Middle schools; Grade 6
✓ Grade 7 SOL Test
• Investigate geometry, probability, and data analysis.
• Use patterns estimation, and simple algebraic techniques to solve problems.
• Solve and graph linear equations and inequalities.

Math Fundamentals
Course #3123
36 weeks (1 cr.); elective
All students must have the recommendation of the classroom teacher and parental approval due to graduation implications. It is intended for the Tier 2 and Tier 3 students.
• Provide development of topics covered in Math 8 and Algebra I.
• Represent problem situations using expressions, equations, and inequalities.
• Use mathematical computer software.

Algebra Functions and Data Analysis
Course #3134
36 weeks (1 cr.)
High schools
• Investigate and analyze function families and their characteristics.
• Collect data and determine the curve of best fit to predict outcomes.
• Determine optimal values in problem situations using linear programming.

Algebra I
Course #3130
36 weeks (1 cr.)
Middle/high schools
✓ SOL Algebra I end-of-course test
• Represent problem situations using expressions, equations, and inequalities.
• Graph and solve linear and quadratic functions.
• Apply algebraic concepts and processes to the real world.
MATHEMATICS

Section V - Course Descriptions

Algebra II
Course #3135
36 weeks (1 cr.)
High schools
✓ SOL Algebra II end-of-course test
• Solve linear and quadratics equations, inequalities, and systems of non-linear equations.
• Explore functions and their transformations.
• Investigate polynomials and radical and rational expressions.

Foundations of Algebra
Course #3133
36 weeks (1 cr.); elective; Grade 9
• Provide development of topics covered in Algebra 1.
• Apply algebraic concepts and processes to the real world.
• Use graphing calculators and computer software.

Algebra II Honors
Course #3135
36 weeks (1 cr.)
High schools; High Tech Academy
✓ SOL Algebra II end-of-course test
• See Course #3135 above for additional course content.
• More rigorous and in-depth investigation of topics.
• More practical applications.

PSC Geometry
Course #3143
36 weeks (1 cr.)
Middle/High schools
(Course is available online during summer school.)
✓ SOL Geometry end-of-course test
• Understand the principles of plane, solid, and coordinate geometry.
• Investigate and solve problems involving circles and polygons.
• Determine congruence and similarity of polygons.

PSC Geometry Honors
Course #3143
36 weeks (1 cr.)
High school only
✓ SOL Geometry end-of-course test
• See Course #3143 above for additional course content.
• More rigorous and in-depth investigation of topics.
• More practical applications.

Foundations of Geometry
Course #3137
36 weeks (1 cr.); elective; Grades 10-12
• Provide development of topics covered in Geometry.
• Apply geometric concepts and processes to the real world.
• Use graphing calculators and computer software.

Advanced Algebra/Trigonometry
Course #3160
36 weeks (1 cr.)
High schools
• Explore exponential, logarithmic, and polynomial functions.
• Solve trigonometric and parametric equations and verify trigonometric identities.
• Explore, graph, and apply trigonometric and circular functions.

Math Analysis/Trigonometry Honors
Course #3162
36 weeks (1 cr.); for students who plan to major in a math-related field in college
High schools; High Tech Academy
• Explore polynomials, logarithms and exponential functions, and probability.
• Solve trigonometric equations and verify trigonometric identities.
• Explore, graph, and apply trigonometric and circular functions.

Introduction to Calculus
Course #3170
36 weeks (1 cr.); elective
High schools
• Study limits, continuity, differentiation, integration, and applications.
• Learn the logic and intuitive reasoning of calculus.

AP Calculus AB
Course #3177
36 weeks (1 cr.); elective
High schools; electronic classroom; High Tech Academy
• Study limits, continuity, differentiation, integration, and applications.
• Learn the logic and intuitive reasoning of calculus.
• Prepare for the AP Calculus AB Exam.

AP Calculus BC
Course #3179
36 weeks (1 cr.); elective
High schools; High Tech Academy
• Continue the study of calculus, which includes multi-variable calculus.
• Prepare for the AP Calculus BC Exam.

Statistics
Course #3190
18 weeks (1/2 cr.); elective
High schools
• Use curve fitting to predict from data.
• Apply measures of central tendency, variability, and correlation.
• Design a statistical experiment and use sampling techniques.

AP Statistics
Course #3191
36 weeks (1 cr.); elective
High school, electronic classroom
• Develop statistical and probabilistic reasoning.
• Design a statistical experiment and use sampling techniques.
• Interpret measures of data and apply methods of inference and correlation.

Discrete Topics
Course #3154
18 weeks (1/2 cr.); elective
High schools
• Explore existence, enumeration, algorithms and optimization problems.
• Investigate graph theory and circuits, apportionment, voting and game theory, and growth of populations and finance.
• Use finite graphs, matrices, sequences, and recurrence relationships to solve problems.

Computer Mathematics
Course #3184
36 weeks (1 cr.)
High schools
Computer Mathematics may be used in conjunction with Algebra I and Geometry to satisfy mathematics graduation requirements if the student also completes a career and technical concentration.
• Identify fundamental principles and concepts in the field of computer science.
• Use strategies to define the problem; develop, refine, and implement a plan; and test and revise the solution.
• Apply programming techniques and skills to solve practical problems in mathematics arising from consumer, business, and other applications in mathematics.

AP Computer Science
Course #3185
36 weeks (1 cr.); elective
• Understand object-oriented (OO) design (OOD) and OO programming (OOP).
• Learn to code Java in a well-structured fashion and in good style giving attention to clarity of both code and documentation.
• Learn to use Java library packages, classes, and interfaces and the Java Collections framework within the scope of the APCS-A Java subset.

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**MILITARY SCIENCE / JROTC**

**Participation in the Military Science Program does not obligate the student to military service.**

**Air Force Junior ROTC**
Military Science (AFJROTC) I/II/III/IV
Course #7913/#7916/#7918/#7919
36 weeks (1 cr.) each; elective

- **Deep Run High School**
  - Participate in courses that focus on citizenship, leadership, and patriotism.
  - Enter military service with advanced rank of E3 (Airmen First Class) upon graduation, if desired.

**Marine Corps Junior ROTC**
Military Science (MCJROTC) I/II/III/IV
Course #7913/#7916/#7918/#7919
36 weeks (1 cr.) each; elective

- **Hermitage High School**, **Highland Springs High School**, **J. R. Tucker High School**
  - Participate in core subjects: leadership, drill and ceremonies, physical fitness and health, weapons training, and military organization, orientation, and history.
  - Enter military service with advanced rank of E2 (private first class) upon graduation, if desired.

**Naval Corps Junior ROTC**
Military Science (NJROTC) I/II/III/IV
Course #7913/#7916/#7918/#7919
36 weeks (1 cr.) each; elective

- **Henrico High School**, **Varina High School**
  - Participate in courses that focus on leadership, citizenship, and patriotism, and naval courses (e.g., maritime geography, meteorology, electricity and electronics, and military drill).
  - Enter military service with advanced rank of E3 (seaman) upon graduation, if desired.

**MUSIC**

**Exploratory Music 6**
Course #9208
36 weeks or less; elective

- Middle schools
  - Develop a music vocabulary.
  - Enjoy music by singing, using instruments, and attending performances.

**Exploratory Music 7**
Course #9211
36 weeks; elective

- Middle schools
  - Learn musical terms, signs, symbols, and singing harmony.
  - Expand musical vocabulary.

**Music History and Literature**
Course #9221
36 weeks (1 cr.); elective

- High schools
  - Explore periods of Western musical heritage and styles.
  - Learn about composers and musicians throughout history.

**Advanced Music History and Theory**
Course #9222
36 weeks (1 cr.); elective

- High schools
  - Study composers and their effect on culture.
  - Examine principles of theory from a historical viewpoint.

**Music Appreciation**
Course #9223 (first semester)
18 weeks (1/2 cr.); elective

- High schools
  - Develop a positive musical attitude through involvement in performances.
  - Gain a critical awareness of advanced music.

**Music Appreciation**
Course #9224 (second semester)
18 weeks (1/2 cr.); elective

- High schools
  - Develop a positive musical attitude through involvement in performances.
  - Gain a critical awareness of advanced music.

**Music Theory**
Course #9225
36 weeks (1 cr.); elective

- High schools
  - Study meter, basic note values and rests, compound and simple time, conducting patterns, time signature, and chord construction.

**AP Music Theory**
Course #9226
36 weeks (1 cr.); elective

- High schools; Grades 11 or 12
  - Use fundamentals to create an advanced composition.
  - Learn styles and periods of compositional practice.

**Middle School Beginning Band**
Course #9228
36 weeks; elective

- Middle schools
  - Learn tone control and quality, proper breathing, major scales, articulation, and tempo.
  - Participate in musical activities and performances.

**Middle School Intermediate Band**
Course #9230
36 weeks; elective

- Middle schools
  - Develop tone control and quality, articulation, tempo, and rhythm.
  - Participate in musical activities and performances.

**Middle School Advanced Band**
Course #9247
36 weeks; elective

- Middle schools
  - Learn advanced articulations, expressions, interpretations, and balance and blend.
  - Participate in musical activities and performances.

**High School Advanced Band**
Course #9234
36 weeks (1 cr.); elective; may be repeated for credit

- High schools
  - Perform a variety of complex meters, rhythmic patterns, free rhythm, and styles from music history.
  - Participate in musical activities and performances.

**High School Advanced Band Honors**
Course #9235
36 weeks (1 cr.); elective; for students who have high musical ability; admission by audition only; may be repeated for credit

- High schools
  - Fulfill required project participation that may include music transcription, critical analysis, research, composition, outside ensembles and solo performances.
  - Participate in musical activities and performances.

**Marching Band Honors**
Course #9232
18 weeks (1/2 cr.); elective; may be repeated for credit

- High schools
  - Perform a variety of complex meters.
  - Demonstrate marching techniques to execute performances.
  - Participate in musical activities and performances.

**High School Instrumental Music**
Course #9240
36 weeks (1 cr.); elective; may be repeated for credit

- High schools
  - Acquire supplemental assistance with primary instrument.
  - Participate in musical activities and performances.
Stage Band  
Course #9241  
36 weeks (1 cr.); elective; admission by audition only; may be repeated for credit  
High schools  
- Demonstrate advanced technical proficiency and musical terminology.  
- Participate in musical activities and performances.

Small Instrumental Ensembles  
Course #9250  
36 weeks (1 cr.); elective; may be repeated for credit  
Middle schools (0 cr.)/high schools (1 cr.)  
- Learn orchestral and percussion instruments used in small ensembles.  
- Participate in musical activities and performances.

Beginning Strings  
Course #9252  
36 weeks; elective; may be repeated for credit  
High schools  
- Learn basic notes, tuning and intonation, rhythmic patterns, and articulations.  
- Participate in musical activities and performances.

Intermediate Strings  
Course #9253  
36 weeks; elective; may be repeated for credit  
High schools  
- Produce a controlled tone quality and incorporate the expressive elements of phrasing and style.  
- Participate in musical activities and performances.

Advanced Strings  
Course #9254  
36 weeks; elective; may be repeated for credit  
High schools  
- Demonstrate proper playing position and ability to follow the conductor.  
- Participate in musical activities and performances.

String Orchestra  
Course #9251  
36 weeks (1 cr.); elective; may be repeated for credit  
High schools  
- Play all major scales, the chromatic scale, and the melodic minor scale, and three-octave scales.  
- Participate in musical activities and performances.

High School Advanced Orchestra Honors  
Course #9257  
36 weeks (1 cr.); elective; admission by audition only; may be repeated for credit  
High schools  
- Fulfill project participation which may include music transcription, critical analysis, research, composition, ensembles and solo performances.

Beginning Keyboard I, Piano  
Course #9255  
18 weeks (1/2 cr.); elective; for students with no previous piano experience  
High schools  
- Learn keyboard fundamentals, including notation, scales, chords, and theory.  
- Focus on playing.

Keyboarding II, Piano  
Course #9256  
18 weeks (1/2 cr.); elective; for students who have completed Beginning Keyboard I—Piano  
High schools  
- Build on fundamentals to learn more advanced piano skills.  
- Study notation, scales, chords, and theory.

Middle School Treble Chorus  
Course #9260  
36 weeks; elective  
High schools  
- Achieve good vocal production and musicianship through three-part choral music.  
- Participate in musical activities and performances.

Middle School Beginning Chorus  
Course #9269  
36 weeks; elective  
High schools  
- Acquire proper posture and breathing techniques, expressive qualities, and proper diction.  
- Participate in musical activities and performances.

Middle School Intermediate Chorus  
Course #9270  
36 weeks; elective  
High schools  
- Develop tone quality, intonation, legato singing, and sight singing.  
- Participate in musical activities and performances.

Chorus 7  
Course #9271  
18 weeks; elective  
High schools  
- Develop ear training, notation, and vocal techniques.  
- Participate in musical activities and performances.

Middle School Advanced Chorus/Selected Choir  
Course #9275  
36 weeks; elective  
High schools  
- Demonstrate vocal production, emphasizing tone quality and diction.  
- Participate in musical activities and performances.

Middle School Small Vocal Ensemble  
Course #9276  
36 weeks; elective; for students who have taken a one-year middle school choral ensemble and are recommended by a previous choir director or music teacher  
Middle schools  
- Learn the fundamentals of independent singing.  
- Use voice and skill to balance the ensemble.

Treble Selected Chorus  
Course #9266  
36 weeks (1 cr.); elective; may be repeated for credit  
High schools  
- Expand vocal production and study of dynamics, mood, and tempo, breathing techniques, and phrasing.  
- Participate in musical activities and performances.

Treble Chorus  
Course #9267  
36 weeks; elective; may be repeated for credit  
High schools  
- Study terms, symbols, signs, mood, contrast, and tempo.  
- Participate in musical activities and performances.

Small Vocal Ensemble  
Course #9278  
36 weeks (1 cr.); elective; for advanced students; admission by audition only; may be repeated for credit  
High schools  
- Study music from the Renaissance period to present day.  
- Participate in musical activities and performances.

Small Vocal Ensemble  
Course #9280  
36 weeks (1 cr.); elective; for the talented musician who wishes additional vocal training in a “private lesson” (individual or group) arrangement; may be repeated for credit  
High schools  
- Develop vocal range, flexibility, ear training, and individual musicianship.  
- Study literature based on vocal problems of students in the class.
Mixed Chorus
Course #9281
36 weeks (1 cr.); elective; may be repeated for credit
High schools
• Build on 8th-grade mixed chorus study with more literature and more emphasis on performance.
• Participate in musical activities and performances.

Mixed Chorus
Course #9282
36 weeks (1 cr.); elective; may be repeated for credit
High schools
• Review fundamentals of music, improve vocal quality, and sight singing ability.
• Participate in musical activities and performances.

Mixed Chorus, Selected Choir
Course #9283
18 weeks (1/2 cr.) or 36 weeks (1 cr.); elective; admission by audition only; may be repeated for credit
High schools
• Participate in all-county, all-regional, and all-state choruses.
• Participate in musical activities and performances.

High School Advanced Choir Honors
Course #9284
36 weeks (1 cr.); elective; admission by audition only; may be repeated for credit
High schools
• Fulfill project participation which may include music transcription, critical analysis, research, composition, outside ensembles and solo performances.
• Participate in musical activities and performances.

Show Choir
Course #9295
36 weeks (1 cr.); elective; admission by audition only
High schools
• Exhibit knowledge of complex rhythmic patterns, variety of meters, rhythmic accuracy, and choreography.
• Participate in musical activities and performances.

Teens Read!
Grade 6, Course #1106 (required)
Grade 7, Course #1107 (enrichment)
Grade 8, Course #1108 (enrichment)
• Learn and apply 6 strategies of comprehension to a variety of texts.
• Prepare to be teen readers in the 21st century through a variety of technologies.
• Participate in projects, activities, and community events to build capacity as life-long readers.

Strategies for Comprehension Success
Course #1186
Middle Schools
18 weeks or 36 weeks; elective
High Schools
18 weeks (1 cr.); or 36 weeks (1 cr.); elective; may be repeated for credit
• Sharpen critical reading skills and improve the overall level of achievement through individual tasks.
• Acquire tools for self-directed reading comprehension tasks.
• Use resources to expand word attack, vocabulary building, and comprehension skills.

Reading Enrichment Advanced
Course #1180
18 weeks (1/2 cr.); elective
(For the student who is reading on or above grade level)
High schools
• Expand vocabulary, comprehension, and study skills.
• Sharpen critical reading skills.
• Develop rate of comprehension.

Secondary Reading and Writing Across the Curriculum
Course #1187
18 weeks (1/2 cr.); elective
High schools
• Apply strategic reading and writing skills across the contents.
• Expand knowledge of vocabulary.
• Develop critical thinking, reading, and test-taking skills.

Advanced Life Science
Course #4115
36 weeks; required
Middle schools
• See Course #4115 above for additional course content.
• Develop inquiry skills by designing and executing inquiry labs.
• Complete a long-term, independent, science project.

Physical Science 8
Course #4125
36 weeks; required
Middle schools
✓ SOL Cumulative Grade 8 science test
• See Course #4125 above for additional course content.
• Understand the relationship between graphs and what is occurring in an experiment.
• Focus on introductory concepts in chemistry and physics.

Advanced Physical Science
Course #4125
36 weeks; required
Middle schools
✓ SOL Cumulative Grade 8 science test
• See Course #4125 above for additional course content.
• Significant emphasis on mathematical equations and their relationship to physical science phenomenon.
• Complete a long-term, independent, science project.

Earth Science I
Course #4210
36 weeks (1 cr.); elective
High schools; (middle schools for accelerated learners)
✓ SOL Earth Science end-of-course test
• Connect the study of Earth's composition, processes, atmosphere, freshwater, oceans, and its environment in space.
• Emphasize historical contributions of scientific thought about the Earth and space.
• Interpret maps, charts, tables, and profiles.

Earth Science Honors
Course #4210
36 weeks (1 cr.); elective
High schools
✓ SOL Earth Science end-of-course test
• See course #4210 above for course content.
• Complete a long-term, independent, science project.
Earth Science II: Oceanography  
Course # 4250  
36 weeks (1 cr.); elective  
High schools  
• Investigate contemporary issues of global warming, resources management, pollution and the interrelationship between the ocean environment and the human population.  
• Topics include history of oceanography, plate tectonics, ocean chemistry and physics, weather and climate, waves, tides, currents, marine ecosystems and life.

Biology I  
Course #4310  
36 weeks (1 cr.); elective  
High schools  
✓ SOL Biology end-of-course test  
• Emphasize the importance of research that validates and or challenges ideas.  
• Integrate technology in collecting, analyzing, and reporting data.  
• Topics include history of biological thought, biochemical life processes, cellular organization, mechanisms of inheritance, dynamic relationships among organisms, and changes in organisms.

Biology I Honors  
Course #4310  
36 weeks (1 cr.); elective  
High schools  
✓ SOL Biology end-of-course test  
• See Course #4310 above for additional course content.  
• Conduct a long-term independent research investigation.  
• Study advanced biology content in preparation for AP Biology.

Biology II, Advanced Survey of Biology  
Topics  
Course #4320  
36 weeks (1 cr.); elective  
High schools  
✓ SOL Biology end-of-course test (unless previously passed)  
• Examine topics in anatomy and ecology.  
• Explore contemporary topics in biology relating to science and society.

AP Biology  
Course #4370  
36 weeks (1 cr.); elective  
High schools  
✓ SOL Biology end-of-course test (unless previously passed)  
• Must have successfully completed Biology I and have completed or be concurrently enrolled in Chemistry I or equivalent courses.  
• Complete course content typical to college freshman in general biology.  
• Prepare for the Advanced Placement Biology examination.

Chemistry I  
Course #4410  
36 weeks (1 cr.); elective  
High schools; Grades 10-12  
✓ SOL Chemistry end-of-course test  
• Conduct experimental and analytical laboratory investigations.  
• Topics include reaction rate, thermodynamics, redox reactions, stoichiometry, kinetic molecular theory, gas laws, atomic structure, periodicity, bonding, colligative properties, and equilibrium.

Chemistry I Honors  
Course #4410  
36 weeks (1 cr.); elective  
High schools; Grades 10-12  
✓ SOL Chemistry end-of-course test  
• See Course #4410 above for additional course content.  
• Conduct a long-term independent research investigation.  
• Study advanced chemistry content in preparation for AP Chemistry.

AP Chemistry  
Course #4470  
36 weeks (1 cr.); elective  
High schools; High Tech Academy  
✓ SOL Chemistry end-of-course test (unless previously passed)  
• Must have successfully completed Chemistry I or its equivalent.  
• Complete course content that is typical to freshman in general chemistry.  
• Prepare for the Advanced Placement Chemistry exam.

Current Topics in Biology  
Course #4500  
18 weeks (1/2 cr.); elective  
High schools  
• Engage in study of biology topics as they relate to current events studied.  
• Develop Internet research skills.  
• Interpret charts, diagrams, and graphs.  
• Conduct experiments.

Conceptual Physics  
Course #4511  
36 weeks (1 cr.); elective  
High schools; Grades 11-12  
• Recommended for students who struggle with mathematical concepts and are not ready for Chemistry I or Physics I.  
• Study force, motion, kinetic molecular theory, energy transformations, wave phenomena and electromagnetic spectrum, light, electricity, fields and non-Newtonian physics.  
• Apply physics to everyday situations.

AP Physics I  
Course #4510  
36 weeks (1 cr.); elective  
High schools; Grades 11-12  
• Use algebra, inferential statistics, and trigonometry to understand and solve physics problems.  
• Study force and motion, kinetic molecular theory, energy transformations, wave phenomena and electromagnetic spectrum, light, electricity, fields, and non-Newtonian physics.

AP Physics II  
Course #4574  
36 weeks (1 cr.); elective  
High schools; Grades 10-12  
• Study fluid mechanics; thermodynamics; electricity and magnetism; optics; atomic and nuclear physics.  
• Prepare for the Advanced Placement Physics II exam.

AP Physics C  
Course #4571  
36 weeks (1 cr.); elective  
High schools; Grades 11-12  
• Study kinematics; Newton's laws of motion, work, energy, and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation.  
• Prepare for the Advanced Placement Physics C exam.

AP Environmental Science  
Course #4270  
36 weeks (1 cr.); elective  
High schools; Grades 11-12  
✓ SOL Earth Science end-of-course test (unless previously passed)  
• Complete course content identical to a typical one-semester college introductory environmental science course.  
• Prepare for the Advanced Placement Environmental Science exam.
SCIENCE

Meteorology
Course #4621 (offered first semester)
18 weeks (1/2 cr.); elective
High schools

- Increase knowledge of atmospheric science through the use of a real-time weather database and satellite technology.
- Analyze, forecast, and track existing synoptic weather conditions, and examine the elements of weather forecasting.
- Investigate contemporary issues of acid rain, ozone depletion, and greenhouse effect.

Exploration of the Universe
Course #4622 (offered second semester)
18 weeks (1/2 cr.); elective
High schools

- Use information from interplanetary exploration to focus on the organization, composition, and distribution of matter in the universe.
- Study technological advances and instrumentation involved in space exploration.

SOCIAL STUDIES

Social Studies 6
Course #2354
36 weeks; required
Middle schools

✓ SOL United States History I test
- Focus on the history of the United States from Pre-Columbian times until 1865.
- Study documents and events that lay the foundation of American ideals and institutions.
- Learn fundamental concepts in civics, economics and geography.

Social Studies 6/Civics Accelerated
Course #2354
36 weeks; required; designed for 6th grade students with high ability in social studies who plan to take Course #2215 in 8th grade
Middle schools

✓ SOL United States History I test
- See Courses #2354 above and #2220 below for additional course content.
- Continue focus on 8th Grade Civics.
- Analyze primary and secondary sources.

Social Studies 7
Course #2355
36 weeks; required
Middle schools

✓ SOL United States History II test
- Focus on American history from 1865 to the present.
- Learn the concepts of economics, geography, and due process of law.
- Use reference sources to interpret graphs, charts, and maps.

Social Studies 7/Economics Accelerated
Course #2355
36 weeks; required; designed for 7th grade students with high ability in social studies who plan to take Course #2215 in 8th grade
Middle schools

✓ SOL United States History II test
- See courses #2355 above and #2220 below for additional course content.
- Continue focus on 8th Grade Economics.
- Analyze primary and secondary sources.

Social Studies 8: Civics and Economics
Course #2220
36 weeks; required unless enrolled in Course #2215
Middle schools

✓ SOL Civics and Economics test
- Study the U.S. and Virginia Constitutions and government at the national, state, and local levels.
- Learn the basic principles, structure, and operation of the American economy.
- Learn the electoral process.

Social Studies 8: Civics and Economics Honors
Course #2215
36 weeks (1 cr.); required; offered to 8th-grade students of advanced academic ability who have completed USI, USII, and Civics & Economics
Middle/High schools

✓ SOL World History I end-of-course test
- Study the history of people, places, and religions from ancient times to 1500.
- Focus on Mesopotamia, ancient Greece and Rome, and the Middle Ages.
- Compare African, early American, and Asian contributions to civilization.

World History & Geography I
Course #2215
36 weeks (1 cr.); required
High schools

✓ SOL World History I end-of-course test
- Study the history of people, places, and religions from ancient times to 1500.
- Focus on Mesopotamia, ancient Greece and Rome, and the Middle Ages.
- Compare African, early American, and Asian contributions to civilization.

World History & Geography II
Course #2216
36 weeks (1 cr.); required for advanced diploma
High schools

✓ SOL World History II end-of-course test
- Explore people, places and religions from about 1500 to the present.
- Analyze the late Medieval period, Renaissance, and Reformation.
- Compare empires in India, China, Japan, sub-Saharan Africa and Central America.

World History & Geography II Honors
Course #2216
36 weeks (1 cr.); required for advanced diploma
High schools

✓ SOL World History II end-of-course test
- See Course #2216 above for additional course content.
- Analyze primary and secondary sources.
- Conduct a research project.

Course will be available online during the school year.

World Geography
Course #2210
36 weeks (1 cr.)
High schools; For high school students, this course serves as an alternative to World History and Geography I or World History and Geography II

✓ SOL World Geography end-of-course test
- Work with maps, charts, and current global issues.
- Compare world religions and geographic factors impacting society and culture.

Virginia and United States History
Course #2360
36 weeks (1 cr.); required
High schools

(Course is available online during summer school.)

✓ SOL Virginia and United States History end-of-course test
- Study United States political and economic development to present time.
- Focus on cultural and societal changes to the present time.
- Studies people and events contributing to the history of the United States.

Virginia and United States History Honors
Course #2360
36 weeks (1 cr.); required
High schools

(Course is available online during summer school.)

✓ SOL Virginia and United States History end-of-course test
- See Course #2360 above for additional course content.
- Read historical materials critically, weigh evidence, and problem solve.
- Use advanced writing skills to analyze readings.

Virginia and United States Government
Course #2440
36 weeks (1 cr.); required
High schools

(Course is available online during summer school.)

- Study the political nature and political issues of American society.
- Focus on constitutionalism and democracy within the United States.
- Discuss issues of governmental power and guarantees of civil liberties.
### Virginia and United States Government Honors
**Course #2440**  
36 weeks (1 cr.); required  
High schools  
- See Course #2440 above for additional course content.  
- Apply critical thinking skills to evaluate research, current events, and elections.  
- Use advanced writing skills to analyze assigned readings.

### AP Virginia and United States Government
**Course #2445**  
36 weeks (1 cr.); students may substitute this course for Virginia and United States Government  
High schools  
- Obtain a college-level perspective on politics and government in the United States.  
- Explore institutions, groups, beliefs, and ideas of American political reality.  
- Prepare for the Advanced Placement Examination.

### AP Microeconomics/AP Macroeconomics
**Course #2806 (micro)**  
18 weeks (1/2 cr.); elective  
**Course #2807 (macro)**  
18 weeks (1/2 cr.); elective  
Grade 12  
- Analyze the principles of economics that apply to an economic system.  
- Recognize government, business, and individual interaction in the market economy.  
- Prepare for completion of the AP economics exam.

### AP Virginia and United States History
**Course #2319**  
36 weeks (1 cr.); elective; students may substitute this course for U. S. History, which is required for graduation  
High schools  
- SOL Virginia and United States History end-of-course test  
- Read historical material critically, weigh evidence, and arrive at conclusions.  
- Prepare for the Advanced Placement Examination.  
- Use advanced writing skills to analyze readings.

### AP Psychology
**Course #2902**  
36 weeks (1 cr.); elective  
High schools  
- Perform psychological research.  
- Study the many facets of psychological behavior and social psychology.  
- Prepare for the Advanced Placement Psychology Examination.

### AP Human Geography
**Course #2212**  
36 weeks (1 cr.); elective  
- Study human impact on the Earth's resources and environment.  
- Understand societal roles and relationships and their interdependence with one another.  
- Examine population trends and cultural patterns.

### AP World History
**Course #2380**  
36 weeks (1 cr.); elective  
High schools  
- Study world history from approximately 8,000 B.C. to the present.  
- Emphasize historical development of Africa, the Americas, Asia, and Europe.  
- Prepare for the Advanced Placement World History Examination.

### Regional Studies
**Course #2351**  
36 weeks (1 cr.); elective  
Does not meet the World History requirement for graduation.  
High schools  
- Study the Commonwealth of Independent States, China, the Middle East, Central and Latin America, Africa, and India.  
- Discuss current world affairs and US relations to these countries and regions.

### Regional Studies Honors
**Course #2351**  
36 weeks (1 cr.); elective  
Does not meet the World History requirement for graduation.  
High schools  
- See Course #2351 above for additional course content.  
- Obtain a perspective on events of the nonwestern world.  
- Apply critical thinking skills in evaluating research, news reports, and other data.

### Our British Heritage Honors
**Course #2330**  
36 weeks (1 cr.); elective  
High schools  
- Study British history from prehistoric times to the present.  
- Focuses on the intellectual, cultural, and democratic ties of Britain and the U.S.  
- Analyze how British interaction with Europe often led to war.

### AP European History
**Course #2399**  
36 weeks (1 cr.); elective  
High schools  
- Study European politics and economics from the Renaissance to the present.  
- Work with primary sources from period documents to sculpture and paintings.  
- Emphasize social, intellectual, and cultural studies.

### Sociology
**Course #2500**  
36 weeks (1 cr.); elective  
High schools  
- Study and analyze individual, institutional, and group relationships in society.  
- Use institutions such as the family, church, school, and government to emphasize the interaction of concepts.

### Global Economics
**Course #2801**  
36 weeks (1 cr.); elective  
High schools  
- Study how people and nations use resources to produce, distribute, and consume goods and services.  
- Study decisions made by individuals and countries in an atmosphere of growing international interdependence.

### Principles of Leadership Honors
**Course #2990**  
36 weeks (1 cr.); elective  
High schools  
- Examine the qualities and leadership styles of recognized leaders.  
- Develop citizens who possess the leadership abilities to meet present and future challenges in a global society.

### Psychology I
**Course #2900**  
36 weeks (1 cr.); elective  
High schools  
- Study individual and group behavior, the effect of internal and external stimuli, and the interaction of individuals.  
- Increase critical thinking and improve communication through demonstrations, experiments, movies, and videotapes.

### 20th Century World History
**Course #2387**  
18 weeks (1/2 cr.); elective  
36 weeks (1 cr.); elective  
High schools  
- Analyze current events by learning the 20th century background of these problems.  
- Discuss topics that include colonialism, war, urban problems, minority groups, and women's liberation.

### 20th Century World History Honors
**Course #2387**  
18 weeks (1/2 cr.); elective  
36 weeks (1 cr.); elective  
High schools  
- See Course #2387 above for additional course content.  
- Participate in simulations and debates.  
- Obtain an advanced perspective on events, politics and government in the 20th Century.
TECHNOLOGY EDUCATION

Introduction to Technology
Course #8481
9 weeks; elective
Middle schools
• Explore technology and its uses at home, in school, and in recreation.
• Study the elements of technology: tools, machines, material, processes, energy, information, and humans.
• Study of the four areas of technology: construction, transportation, communication, and manufacturing.

Inventions and Innovations
Course #8464
9-18 weeks; elective
Middle schools
• Trace the development of technology and inventions.
• Construct a model of an early invention.
• Discuss products/inventions needed for world-class competition and prepare a report on one of them.

Technological Systems/Manufacturing
Course #8462
36 weeks; elective
Middle schools
• Expand learning through hands-on activities.
• Learn about designing systems, constructing models, and combining systems.
• Explore occupational areas for technology-oriented careers.

Technological Systems
Course #8463
18 weeks; elective
Middle schools
• Explore technological systems and their impact on humans.
• Study production, construction, and transportation with technological systems.
• Improve life with biotechnological systems.

Career and Technical Occupational Exploration
Course #8469
18 weeks; elective
Middle schools
• Explore occupational areas for technology-oriented careers.
• Learn about designing systems, constructing models, and combining systems.
• Explore technological systems and their impact on humans.
• Improve life with biotechnological systems.

Technology Foundations
Course #8402
18 weeks (1/2 cr.); elective
Course #8403
36 weeks (1 cr.); elective
Middle/high schools
• Acquire knowledge in technological material, energy, and information.
• Analyze technological products to learn how and why technology works.
• Build and control systems with computers.

Technology Transfer
Course #8404
18 weeks (1/2 cr.); elective
Course #8405
36 weeks (1 cr.); elective
High schools
• Apply foundations of technology.
• Apply the technological method as a problem-solving process.
• Use tools, machines, material, and process to solve problems.

Engineering Explorations I Honors
Course #8450
36 weeks (1 cr.); elective
High schools, High Tech Academy, Center for Engineering
• Explore engineering careers, history, practices, and concepts.
• Apply mathematical and scientific principles to technical problems.
• Use a computer to analyze data and mechanical/electrical systems to solve problems.

Introduction to Photography (Semester Imaging Technology)
Course #8474
18 weeks (1/2 cr.); elective
High schools
• Identify, operate, and maintain digital equipment and hardware.
• Produce images using digital equipment.
• Explore careers in image technology.

Photography (Imaging Technology)
Course #8455
36 weeks (1 cr.); elective
High schools
• Produce images using digital equipment.
• Correct, enhance, and transform digital images.
• Apply design processes in using a variety of presentation techniques for images.
Digital Visualization
Course #8459
36 weeks (1 cr.); elective
High schools
• Gain experience related to computer animation by involving 3D object manipulation, storyboarding, texture mapping, lighting concepts, and environmental geometry.
• Produce animations that include projects related to science, engineering, and the entertainment industry.
• Develop a portfolio that showcases examples of original student work.

Video and Media Technology
Course #8497
36 weeks (1 cr.); elective
High schools
• Explore the development of broadcasting from early film to present-day television.
• Learn the elements of planning and composing video productions.
• Operate audio and video mixers and switches.

Electronic Systems I
Course #8416
36 weeks (1 cr.); elective
High schools
• Identify electricity/electronics applications.
• Describe static electricity, electromotive force (voltage), and current electricity.
• Construct a project using AC and DC circuits.

Electronic Systems II
Course #8412
36 weeks (1 cr.); elective
High schools
• Construct a project to apply theories and laws with electronic components.
• Study integrated circuits used in computers, television, and other equipment.
• Explore digital electronics and computer interfacing robotics.

Energy and Power
Course #8495
18 weeks (1/2 cr.); elective
High schools
• Learn about the applications of power and energy systems and transportation vehicles.
• Apply theory to the servicing of common machines and small engines.

Production Systems with Metals
Course #8447M
36 weeks (1 cr.); elective
High schools
• Perform independent study as a learning experience.
• Pursue a specialty based on interest.
• Produce a major project of advanced design.

Production Systems with Woods
Course #8447W
36 weeks (1 cr.); elective
High schools
• Perform independent study as a learning experience.
• Pursue a specialty based on interest.
• Produce a major project of advanced design.

Materials and Processes Technology with Woods
Course #8433W
36 weeks (1 cr.); elective
High schools
• Learn the basic language of industry and technology.
• Gain skills in mechanical drawing or drafting.
• Prepare technical sketches using orthographic projections, pictorial technical sketches, layout sketches, and prints of original drawings.

Manufacturing Systems II
Course #8427
36 weeks (1 cr.); elective
High schools
• Continue to expand overall knowledge of Manufacturing Technology.
• Study new concepts such as Green Manufacturing and Resource Management in the manufacturing field.
• Develop an end-of-year interdisciplinary project.

Technical Drawing/Design/CAD
Course #8435
36 weeks (1 cr.); elective
High schools
• Learn the basic language of industry and technology.
• Gain skills in mechanical drawing or drafting.
• Prepare technical sketches using orthographic projections, pictorial technical sketches, layout sketches, and prints of original drawings.

Engineering Drawing/Design/CAD
Course #8436
36 weeks (1 cr.); elective
High schools
• Learn the graphic language used by engineers, manufacturers, and technicians.
• Interpret industrial prints to use handbooks with resource materials, and to adhere to standards for drafting.
• Apply drafting principles to typical engineering drawing and design problems.

Architectural Drawing/Design/CAD
Course #8437
36 weeks (1 cr.); elective
High schools
• Learn principles of architecture and related drafting practices and techniques.
• Draw plot, foundation, and house plans.
• Develop and draw electrical, heating and air conditioning, and plumbing plans.

Advanced Drafting and Design
Course #8438
36 weeks (1 cr.); elective
High schools
• Develop an independent program of study related to student interest.
• Complete research and/or major project related to drafting and design.
• Reinforce knowledge of CAD by working in a peer learning environment with other students.

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TRADE AND INDUSTRIAL EDUCATION

Air Conditioning, Refrigeration, and Plumbing I
Course #8503
36 weeks (3 cr.); elective
Hermitage Technical Center
• Study instrumentation and controls including troubleshooting of components and systems.
• Participate in work experiences during the second semester (if recommended).
• Prepare for HVAC certification.

Automotive Technology I
Course #8506
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center, The Academy at Virginia Randolph
• Perform shop operations to include safety, tool usage and management of repair facility.
• Develop diagnostic skills to be used as entry level technicians.
• Learn utilization of all maintenance related tools (coolant trans, power steering, induction, and brake equipment).

Automotive Technology II
Course #8507
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center, The Academy at Virginia Randolph
• Study engine, electrical system repairs and front end alignments.
• Prepare for certification in VA State Inspection and A.S.E. tests.
• Participate in work experiences during the second semester (February to June).

Masonry I
Course #8512
36 weeks (3 cr.); elective
Highland Springs Technical Center, The Academy at Virginia Randolph
• Learn the safe use, handling, and maintenance of tools, machines, equipment, and materials used in the masonry trade.
• Learn to lay brick and block to a line and to construct walls and corners.
• Participate in the construction of a house (if selected).

Masonry II
Course #8513
36 weeks (3 cr.); elective
Highland Springs Technical Center, The Academy at Virginia Randolph
• Refine techniques of bricklaying and blocklaying.
• Study commercial masonry construction techniques.
• Participate in the construction of a house (if selected).

Cosmetology I
Course #8527
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center, The Academy at Virginia Randolph
• Practice sanitation, sterilizations, and safety.
• Acquire work habits and attitudes leading to employment.
• Learn procedures to care for hair, scalp, and nails.

Cosmetology II
Course #8528
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center, The Academy at Virginia Randolph
• Transfer skills to current style trends.
• Acquire skills in salon management including developing positive operator-patron relationships.
• Prepare and sit for state licensing examination.

Barbering I
Course #8740
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center, The Academy at Virginia Randolph
• Prepare and sit for state licensing examination.

Barbering II
Course #8741
36 weeks (3 cr.); elective
Hermitage Technical Center
• Study hair, the scalp and skin; and will practice on mannequins and live models.
• Emphasize safety and sanitation, communications, and management skills.
• Prepare the student to work or apprentice in a local barber shop or beauty salon.

Precision Machining Technology I
Course #8539
36 weeks (3 cr.); elective
Hermitage Technical Center
• Explore aspects of machine shop technology.
• Apply knowledge of blueprint reading, machine theory, technical language, math, and measurement to problems involving machines or machine parts.
• Gain experience in use of lathes, milling machines, grinders, saws, drills, CNC (computer numerical control) machines, and welding equipment.

CAD - Computer-Aided Drafting/3D Animation I
Course #8530
36 weeks (3 cr.); elective
Hermitage Technical Center
• Apply the fundamentals of drafting by producing working drawings.
• Use computer-aided drafting (AutoCAD computer systems) for one-half the course.
• Learn the basic skills and commands needed to manipulate animated objects in a 3-Dimensional format.

CAD - Computer-Aided Drafting/3D Animation II
Course #8531
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center, The Academy at Virginia Randolph
• Focus on architectural and engineering drawings.
• Gain skills in building construction, mechanical engineering, and residential and commercial architecture.
• Participate in work experiences during the second semester (if recommended).

Electricity and Cabling I
Course #8533
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center, The Academy at Virginia Randolph
• Prepare for entry into electricity-related occupations or post-secondary engineering program.
• Learn principles of electricity.
• Apply fundamental skills using materials, tools, and techniques required to install, maintain, and repair electrical equipment.

Electricity and Cabling II
Course #8534
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center, The Academy at Virginia Randolph
• Prepare for entry into electricity-related occupations or a post-secondary engineering program.
• Study direct and alternating current, industrial electricity, and motors.
• Participate in the construction of a house (if selected) or in work experiences during the second semester (optional).

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Precision Machining Technology II
Course #8540
36 weeks (3 cr.); elective
Hermitage Technical Center
- Study aspects introduced in Precision Machining Technology I.
- Focus on tighter tolerances and improved quality.
- Participate in work experiences during the second semester (if recommended).

Industrial Maintenance Repair/Welding I
Course #8575
36 weeks (1-2 cr.); elective
The Academy at Virginia Randolph
- Learn basic plumbing and electrical principles.
- Study basic theory and operation of gas and electric welding.
- Demonstrate basic skill in metal layout and fabrication techniques and develop basic skills in the welding processes.

Carpentry I
Course #8601
36 weeks (3 cr.); elective
Highland Springs Technical Center, The Academy at Virginia Randolph
- Use hand tools and power equipment used in the trade.
- Apply knowledge of blueprint reading and interpretation, zoning laws, building codes, and foundation layout.
- Participate in the construction of a house.

Carpentry II
Course #8602
36 weeks (3 cr.); elective
Highland Springs Technical Center, The Academy at Virginia Randolph
- Perfect skills learned in Carpentry I.
- Learn advanced skills including estimating materials, installing cabinets and finishing trim.
- Participate in the construction of a house.

Computer Systems Technology I
Course #8622
36 weeks (3 cr.); elective
Highland Springs Technical Center
- Develop a foundation of computer hardware and operating systems.
- Develop the skills and knowledge to pass the nationally recognized A+ certification exam.
- Construct, troubleshoot, service, and repair computer systems, related components, and software.

Computer Systems Technology II
Course #8623
36 week (3 cr.); elective
Highland Springs Technical Center
- Understand career opportunities in the information technology field.
- Learn to install and maintain local area networks.
- Develop the skills and knowledge to prepare for a career as a Certified Cisco Network Administrator.
- Install and configure Cisco routers.

Radio Broadcasting & Journalism I
Course #8640
36 weeks (3 cr.); elective
Highland Springs Technical Center
- Learn operation of radio station equipment.
- Develop skills required for disk jockey work, news casting, traffic reports, and sports coverage.
- Participate in the operation of WHCE with live, on-air broadcasting.

Radio Broadcasting & Journalism II
Course #8641
36 weeks (3 cr.); elective
Highland Springs Technical Center
- Learn from professionals in local, state, federal, and private law enforcement agencies.
- Gain knowledge about the evolution of the American juvenile delinquency system.
- Learn from professionals in local, state, federal, and private law enforcement agencies.

Graphics Communications I
Course #8660
36 weeks (3 cr.); elective
Highland Springs Technical Center, The Academy at Virginia Randolph
- Use hand tools and power equipment used.
- Apply knowledge of blueprint reading and interpretation, zoning laws, building codes, and foundation layout.
- Participate in the construction of a house.

Graphics Communications II
Course #8661
36 weeks (3 cr.); elective
Hermitage Technical Center, The Academy at Virginia Randolph
- Develop techniques to manage and control production printing using 21st century skills.
- Develop skills in digital composition & printing, wide format printing and collating/binding operations and the material used with each.
- Learn the difference between Silk Screen printing, Heat Transfer Vinyl & Vinyl Film and produce graphics with them.

Auto Body Repair I
Course #8676
36 weeks (3 cr.); elective
Highland Springs Technical Center, The Academy at Virginia Randolph
- Explore all phases of automobile body repair.
- Develop techniques and methods used to repair minor damage to automobiles and trucks.
- Use hand tools, power tools, and painting equipment.

Auto Body Repair II
Course #8677
36 weeks (3 cr.); elective
Highland Springs Technical Center, The Academy at Virginia Randolph
- Explore all phases of automobile body repair.
- Develop techniques and methods used to repair minor damage to automobiles and trucks.
- Use hand tools, power tools, and painting equipment.

Criminal Justice I
Course #8702
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center
- Participate in work experiences during the second semester (if recommended).

Criminal Justice II
Course #8703
36 weeks (3 cr.); elective
Hermitage Technical Center, Highland Springs Technical Center
- Participate in work experiences during the second semester (if recommended).

Career Investigation, Phase I
Course #9070
36 weeks (3 cr.); required for PACE students
The Academy at Virginia Randolph
- Develop workplace readiness skills.
- Map your career.
- Explore multiple technical areas during the year.
Education for Employment Co-op I (EFE Co-op optional)
Course #9085
36 weeks; elective; for students with disabilities who are between the ages of 14 and 22.
  • Prepare for career paths, occupational opportunities, and continuing education.
  • Experience school-based and work-based instruction.
  • May exit WECEP to enter a regular/vocational cooperative education program.

Marketing
Course #8120
36 weeks (1 cr.); elective
The Academy at Virginia Randolph
  • Study the functions in the marketing of goods and services.
  • Develop the competencies for successful marketing employment.
  • Develop social and economic competencies in conjunction with marketing competencies.
  • Combine classroom instruction and a minimum of 396 hours of continuous, supervised on-the-job training when participating in cooperative education.

Introduction to Education for Employment
Course #9076
36 weeks; elective; must be 14 years or older and considered disadvantaged to enroll.
State enrollment limits apply.
Middle schools
  • Develop goals and values for employment through occupational preparation.
  • Acquire skills necessary for positive interpersonal relationships.
  • Participate in an on-campus paid work experience (part time) when available.

Education for Employment I
Course #9078
36 weeks; (Co-op Optional); elective; must be 14 years or older and considered disadvantaged to enroll. State enrollment limits apply.
The Academy at Virginia Randolph
  • Investigate various occupational fields.
  • Practice solving real-world problems.
  • Develop employability skills through in-class instruction and on-the-job paid work experience.

Education for Employment II (EFE II)
Course #9080
36 weeks (co-op optional); elective; must be 14 years or older and considered disadvantaged to enroll. State enrollment limits apply.
The Academy at Virginia Randolph
  • Experience a motivational program to help achieve a higher level of success.
  • Develop skills to get a job and be successful on the job.
  • Participate in a paid-work experience.
  • Become familiar with educational and career options.

WORLD LANGUAGES
Exploratory Languages and Cultures 6
Course #5102, #5202, #5302, #5502
9/18 weeks; elective
Middle schools
  • Explore the languages and cultures of Francophone and Spanish-speaking countries as well as Germany, Japan, Ancient Rome and China.
  • Learn basic vocabulary and communication skills of each language.
  • Explore the geography, customs and traditions of these countries.

Introduction to Languages and Cultures
Course #5700
36 weeks; elective
Middle schools
  • Explore the languages and cultures of Francophone and Spanish-speaking countries as well as Germany, Japan, Ancient Rome and China.
  • Learn basic vocabulary and communication skills of each language.
  • Explore the geography, customs and traditions of these countries.

French Exploratory 7
Course #5103
9-18 weeks; elective
Middle schools
  • Acquire skills in comprehending, speaking, reading, and writing French.
  • Acquire knowledge of the vocabulary and the structure of the French language while participating in activities related to the daily life of the Francophone people.

French Exploratory 8
Course #5104
9-18 weeks; elective
Middle schools
  • Learn basic and conversational French within a cultural context.
  • Compare and contrast one’s own culture with that of the Francophone countries.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course Code</th>
<th>Duration</th>
<th>Grade Level</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>French III</td>
<td>#5130</td>
<td>36 weeks (1 cr.)</td>
<td>High schools</td>
<td>Continue to improve all communication skills: reading, writing, listening and speaking using authentic resources.</td>
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<td>Refine pronunciation and fluency.</td>
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<td>Increase vocabulary and learn advanced grammar structures.</td>
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<tr>
<td>French IV Honors</td>
<td>#5140</td>
<td>36 weeks (1 cr.)</td>
<td>High schools</td>
<td>Refine all communication skills: reading, writing, listening and speaking using advanced, authentic resources.</td>
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<td>Broaden conversational vocabulary and idiomatic expressions.</td>
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<td>Examine language usage through culture, history, art and literature.</td>
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<tr>
<td>French VI Honors</td>
<td>#5160</td>
<td>36 weeks (1 cr.)</td>
<td>High schools</td>
<td>Must have completed French AP.</td>
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<td>Learn the most advanced grammar and vocabulary.</td>
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<td>Analyze global current issues affecting Francophone communities.</td>
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<td>Discuss literary, history and artistic work from Francophone countries.</td>
</tr>
<tr>
<td>AP French Language</td>
<td>#5170</td>
<td>36 weeks (1 cr.)</td>
<td>High schools</td>
<td>Focus on themes to study literary works and their geographic and historical settings.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Refine structures, vocabulary usage, and speaking skills used in context.</td>
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<td></td>
<td>Prepare for the Advanced Placement Language Exam and review for the College Board Achievements through increased emphasis on speaking and listening skills.</td>
</tr>
<tr>
<td>German II</td>
<td>#5220</td>
<td>36 weeks (1 cr.)</td>
<td>High schools</td>
<td>Continue to improve all communication skills: reading, writing, listening and speaking.</td>
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<td>Refine pronunciation and fluency.</td>
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<td>Increase vocabulary and improve grammar usage.</td>
</tr>
<tr>
<td>German III</td>
<td>#5230</td>
<td>36 weeks (1 cr.)</td>
<td>High schools</td>
<td>Continue to improve all communication skills: reading, writing, listening and speaking using authentic resources.</td>
</tr>
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<td>Refine pronunciation and fluency.</td>
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<td></td>
<td>Increase vocabulary and learn advanced grammar structures.</td>
</tr>
<tr>
<td>German IV Honors</td>
<td>#5240</td>
<td>36 weeks (1 cr.)</td>
<td>High schools</td>
<td>Continue to improve all communication skills: reading, writing, listening and speaking using authentic resources.</td>
</tr>
<tr>
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<td>Refine pronunciation and fluency.</td>
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<td></td>
<td>Increase vocabulary and learn advanced grammar structures.</td>
</tr>
<tr>
<td>AP German</td>
<td>#5270</td>
<td>36 weeks (1 cr.)</td>
<td>High schools</td>
<td>Continue fluency in written and oral expression.</td>
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<tr>
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<td>Read and discuss masterpieces in their entirety and historical settings.</td>
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<td></td>
<td>Prepare for the Advanced Placement Language Exam and review for the College Board Achievements through increased emphasis on speaking and listening skills.</td>
</tr>
<tr>
<td>Classical Studies</td>
<td>#5301</td>
<td>36 weeks</td>
<td>Middle schools - Grades 6-8</td>
<td>Become acquainted with the Classical World through the study of the Latin language, history, and mythology.</td>
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<td>Attain insights into classical mythology, history, etymology, and language.</td>
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<td>Explore the impact of ancient Rome on the present.</td>
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</tbody>
</table>
WORLD LANGUAGES

Latin and Greek for the 20th Century
Course #5305
18 weeks (1/2 cr.); elective
High schools
- Explore the elements of Latin and Greek that influence American culture and language.
- Learn Latin words, phrases, and abbreviations used in English.
- Use this course to prepare for taking standardized tests.

Foundations of Latin Part A
Course #5313
36 weeks; elective
Middle schools
- Learn thematic and functional vocabulary with prefixes, suffixes, and root words.
- Explore the impact of ancient Rome on the present.
- Gain perspective on the present by finding root words in one's own language from Roman life.

Foundations of Latin Part B
Course #5315
36 weeks (1 cr.); elective
Middle schools
- Must have completed Foundations of Latin Part A.
- Increase English vocabulary and understanding of the structure of the language.
- Explore the impact of ancient Rome on the present.
- Gain perspective on the present by finding roots in one's own language from Roman life.

Latin I
Course #5310
36 weeks (1 cr.); elective
Middle/High schools
- Learn thematic and functional vocabulary along with prefixes, suffixes, and root words.
- Explore the impact of ancient Rome on the present.
- Gain perspective on the present by finding roots in one's own language from Roman life.

Latin II
Course #5320
36 weeks (1 cr.); elective
High schools
- Increase vocabulary by learning derivatives.
- Develop cultural understanding, attitudes, and linguistic performance skills.
- Increase awareness of the contributions of Roman civilization to the Western civilization.

Latin III
Course #5330
36 weeks (1 cr.); elective
High schools
- Develop vocabulary and derivatives.
- Read a variety of Roman authors such as Livy, Caesar, and Cicero.
- Gain insight into Roman thought and concerns, and political and social problems.

Latin IV Honors
Course #5340
36 weeks (1 cr.); elective
High schools
- Become proficient in using Latin grammar.
- Enrich English vocabulary through expanded study of prefixes, suffixes, and root words.
- Read the classics of Roman literature, primarily lyric and epic poetry.

AP Latin: Vergil
Course #5341
36 weeks (1 cr.); elective
High schools
- Translate and analyze the poet Vergil and his major work, the Aeneid.
- Study the style, meter, vocabulary, and grammatical forms unique to Vergil.
- Study the ancient epic as a literary genre and the parallels between the works of Vergil and Homer.

Spanish Exploratory 7
Course #5503
9-18 weeks; elective
Middle schools
- Acquire skills in comprehending, speaking, reading, and writing Spanish.
- Increase vocabulary and improve grammar usage.

Spanish Exploratory 8
Course #5504
18 weeks; elective
Middle schools
- Explore the study of languages.
- Learn basic and conversational Spanish within a cultural context.
- Compare and contrast one's own culture with that of the Hispanic culture.

Spanish I
Course #5510
36 weeks (1 cr.); elective
Middle/High schools
- Acquire skills in comprehending, speaking, reading, and writing Spanish.
- Learn vocabulary and structures for everyday situations.
- Explore the geography, customs, and traditions of Spain and Hispanic America.

Spanish II
Course #5520
36 weeks (1 cr.); elective
High schools
- Continue to improve all communication skills: reading, writing, listening, and speaking.
- Learn to speak the language with more fluency and ease.
- Increase vocabulary and improve grammar usage.

Spanish III
Course #5530
36 weeks (1 cr.); elective
High schools
- Increase comprehension, speaking, reading, and writing skills.
- Read, discuss, and write short, creative themes on stories drawn from the Spanish cultural heritage.
- Read excerpts from the literature of Spanish-speaking countries and expand the study of history, art, music, and geography.

Spanish IV Honors
Course #5540
36 weeks (1 cr.); elective
High schools
- Review grammatical structures and incorporate structures in using the language.
- Improve the skills of speaking, listening, reading, and writing.
- Study the cultures of the Incan, Mayan, and Aztec Indians.

Foundations of Spanish Part A
Course #5513
36 weeks; elective
Middle schools
- Acquire skills in comprehending, speaking, reading, and writing.
- Learn basic vocabulary needed for everyday situations.
- Explore the geography, customs, and traditions of Spain and Hispanic America.
**Spanish VI Honors**  
Course #5560  
36 weeks (1 cr.); elective  
High schools  
- Must have completed Spanish V or AP Spanish.  
- Refine listening, speaking, reading and writing skills in Spanish.  
- Analyze global current issues affecting Spanish-speaking communities.  
- Discuss literary, history and artistic work from Hispanic countries.

**AP Spanish Language**  
Course #5570  
36 weeks (1 cr.); elective  
High schools  
- Increase proficiency in listening, speaking, reading, and writing.  
- Write essays on literary topics.  
- Study Spanish and Latin American history, art, and literature after 1492.  
- Prepare for the Advanced Placement Language Exam and review for the College Board Achievements with added emphasis on speaking and listening skills.

**Spanish I**  
Course #5810  
36 weeks (1 cr.); elective  
Middle/High schools  
- Acquire skills in understanding and speaking the Spanish language.  
- Learn basic vocabulary, grammar and characters used in daily living and conversations.  
- Discuss geography, history, culture and traditional customs of Spain.

**Chinese IV Honors**  
Course #5840  
36 weeks (1 cr.); elective  
High schools  
- Refine all communication skills: reading, writing, listening and speaking.  
- Broaden conversational vocabulary and use of Chinese characters.  
- Examine language use through culture, history, art and literature.

**Chinese I**  
Course #5810  
36 weeks (1 cr.); elective  
Middle/High schools  
- Acquire skills in understanding and speaking the Chinese language.  
- Learn basic vocabulary, grammar and characters used in daily living and conversations.  
- Discuss geography, history, culture and traditional customs of China.

**Chinese II**  
Course #5820  
36 weeks (1 cr.); elective  
High schools  
- Increase vocabulary and grammatical structures.  
- Learn more Chinese characters.  
- Develop the ability to speak and communicate in Chinese.  
- Increase knowledge of the history, geography, culture and customs of China.

**Chinese III**  
Course #5830  
36 weeks (1 cr.); elective  
High schools  
- Continue to improve all communication skills: reading, writing, listening and speaking.  
- Refine pronunciation and fluency.  
- Increase knowledge of culture and number characters used in written communication.
### Educational Specialists Serving Middle and High Schools

<table>
<thead>
<tr>
<th>Department</th>
<th>Name</th>
<th>Phone</th>
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</thead>
<tbody>
<tr>
<td>Art</td>
<td>Michael C. Kalafatis, 652-3756</td>
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<tr>
<td>Business and Information Technology and Marketing</td>
<td>Fahryka P. Elliott, 781-1812</td>
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<tr>
<td>Careers/Business Partnerships</td>
<td>Bradford M. Beazley, 781-1811</td>
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<tr>
<td>English as a Second Language (ESL)</td>
<td>Val P. Gooss, 652-3742</td>
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<tr>
<td>English, Language Arts, and Reading</td>
<td>Erica L. Basnight-Johnson, 652-3740</td>
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<tr>
<td>Exceptional Education, East Region</td>
<td>Ashley Reyher, 652-3803</td>
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<tr>
<td>Exceptional Education, West Region</td>
<td>Kimber Coffey, 652-3546</td>
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<tr>
<td>Family and Consumer Sciences/EFIE</td>
<td>LaRhonda F. Mason, 781-1815</td>
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<tr>
<td>Gifted Education Programs</td>
<td>Patricia Griffin, 652-3790</td>
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<tr>
<td>Health and Medical Sciences</td>
<td>Kathryn Mauch, 781-1820</td>
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<tr>
<td>Health, Physical Education, and Driver Education</td>
<td>Benita Turner, 652-3741</td>
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<tr>
<td>International Baccalaureate Programs</td>
<td>April W. Craver, 261-6440</td>
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<tr>
<td>Library Services</td>
<td>Suzanna L. Panter, 652-3700</td>
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<tr>
<td>Mathematics</td>
<td>Erven S. Tyler, Jr., 652-3753</td>
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<tr>
<td>Music</td>
<td>Richard A. Tinsley, 652-3759</td>
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<tr>
<td>Nontraditional Programs</td>
<td>Kim Dupre, 261-5070</td>
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<tr>
<td>Policy, Records Management/Transcripts</td>
<td>Deb Reed, 652-3854</td>
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<tr>
<td>Pre-Engineering/Industrial Careers/JROTC/Agriculture</td>
<td>Shawn M. Gross, 781-1821</td>
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<tr>
<td>School Counseling</td>
<td>Regina B. Brown, 652-3307</td>
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<tr>
<td>Science</td>
<td>Laura A. Casdorph, 652-3758</td>
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<tr>
<td>Social Studies</td>
<td>Michael J. Hasley, 652-3752</td>
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<tr>
<td>Student Activities and Summer Programs</td>
<td>John P. Carroll, 652-3761</td>
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</tr>
<tr>
<td>World Languages</td>
<td>Val P. Gooss, 652-3742</td>
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</tbody>
</table>
Specialty Centers and Programs

Advance College Academy
Business Administration
Highland Springs High School
W. Allen Riddle, 328-4000

Advance College Academy
Social Sciences
J. R. Tucker High School
Sheralyne Tierseron, 527-4600, ext. 3039

Center for the Arts
Henrico High School
Stephanie L. Poxon, 228-2718

Center for Communications
Varina High School
Beverley Lanier, 226-3139

Center for Education and Human Development
Glen Allen High School
Ryan Conway, 501-3329

Center for Engineering
Highland Springs High School
Billy W. Batkins, 328-4073

Center for the Humanities
Hermitage High School
Bruce D. Marr, 756-3017

Center for Information Technology
Deep Run High School
Lynne M. Norris, 364-8027

Center for the International Baccalaureate
Henrico High School
Priscilla Biddle, 228-2745

J. R. Tucker High School
Ellie Harper, 967-2320

International Baccalaureate Middle Years Program
Fairfield, George H. Moody, and Tuckahoe Middle Schools
April W. Craver, 261-6440

Center for Leadership, Government, and Global Economics
Douglas S. Freeman High School
Robert Peck, 673-3700

Center for Science, Mathematics, and Technology
Mills E. Godwin High School
Todd Phillips, 750-2600

Center for World Languages
J. R. Tucker High School
Anne Fano, 527-4618
Middle Schools

Brookland Middle School
Nicholas P. Barlett, Principal
9200 Lydell Drive, Henrico 23228
Telephone: 261-5000

Harry F. Byrd Middle School
Gwen E. Miller, Principal
9400 Quiocasin Road, Henrico 23238
Telephone: 750-2630

Elko Middle School
Cheri L. Guempel, Principal
5901 Elko Road, Sandston 23150
Telephone: 328-4110

Fairfield Middle School
Arthur G. Raymond, III, Principal
5121 Nine Mile Road, Henrico 23223
Telephone: 328-4020

Holman Middle School
Brian P. Fellows, Principal
600 Concourse Blvd., Glen Allen 23059
Telephone: 346-1300

Hungary Creek Middle School
Robert J. Moose, Principal
4909 Francistown Road, Glen Allen 23060
Telephone: 527-2640

George H. Moody Middle School
Paul E. Llewellyn, Principal
7800 Woodman Road, Henrico 23228
Telephone: 261-5015

Pocahontas Middle School
Kimberly G. Sigler, Principal
12000 Three Chopt Road, Henrico 23233
Telephone: 364-0830

John Rolfe Middle School
Michael A. Jackson, Principal
6901 Messer Road, Henrico 23231
Telephone: 226-8730

Short Pump Middle School
Thomas H. McAuley, Principal
4701 Pouncey Tract Road, Glen Allen 23059
Telephone: 360-0800

Tuckahoe Middle School
Ann M. Greene, Principal
9000 Three Chopt Road, Henrico 23229
Telephone: 673-3720

L. Douglas Wilder Middle School
Solomon W. Jefferson, Principal
6900 Wilkinson Road, Henrico 23227
Telephone: 515-1100
High Schools

Deep Run High School
Leonard G. Pritchard, Principal
4801 Twin Hickory Road, Glen Allen 23059
Telephone: 364-8000

Evening School of Excellence
Highland Springs High School
William "Randy" Mudd, Lead Coordinator
Loretta Powell, Assistant Coordinator
15 S. Oak Avenue, Highland Springs, 23075
Telephone: 512-4101

Evening School of Excellence
Academy at Virginia Randolph
Lori P. Huff, Lead Coordinator
Jamette Todd, Assistant Coordinator
2204 Mountain Road, Glen Allen 23060
Telephone: 553-4342

Douglas S. Freeman High School
Anne L. Poates, Principal
8701 Three Chopt Road, Henrico 23229
Telephone: 673-3700

Glen Allen High School
Tracie A. Weston, Principal
10700 Staples Mill Road, Glen Allen 23060
Telephone: 501-3300

Mills E. Godwin High School
Elizabeth K. Armbruster, Principal
2101 Pump Road, Henrico 23238
Telephone: 750-2600

Evening School of Excellence
Henrico High School
Herbert T. Monroe, III, Principal
302 Azalea Avenue, Henrico 23227
Telephone: 228-2700

Evening School of Excellence
Hermitage High School
Andrew R. Armstrong, Principal
8301 Hungary Spring Road, Henrico 23228
Telephone: 756-3000

Highland Springs High School
Tinkhani U. Hargrove, Principal
15 South Oak Avenue, Highland Springs 23075
Telephone: 328-4000

J. R. Tucker High School
Robert C. Lowerre, Principal
2910 Parham Road, Henrico 23294
Telephone: 527-4600

Varina High School
Ann Marie Seely, Principal
7053 Messer Road, Henrico 23231
Telephone: 226-8700
Technical Centers and Special Programs

The Academy at Virginia Randolph
Jesse M. Casey, Principal
2204 Mountain Road, Glen Allen 23060
Telephone: 261-5085

GRAD/Performance Learning Center
Christie L. Forrest, Principal
2915 Williamsburg Road, Henrico 23231
Telephone: 236-5730

Hermitage Technical Center
Terrie Allsbrooks, Principal
8301 Hungary Spring Road, Henrico 23228
Telephone: 756-3020

Highland Springs Technical Center
William J. Crowder, Jr., Principal
100 Tech Drive, Highland Springs 23075
Telephone: 328-4075

Highland Springs Adult Education Center-East
Beverly Godwin, Outreach Coordinator
201 E. Nine Mile Road, Highland Springs 23075
Telephone: 328-4095

Mount Vernon Adult Education Center-West
Greg Lawson, Administrator
7850 Carousel Lane, Henrico, 23294
Telephone: 527-4660

James River Juvenile Detention Center
Barry Chlebnikow, Principal
P. O. Box 880, Goochland 23063
Telephone: 556-4214

Virginia Randolph Education Center
Jesse M. Casey, Principal
2206 Mountain Road, Glen Allen 23060
Telephone: 261-5090

http://www.henrico.k12.va.us
Administrative Staff for Instruction

Patrick C. Kinlaw, Superintendent
Telephone: 652-3720

Bondy S. Gibson, Deputy Superintendent
Telephone: 652-3754

Nyah D. Hamlett, Assistant Superintendent for Instructional Support Services
Telephone: 652-3825

Mary Cox, Director of Elementary Education
Telephone: 652-3738

Michelle McQueen-Williams, Director of Elementary Education
Telephone: 652-3736

Omega W. Wilson, Director of High School Education
Telephone: 652-3848

Ingrid G. Grant, Director of Middle School Education
Telephone: 652-3676

Donice Davenport, Director of Exceptional Education
Telephone: 652-3866

Mac R. Beaton, Director of Career and Technical Education
Telephone: 781-1810
Vision & Mission

Vision
Henrico County Public Schools will be the PREMIER school division in the United States.

Mission
Henrico County Public Schools, an innovative leader in educational excellence, will actively engage our students in diverse learning experiences that inspire and empower them to become contributing citizens.

Beliefs
- We believe in accountability.
- We believe in a school community grounded in respect and integrity.
- We believe in continuous improvement to meet and exceed the challenges of a changing environment.
- We believe that our students can and will learn.
- We believe that success requires shared responsibility among all staff, parents, students, and community as stakeholders.
- We believe that excellence is attainable by all.
- We believe that understanding and respecting diversity enriches the individual and community.
- We believe that there is value in learning from each other.
- We believe that individuals are most successful in safe, caring, and well-maintained environments.
- We believe that providing Henrico County students a quality education is the best investment for the future.
- We believe in cultivating positive relationships.
- We believe in the equity of opportunities for personal growth.
- We believe that public education is essential to the survival of a democratic society.

Parameters
- We will always base our decisions and actions on the best interests of students.
- We will always conduct ourselves with honesty, respect and integrity.
- We will value the input of others.
- We will never give up on any student.
- We will never tolerate discrimination.
- We will never compromise excellence.