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January 2021

Team Chesterfield:

Teaching and learning has not stopped this year, even in the face of an international pandemic. Our teachers, support staff and administrators have continued to engage our students in innovative and relevant lessons, providing high-quality instructional opportunities whether learning is in-person or in a virtual setting.

As we have worked to address the challenges that confronted us during the 2020-21 school year, we also have been working on a plan to broaden our course offerings for students during the 2021-22 school year. This 2021-22 Program of Studies book includes new options adopted with student interest in mind. Engaging students with relevant, meaningful coursework remains an ongoing goal, as is adding new levels of courses (such as Honors or Dual Enrollment) or more options (such as semester versions of classes).

Instruction in Chesterfield County continues to evolve to meet the needs of our students, inside the classroom and outside of the classroom’s four walls. We do our students a disservice when we stand in front of them and preach to them. Rote memorization might get a child an “A” on tomorrow’s quiz, but it does not prepare our students for the world ahead. This Program of Studies provides you with a look at the academic work related to our efforts to prepare students for success beyond high school. It provides connections between classes, provides opportunities and helps create a roadmap to high school graduation and potentially a future career.

Through innovative, engaging and relevant courses and access to anytime, anywhere learning, we will integrate 21st century skills and content socially and academically by using reasoning and problem-solving skills to promote higher-level thinking. Students will gain knowledge to understand and solve real-world situations. And, they will prosper.

When I took this job as Superintendent of Schools for Chesterfield County, it was because I was strongly convinced that we could make a positive difference in the lives of our students. Two years into the job, I have not wavered in that belief. We can and we are making a positive difference.

Sincerely,

Dr. Merv Daugherty
Superintendent
VISION
Create a better tomorrow

MISSION
Ignite passion through authentic and captivating experiences

GOAL #1
All students and staff will embody an Infinite Learner mindset.

GOAL #2
All students, staff, parents, and community members will exemplify a culture of safety, personal responsibility, and supportive relationships.

OUR VALUES

INTEGRITY
Adherence to moral and ethical principles

EQUITY
Fair and unbiased access to all resources and opportunities

TEAMWORK
Cohesively working toward a shared goal

INGENUITY
Qualities of being clever, resourceful, and imaginative
Chesterfield County Public Schools continues to be cited as a model for excellence in public education. Educators from outside of our school division routinely visit our nationally recognized schools to learn more about what we are doing, how we are doing it and why we are doing it. Our outstanding teachers, support staff members and leaders are top-notch educators whom others seek to emulate. We are proud to be a school division others aspire to be like.

As a community leader, Chesterfield County Public Schools is preparing students for successful futures and creating a better tomorrow. Our award winning school division – which includes six National Blue Ribbon Schools, six National Title I Distinguished Schools and five Middle Schools to Watch – is preparing every student to be college and career ready.

As we implement our new strategic plan, Imagine Tomorrow, Team Chesterfield is on the cusp of creating classrooms of the future that will allow our students to soar to even greater heights. Imagine Tomorrow is more than a strategic plan. It is our daily focus as we seek to create an infinite learner mindset while encouraging students and staff to exemplify personal responsibility and supportive relationships.

**COMMITMENTS**

**ANY TIME, ANY PLACE**
Learning should occur any time and any place through a variety of opportunities.

**EVERY DAY, EVERY DOOR**
Learning opportunities should be diverse, plentiful, and equitable.

**ANY PATH, ANY PACE**
Learning should be matched to personalized needs.

**ALWAYS LEARNING, READY FOR MORE**
Learners should be prepared for college, careers and life.

**PROCESS**

**EXPOSURE**
Discovering new learning and creating equity.

**EXPERIENCE**
Realizing captivating, authentic, relevant and personalized opportunities for learning.

**ELEVATION**
Reaching new levels of learning by becoming content creators, not just content consumers.

**EVIDENCE**
Showcasing knowledge, understanding, and skill performance through systems of personal accountability.
COMMUNICATOR
I actively listen, share my thinking, and use both verbal and nonverbal methods to deepen my understanding and add value.

COLLABORATOR
I participate fully by building on the ideas, talents, expertise, and experiences of others.

CRITICAL THINKER
I analyze evidence, investigate multiple sources, and create new conditions.

CREATOR
I am open-minded, curious, and adaptive when tackling problems and challenges.

CONNECTOR
I actively set goals that link to my interests and abilities, and form healthy relationships that make a positive impact.

CITIZEN
I take care of myself and others by displaying integrity, being respectful, and contributing through informed actions.
As we develop the classroom of the future, we want to make sure that this innovative and engaging learning environment does more than advance our teaching-and-learning efforts. Our schools need to be safe and inclusive in nature, with supports and programs in place that provide students with tactics to work together, strategies to resolve potential conflict and resources to report concerns.

Providing a safe, supportive and nurturing learning environment for our students and staff remains one of Chesterfield County Public Schools’ top priorities. Parents entrust their children to us and expect we will provide a secure environment for them. It is our intention to do that, and we will take every reasonable precaution to keep our students and staff members safe.

Chesterfield County Public Schools has taken a number of steps to better secure our buildings and has implemented a variety of strategies designed to positively affect student behavior. A School Safety Task Force audited the school division’s safety and security efforts, reviewed our mental health support services, researched emerging and existing best practices and developed recommendations for ways to create even safer, more proactive schools.

Creating a safe and fun environment for learning requires a variety of supports for students experiencing trauma, loss or who are struggling with mental illness.

Team Chesterfield staff members cannot do this work alone. Everyone has a role to play! We ask that everyone be involved, aware and speak up when necessary. Please join our efforts to sustain learning environments that are free from distraction and disruption. If you see something, say something. If you know something, make sure someone at a school knows it, too.
EXPAND MEANINGFUL PARTNERSHIPS TO CREATE POSITIVE RELATIONSHIPS

Strong partnerships are an integral component to any school division’s success. The Chesterfield County School Board is grateful to be part of a community that is a strong supporter of Chesterfield County Public Schools.

We are fortunate to have a number of partners willing to invest in our efforts to provide students with a high-quality education in a safe, supportive and nurturing learning environment. Our partners are vital to helping us provide an innovative, relevant education that engages all students and instills in them the love of learning.

Chesterfield County Public Schools benefits from a variety of partnerships with local businesses, faith organizations, civic associations and individuals. The investment of any partnership makes a difference in the lives of our students, their families and our community, whether it is in-kind contributions, financial support, scholarships, internships, time or other resources. Everyone plays a key role in helping prepare our students for success while strengthening our schools and the entire Chesterfield community.

Find out more about partnering with Team Chesterfield on mychesterfieldschools.com. Moving forward, we’ll continue to focus on increasing partnership opportunities, increasing family and community engagement opportunities and increasing community satisfaction with the school division’s work.
PROMOTE EQUITABLE, DIVERSE AND INCLUSIVE ENVIRONMENTS

Through its financial operating plan, the School Board has established equity in resource allocation as a major priority. Examples of this are providing different levels of resources – human, financial and academic supports – to schools needing additional support to reach common achievement goals.

An Equity Committee spent more than a year working to acknowledge gaps, identify opportunities and develop recommendations that would impact our work. Themes focused on access and opportunity, disciplinary practices, engaging stakeholders, policy and practice, professional learning, staffing, recruiting and retaining.

Moving forward, we will continue to focus on creating a diverse workforce and providing academic supports that meet student needs.

ENHANCE EFFECTIVE AND EFFICIENT USE OF RESOURCES

With 60,000-plus students and 7,000-plus employees, there are many additional items that are considered annually for inclusion in the proposed operating budget. Unfortunately, the school division has a finite set of dollars to meet the infinite needs associated with serving a diverse community of learners.

As a result, the school division seeks to implement academic and student support programs that make the biggest impact on student growth, school safety and student wellness. From an operational standpoint, we remain committed to securing our schools and providing safe havens for our students and staff members. We also remain focused on being good stewards of the resources we are provided and to effective and efficient operations that create trusting relationships with community stakeholders.

Moving forward, we will continue to focus on monitoring the success of academic programs offered and building a plan of action that supports equity and meets the varied needs of our diverse learning community.
STAFF ENGAGEMENT, WELL-BEING AND JOB SATISFACTION

We want staff members to love to come to work. Their infectious enthusiasm and passion for helping students grow through engaging opportunities will help continue to create amazing learning experiences for students.

Through the CFit program and professional learning opportunities, we will provide staff members with the opportunity to live healthy lifestyles and continue to develop new skills and strategies that will allow them to be the best staff members they can be.

Moving forward, we will continue to focus on exceeding Virginia Department of Education School Climate Survey expectations for performance, enhancing opportunities to support employee wellness, and maintaining clean facilities.
The School Board has been vigilant in advocating for and ultimately providing resources – additional staff members and new programs – that meet the varied needs of our students. Much of this work originated with the Student Health Advisory Board (SHAB). A Wellness Council formed through SHAB yielded significant findings that have guided the School Board’s work during the past several years: If we only focus on problems like teen suicide, depression, bullying, etc., we will not see a significant change in the number of students facing these mental health problems. We must focus on prevention, which starts at a very young age, and building resilient children.

Our work in this area has been and remains comprehensive in nature. It includes the introduction of intervention strategies that promote positive behaviors, the expansion of our social and emotional learning curriculum and the addition of two division-level mental health support specialists who work with our Signs of Suicide Program and a comprehensive threat assessment program developed after consulting with nationally renowned clinical psychologist Dr. Dewey Cornell.

Moving forward, we will continue to focus on increasing fitness opportunities for students, exceeding Virginia Department of Education School Climate Survey expectations for performance, and maintaining clean facilities.
SAFETY

Students cannot achieve their best unless they feel comfortable, so it is our intention to provide students with a safe haven for the 6.5 hours each day they are with us. This work starts with teachers and staff members, who have been asked to create positive, meaningful relationships with every student.

Each Chesterfield County school has a critical incident and emergency response management plan, which includes prevention, mitigation, response and recovery actions. Each school also has a critical incident team that manages school response to issues affecting students and staff members, as well as a threat assessment team that uses a systematic process to evaluate potential disturbances and develop appropriate responses. In addition, the school division has implemented a variety of strategies to help reduce the number of student infractions that occur and to provide interventions that help keep children in school.

Moving forward, we will continue to focus on reducing student discipline referrals related to physical or emotional safety concerns, reduce the number of on-the-job accidents involving staff members and increase customer service ratings.
IMAGINE TOMORROW
PROFILE OF A CHESTERFIELD GRADUATE

Every middle and high school student in Chesterfield County Public Schools will develop a personal learning plan that aligns academic and career goals with the student's course of study. The development of a student's Academic and Career Plan (ACP) begins in sixth grade and is used as a guide for course selection and student development in subsequent years. (Students who transfer into a Virginia public school after their eighth-grade year shall have an Academic and Career Plan developed upon enrollment.)

ACPs shall include, but are not limited to, the student's program of study for high school graduation and chosen postsecondary career pathway based on the student's academic and career interests. According to the Virginia Department of Education, an ACP is a working document that supports achievement by engaging students in discussions and activities that support college and career readiness in an ongoing manner. Students develop and adjust their plans in collaboration with school professionals and parents who work together to support student academic and career goals.

GRADUATION REQUIREMENTS

According to the Virginia Department of Education's Profile of a Virginia Graduate, life-ready Virginia graduates are able to:

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

CCPS graduates are infinite learners who are able to function in the roles of communicator, collaborator, critical thinker, creator, connector, and citizen. Development of these abilities is an ongoing learning process that takes place in the courses and experiences associated with students' diploma-related graduation requirements. Students have different requirements based on the diploma type they decide to pursue. Different diploma types are associated with different levels of preparation for post-secondary education, training, and employment opportunities after graduation. Work closely with your student's school counselor to monitor your student's progress on graduation requirements.

Included at this link are the full details for the following diplomas:

- Advanced Studies Diploma
- Standard Diploma
- Applied Studies Diploma
- Other Diplomas & Certifications

**Below are some sample questions you may have for your school counselor:**

- Which diploma type is the best fit for my career plan?
- What classes do I need to take for my diploma plan?
- Do I need to complete an industry credential to graduate?
- How do my elective choices connect to my career pathway?
- What state tests (SOL) do I need to pass for my diploma?
- What other questions do I have for my counselor?
MONITORING STUDENT PROGRESS

STUDENTVUE AND PARENTVUE

StudentVUE and ParentVUE allow students and their parents to track attendance and academic progress. Teachers are expected to post assignments and make grades visible to parents and students every two weeks. ParentVUE and StudentVUE apps are available for free from Apple's App Store and Google Play.

Using their Chesterfield County Public Schools network login credentials, students may access their StudentVue account at studentvue.ccpsnet.net. Using a confidential code, parents of students in grades 2-12 may access their ParentVue account at parentvue.ccpsnet.net. (A parent should contact their child's school to receive a code if they do not have one.)

STATE TESTING

As required by federal legislation, yearly testing takes place in grades 3-8 in reading and math. Additional tests are administered in other elementary and middle school areas, as specified by VDOE and local boards. End-of-course tests are administered to students enrolled in any high school credit course for which there is an associated SOL test if needed to satisfy state or federal requirements.

All students enrolled in Virginia public schools are expected to take the applicable state tests. The Virginia Board of Education Regulations Establishing Standards for Accrediting Public Schools in Virginia state: “In kindergarten through eighth grade, where the administration of Virginia assessment program tests are required by the Board of Education, each student shall be expected to take the tests” and “each student in middle and secondary schools shall take all applicable end-of-course SOL tests following course instruction.”

Normally, the Virginia regulations do not provide for what is sometimes referred to as an “opt-out policy” for students regarding the Virginia assessments. If parents refuse to have their student participate in one or more of the required Virginia assessments, they should be aware that their student's state assessment score report would reflect a score of “0” for any test that is refused. There have been some additional options allowed for students due to the COVID pandemic. Schools can advise parents on any applicable options or the impact of options previously exercised.

Student graduation requirements are different based on a student's year of high school entry. A school counselor is a valuable resource in explaining the exact graduation requirements for your students.
# Grading Scales

## Grades K-5 Number Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Student’s performance exceeds standard/expectation, and student consistently produces outstanding work.</td>
</tr>
<tr>
<td>3</td>
<td>Student’s performance meets standard/expectation, and student consistently produces quality work.</td>
</tr>
<tr>
<td>2</td>
<td>Student’s performance is approaching standard/expectation, and student inconsistently applies learned skills.</td>
</tr>
<tr>
<td>1</td>
<td>Student’s performance is below standard/expectation, and student frequently requires re-teaching.</td>
</tr>
<tr>
<td>NA</td>
<td>This skill or concept was not assessed during this grading period.</td>
</tr>
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</table>

## Grades 2-5 Grade Range

<table>
<thead>
<tr>
<th>Letter</th>
<th>Grade</th>
<th>Range</th>
<th>Meaning</th>
<th>GPA</th>
<th>GPA for Honors</th>
<th>GPA for AP/IB/DE Industry Certification*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>90-100</td>
<td>Excellent</td>
<td>4.5</td>
<td>5.0</td>
<td>5.5</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>80-89</td>
<td>Very Good</td>
<td>4.0</td>
<td>4.5</td>
<td>5.0</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>70-79</td>
<td>Satisfactory</td>
<td>3.5</td>
<td>4.0</td>
<td>4.5</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>60-69</td>
<td>Minimal Progress</td>
<td>3.0</td>
<td>3.5</td>
<td>4.0</td>
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<tr>
<td>F</td>
<td></td>
<td>Below 60</td>
<td>Failing</td>
<td>2.5</td>
<td>3.0</td>
<td>3.5</td>
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## Grades 6-12 Grade Range

<table>
<thead>
<tr>
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<th>Range</th>
<th>Meaning</th>
<th>GPA</th>
<th>GPA for Honors</th>
<th>GPA for AP/IB/DE Industry Certification*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
<td>Excellent</td>
<td>4.5</td>
<td>5.0</td>
<td>5.5</td>
</tr>
<tr>
<td>A</td>
<td>90-96</td>
<td></td>
<td>4.0</td>
<td>4.5</td>
<td>5.0</td>
</tr>
<tr>
<td>B+</td>
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<td>3.5</td>
<td>4.0</td>
<td>4.5</td>
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</tr>
<tr>
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<td>2.5</td>
<td>3.0</td>
<td>3.5</td>
</tr>
<tr>
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<td>2.0</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>D+</td>
<td>66-69</td>
<td>Minimum Passing</td>
<td>1.5</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>D</td>
<td>60-65</td>
<td></td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
<td>Failing</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
PROMOTION

Middle school students must pass five subjects (math, science, social studies and language arts and an elective, which can be 2 semester courses) to be promoted to the next grade. Failing a high school credit subject, such as Algebra I or Earth Science, cannot be a barrier to promotion to ninth grade.

Virginia now requires that each middle school student take at least one course related to career exploration (such as Career Investigations).

High school promotion standards are:

- promotion from ninth to 10th grade — 5 credits earned
- promotion from 10th to 11th grade — 11 credits earned
- promotion from 11th to 12th grade — must satisfy the requirements to be a candidate for June graduation

Virginia requires high school students meet additional diploma requirements such as passing an economics and personal finance course, completing an online course experience, etc. Additional information about the state’s graduation requirements is available at

http://www.pen.k12.va.us/instruction/graduation/index.shtml


LOCAL TESTING

Local assessments are determined annually and include testing to serve various purposes, such as measuring growth in reading and mathematics, screening for gifted or special education services, preparing students for college entrance exams, and more. Assessments administered in CCPS may include NWEA MAP Growth Assessments, the Cognitive Abilities Test (CogAT), the Naglieri Nonverbal Ability Test (NNAT), the Preliminary SAT (PSAT), the SAT, and others.
SERVING A DIVERSE COMMUNITY
SERVING A DIVERSE COMMUNITY OF LEARNERS

Children are constantly moving toward their futures, and it is our role to nurture the potential in each child. Who knows how high our students will soar?

Providing equitable opportunities for all students in Chesterfield County is an important component of Imagine Tomorrow, Chesterfield County Public Schools’ dynamic strategic innovation plan.

Understanding that no two students come to our school division with the same baseline of knowledge, the same learning styles or the same learning interest, Chesterfield County Public Schools provides an array of academic services for our students, families and schools. Through this work, parents whose children learn differently are able to find services to help them achieve success.

The course selection process is unique for each student as a plan is developed to increase their access to engaging coursework. Students are not automatically grouped in all classes of the same level. For example, a student could be in an accelerated level mathematics class and a comprehensive level English class.

Chesterfield County Public Schools believes all classwork should be innovative, engaging and relevant for students, and all students should have access to rigorous programs. Our programs that have increased levels of rigor include advanced, honors, accelerated, International Baccalaureate (IB), Dual Enrollment (DE), and Advanced Placement (AP) courses. Courses, such as IB, DE, and AP, have a specific rigorous curriculum determined by external organizations; whereas advanced and honors level courses have the same curriculum but students should expect the following aspects that increase the rigor:

• increased complexity in texts
• increased analysis in oral and written communication
• in-depth investigations
• advanced research expectations
• independent study
• increased pace in which material is covered (e.g. three years of science covered in two years)

If families would like additional information about course rigor or descriptions related to a specific course, they can contact their student’s teachers and school counselor as part of the course selection process.
GIFTED EDUCATION

The Office of Gifted Education recognizes and identifies gifted learners and provides a comprehensive program that:

- delivers an appropriately differentiated instructional program responsive to student ability;
- assists students in actualizing potential to achieve personal success;
- provides a continuum of program service options;
- addresses social and emotional concerns;
- supports an educational environment that challenges gifted learners and enables students to perform at levels of excellence; and
- facilitates the development of self-directed learners and development of talent.

In order for a student to be evaluated for services, a referral form must be submitted by the individual wishing to refer a child. This form is available on the gifted education section of the division website, mychesterfieldschools.com/gifted/.

Parents/guardians, community members, teachers, or students may refer a child for gifted services; private and homeschool students in second grade or higher also may be referred. Forms must be submitted prior to the referral deadline for the child’s current grade level in order to be processed.

Gifted elementary and middle school students are cluster-grouped as appropriate with other identified gifted learners in English, math, social studies, and science. Students in grades 3-8 may further qualify to participate in a Center-Based Gifted program.

Advanced academic needs of gifted high school students are met through honors, Advanced Placement (AP), and dual-enrollment courses self-selected by students. In addition, high school specialty centers and regional governor’s schools exist to serve the different needs of gifted high school students, offering programs that concentrate on various disciplines. Teachers consider readiness, achievement, and interests to modify curriculum and instruction while striving to provide appropriate challenge.

DUAL IMMERSION

Some Chesterfield County Public Elementary Schools offer Dual Immersion programs. In Dual Immersion classes, students are taught literacy and content, such as math and science or social studies, in two languages, which leads to biliteracy, bilingualism, and increased intercultural competence.
SPECIAL EDUCATION AND 504 PLANS

Chesterfield County Public Schools maintains an active and continuing Child Find program to identify children with disabilities who may require special education services or Section 504 accommodations. Procedures include screening, referral, evaluation, and eligibility determination.

Students who are found eligible for special education services are provided specialized instruction and related services according to individualized education programs (IEPs) governed through federal and state regulations and division procedures. Section 504 of the Rehabilitation Act of 1973 ensures that supports are in place for students who have a physical or mental impairment that substantially limits one or more major life activities.

Students with disabilities receive specialized instruction to meet their individual needs in order to access the general education curriculum. This specially designed instruction is described in the student’s individualized education program (IEP) and is provided to the student in the least restrictive environment.

For students receiving special education services, placement in programs, such as CCPSOnline, Carver College and Career Academy, Early College Academy, regional governor's schools, Career and Technical education, or GED Preparation program is an IEP team decision. The IEP Team must meet to determine if the placement is appropriate and what, if any, services, modifications, accommodations and supports are required in order to access the curriculum in such programs.

Students with disabilities may participate in all school activities. The diploma type a student earns is based on the completion of curriculum and assessment requirements and/or individualized education programs.
ENGLISH AS A SECOND LANGUAGE

The English as a Second Language program is provided to all students who are designated as English Learners (ELs) in grades K-12 in all schools. Aligned with the Virginia Department of Education, Chesterfield County Public Schools reviews and maintains specific requirements, which are listed below, to ensure that English learners have access to equal educational opportunities.

- Identify and assess EL students in need of language assistance in a timely, valid, and reliable manner;
- Provide EL students with a language assistance program that is educationally sound and proven successful;
- Sufficiently staff and support the language assistance programs for EL students;
- Ensure EL students have equal opportunities to meaningfully participate in all curricular and extracurricular activities, including the core curriculum, graduation requirements, specialized and advanced courses and programs, sports, and clubs;
- Avoid unnecessary segregation of EL students;
- Ensure that EL students with disabilities under the Individuals with Disabilities Education Act (IDEA) or Section 504 are evaluated in a timely and appropriate manner for special education and disability-related services and that their language needs are considered in evaluations and delivery of services;
- Meet the needs of EL students who opt out of language assistance programs;
- Monitor and evaluate EL students in language assistance programs to ensure their progress with respect to acquiring English proficiency and grade level core content, exit EL students from language assistance programs when they are proficient in English, and monitor exited students to ensure they were not prematurely exited and that any academic deficits incurred in the language assistance program have been remedied;
- Evaluate the effectiveness of a school district’s language assistance program(s) to ensure that EL students in each program acquire English proficiency and that each program was reasonably calculated to allow EL students to attain parity of participation in the standard instructional program within a reasonable period of time; and
- Ensure meaningful communication with LEP parents.
PRE-KINDERGARTEN

Chesterfield County Public Schools offers pre-kindergarten at several elementary schools and a new pre-K center, to provide school readiness skills to eligible children with the greatest need. Children who will be four years old by Sept. 30 and who live in the school’s attendance zone may apply for prekindergarten. There are no exceptions to age and residency requirements. Prekindergarten is offered at these elementary school buildings:

- Bon Air Elementary
- Chalkley Elementary
- Crenshaw Elementary
- Crestwood Elementary
- A.M. Davis Elementary
- Ettrick Elementary
- Falling Creek Elementary
- Hening Elementary
- Hopkins Elementary
- Jacobs Road Elementary
- Matoaca Elementary
- Providence Elementary
- Reams Road Elementary

In addition, beginning in the 2021-22 school year, the Chester Early Childhood Learning Academy will serve pre-kindergarten students from 12 elementary schools: Bellwood, Bensley, Beulah, Curtis, Ecoff, Enon, Gates, Harrowgate, Marguerite Christian, Salem Church, Elizabeth Scott and Wells.
NON-TRADITIONAL OPTIONS

YEAR-ROUND SCHOOL

Chesterfield County Public Schools has two year-round schools: Bellwood and Falling Creek elementary schools.

Numerous studies indicate that children living in poverty can benefit from a balanced instructional calendar. Learning loss during an extended three-month summer break, which research supports as a major cause of the achievement gap between high- and low-income students, can be reduced or eliminated through more frequent remediation (Gandara & Fish, 1994; Kneese & Knight, 1995; Quinlan, et al., 1987).

Benefits, however, are not limited to low-income students. Year-round instruction benefits students who are limited-English speaking by giving them extra opportunities to continue learning their second language (Ballinger, 1998) and more continuous exposure to formal English language use and instruction. Special needs students are also shown to benefit through access to timely remediation (Curry, Washington, & Zyskowski, 1997), and all children can benefit from continued academic support, access to regular meals, physical activity and opportunities for enrichment.

The balanced calendar for Bellwood and Falling Creek is designed to parallel the traditional school division calendar as closely as possible. Winter and spring breaks coincide with the rest of the county’s schools, and the summer intersession begins on the same day as other schools’ break for summer vacation. Students at Bellwood and Falling Creek attend school for the same 180 instructional days as other CCPS students, but those 180 days are evenly spaced throughout the calendar year. Four nine-week instructional quarters are separated by breaks of approximately three weeks. These shorter and more frequent breaks replace the traditional summer vacation. The breaks offer the opportunity to provide remediation and continuing academic support to targeted students during “intersessions.”

The goal is to diminish the learning loss that can occur over the long summer break, as well as reduce the time needed for review at the beginning of the traditional school year. Intersession services are offered in a tiered approach based on student need: intensive remediation, general academic support, and/or enrichment.

SUMMER SCHOOL

An opportunity for extended time, increased learning and greater success! The primary purpose of Summer Programs is to provide ongoing instruction to students who need assistance or who are seeking enrichment opportunities beyond the school year.

Visit https://mychesterfieldschools.com/curriculum/summer-programs/ to learn more.
The CCPSOnline program provides families of middle and high school students with a flexible alternative to the traditional school setting. Courses are taught by teachers licensed in the content areas. Students have opportunities to interact with the teacher and peers throughout the course, but do not follow a daily bell schedule. Students can interact with the course and course content anytime, anywhere. CCPSOnline helps to serve these needs:

- Provides a high school diploma program for students with a talent and motivation for academic success, but are unable to fulfill their goals in a traditional high school
- Provides middle school courses for students with a talent and motivation for academic success, but are unable to fulfill their goals in a traditional middle school
- Provides an opportunity for a student to accelerate and free space in the schedule for advanced coursework, specialty center program, or career and technical education program
- Provides a course or courses for students moving to the division from schools whose schedules are not compatible and, therefore, are unable to schedule classes in the traditional manner
- Provides additional courses which allow a student to become current with the appropriate grade level
- Provides courses for students who prefer and/or are more successful taking online courses.
- Home school/private school students may enroll in a maximum of two courses per year, space permitting.

CCPSOnline is approved by the Virginia Department of Education to be a multidivisional online provider. Students residing outside of Chesterfield County may take up to two online courses during the regular school year by paying tuition.

For more information about CCPSOnline, please visit our website at https://mychesterfieldschools.com/ccpsonline/

HOME SCHOOLING

The home instruction specialist of Chesterfield County Public Schools is available to help with the steps necessary to legally provide home instruction (sometimes referred to as homeschooling) for students. This information is designed to help parents through the process in order to ensure that students have the necessary resources for a successful home instruction experience.

CARVER COLLEGE AND CAREER ACADEMY

The school’s goal is to prepare every student for transition into post-secondary life whether that means higher education, the military or a good paying job. Students receive a personalized education plan that emphasizes academic rigor, character development, career and technical education and workplace readiness. The school provides an education that is relevant while meeting all graduation requirements for either a Standard or Advanced Studies Diploma, through:

- Small class sizes in all of our courses including honors, college-level dual enrollment and Advanced Placement courses
- Unique electives only found at the Carver Academy
- A personalized learning plan based on college and career interests
- Opportunities for job shadowing, internships or a college experience during the senior year
- Certifications that verify competence and readiness for a career in demand by business and industry

ACADEMY 360

A one-year opportunity for overage middle school students who have been retained at least once, this program offers students the opportunity to complete middle school requirements while earning high school credits to get back on track for graduation. There is small-group instruction, YCAPP services, Mega Mentors, Positive Behavior Interventions and Supports and restorative practices. A no-cell phone policy is enforced. Transportation is provided from students’ home schools to the Career and Technical Center @ Hull for full-day instruction. Student referrals will be evaluated from middle school counselors in the spring for the following school year.

NIGHT SCHOOL

Night school is an opportunity for high school students to repeat a course or take a new course for credit. All courses are free, and registration must be coordinated through the home high school counselor. Night School meets at Carver College and Career Academy (12400 Branders Bridge Road in Chester) from 5-9 p.m. Attendance requirements are strict, with withdrawals after five absences. Students provide their own transportation.

EARLY COLLEGE ACADEMY

An Early College Academy (ECA) is a high school program where interested and motivated students can complete a sequence of college-credit courses that will also count for high school graduation and earn college credit simultaneously. Upon successful completion of sufficient ECA courses, students will earn an Associate of Science Degree in General Studies from John Tyler Community College. Students can actually graduate from John Tyler Community College before they graduate from high school!
GED PREPARATION

Our mission, in partnership with students, families and the community, is to set high expectations and to instill the desire in students to pursue the knowledge and life skills necessary to achieve personal and professional success. By so doing, our goal is to prepare students to become contributing members of society and to enter the career of their choice. The Secondary Education GED preparation programs provide an option for those students, 18 years of age and younger, who require a nontraditional program because they are academically at risk and/or a potential dropout.

THE PHOENIX CENTER

The Phoenix Center provides opportunities to learn in a non-traditional high school setting. We have committed professionals who create individualized learning plans for each student to reach their full potential. To be considered for any of these programs, a student must express interest to their home school counselor who will assist them with filling out a referral. Once accepted, an entry meeting will be scheduled with a Phoenix Center staff member to determine the most appropriate placement. Transportation is provided to the Career and Technical Center @ Courthouse and Carver College and Career Academy Campus. There are three options for students at our CTC@Courthouse campus: remediation, online coursework and credit recovery.

ADULT CONTINUING EDUCATION

Chesterfield County Public Schools commitment to alternative education supports building on the strengths and experiences of the past while thoughtfully and consistently adapting for the future. Research on best practices are applied to develop programs such as GED preparation, work force courses, and ESL support, to meet the needs of students in the 21st century.
Appomattox Regional Governor’s School for the Arts and Technology is a regional high school that provides a unique opportunity for students with similar interests and abilities to pursue excellence in one of these focus areas:

- Dance
- Instrumental music
- Literary arts
- Technology
- Theatre arts (theatre, musical theatre, and technical theatre)
- Visual arts
- Vocal music

Eighth grade students apply in the fall through the CCPS online application portal available at www.cccpsopportunities.com/. Students who are residents of Chesterfield County but attend a nonpublic school must provide proof of residency. The deadline for applications is typically in late November or early December.

In order to be eligible to apply, students must:

- Be in eighth grade.
- Live in Chesterfield County (must be the location of their primary residence).
- Be enrolled in Algebra I or a higher-level math course during their eighth-grade year. (Students must also successfully pass the course for high school credit prior to enrollment.)
- Have at least a B grade average for the four core subjects at the end of the seventh-grade year. Students who do not have at least a B average who would like to be considered as an applicant due to special circumstances must provide a letter of explanation with their application.

Chesterfield County Public Schools establishes an applicant pool from ranking the composite scores generated from the ARGS regional application evaluation process. Scores are ranked highest to lowest and by focus area. Chesterfield County Public Schools offers admission to top qualifying applicants in each focus area based upon the composite score and number of slots available in each focus area.

For additional information, visit the ARGS website at www.args.us.
MAGGIE L. WALKER GOVERNOR’S SCHOOL FOR GOVERNMENT & INTERNATIONAL STUDIES (MLWGS)

Maggie L. Walker Governor’s School is a regional high school that offers a comprehensive college preparatory curriculum that includes multiple course options in government, international studies, science, mathematics, world languages, and fine arts.

Eighth grade students apply during the fall through the CCPS online application portal available at www.ccpsopportunities.com/. Students who are residents of Chesterfield County but attend a nonpublic school must provide proof of residency. The deadline for applications is typically in late November or early December.

- In order to be eligible to apply, students must:
  - Be in eighth grade.
  - Live in Chesterfield County (must be the location of their primary residence).
  - Be enrolled in Algebra I or a higher-level math course during their eighth-grade year. (Students must also successfully pass the course for high school credit prior to enrollment.)
  - Have at least a B grade average for the four core subjects at the end of the seventh-grade year. Students who do not have at least a B average who would like to be considered as an applicant due to special circumstances must provide a letter of explanation with their application.

Chesterfield County Public Schools establishes an applicant pool from ranking the composite scores generated from the MLWGS regional application evaluation process. Chesterfield County Public Schools offers admission to the top qualifying applicants from each middle school from the division-level ranking based upon the composite score.

For additional information, visit the MLWGS website at www.gsgis.k12.va.us.
CODERVA REGIONAL HIGH SCHOOL

CodeRVA Regional High School provides an innovative learning environment that uses blended and project-based learning to develop students’ self-management skills while integrating academic content, agile workplace methodologies, and internship experiences that provide a pipeline of critical thinkers prepared to enter college or Richmond’s growing tech sector.

As there is a significant workforce gap in the computer science and technology fields, new generations of students are becoming interested in all of the newest fields of the technology workforce, CodeRVA seeks to prepare students in central Virginia to fill the over 36,000 unfilled computer-science related positions in Virginia.

CodeRVA's design builds on next generation high school models across the nation that rethink the use of time and space, leverage technology to personalize and accelerate learning, and redesign curriculum to align with competency-based progressions. Focused on computer science, the school offers the opportunity to complete high school requirements through a combination of blended (online and face-to-face) learning, integrated coursework, and project-based learning. CodeRVA students are provided an opportunity to graduate with a Virginia high school diploma, an associate’s degree from the community college system, industry certifications, and potentially as much as 400 hours of work experience in computer science-related fields.

There are no admissions criteria or academic prerequisites to apply to CodeRVA. However, only current eighth grade students may apply each year. Students are selected through an independently-operated lottery system that ensures diversity reflective of the Richmond region. Applications for CodeRVA are made available through the school’s website in early January.

For additional information, visit the CodeRVA website at coderva.org.
PREKINDERGARTEN

LITERACY

PreK children are provided quality opportunities to interact with responsive adults and peers in language and print-rich environments with varied and frequent language experiences, including listening and telling stories, reading aloud frequently throughout the school day, rereading familiar texts, and providing repeated opportunities to write. These experiences allow students to make connections and interact with the world around them by developing listening and speaking skills, phonological awareness, letter knowledge and print awareness, comprehension, vocabulary, word knowledge, and writing skills that foster ongoing academic success.

MATHEMATICS

PreK children are natural learners and construct mathematical ideas based on their experiences with the environment, interactions with adults and other children, and daily observations. Children approach problem-solving tasks with curiosity and a sense of experimentation. Appropriate instruction encourages children’s thinking and nurtures their explorations and ideas through concepts of number, pattern, measurement, shape, space, and classification.

SCIENCE

PreK children’s natural curiosity provides the basis for understanding and using science processes and practices. Students study patterns of weather, changes when substances are combined and plant growth as they are introduced to the concept of change. The significance of natural resources and conservation also is introduced.

HISTORY AND SOCIAL STUDIES

PreK students interact with their surroundings in an effort to foster students’ understanding of history, geography, civics, and economics. The purpose of history and social science is to enable our PreK students to understand and participate effectively in their world.

HEALTH AND PHYSICAL DEVELOPMENT

PreK children have a natural desire to learn about their environment through touch and manipulation. Gross and Fine Motor activities are an integral part of the curriculum and are provided through outdoor and indoor opportunities. Students take an active role in developing healthy habits by learning how to follow basic safety rules, differentiating between safe and unsafe situations, identifying feelings, cooperating with others, and taking care of personal hygiene tasks.

PERSONAL AND SOCIAL DEVELOPMENT

PreK children are learning about themselves and others in a supportive environment that provides an important foundation for executive function skills and personal and social growth. Social experiences foster children’s personal and social development through mastery involving cognition, language, emotions, and perception. Students learn how to interact with others both verbally and nonverbally in social situations.
KINDERGARTEN

READING
Students in kindergarten are immersed in a text-rich environment to develop phonological awareness, phonemic awareness, vocabulary, comprehension, and an appreciation for reading. Students will learn to comprehend and think creatively as they relate stories through drama, retelling, drawing, and their own writing. Teachers will encourage the development of reading skills that are foundational to effective comprehension and critical thinking.

WRITING
Students will begin to build a connection between oral and written language. Awareness that spoken language can be written and written language can be read is a fundamental concept in communicating ideas. Teachers will encourage the development of writing skills that are foundational to effective written communication and critical thinking.

MATHEMATICS
Kindergarten mathematics places emphasis on developing the concept of number by counting, combining, sorting, and comparing sets of objects. Students will recognize, describe, and create patterns and recognize shapes and sizes of figures and objects. Students will investigate measurement through direct comparisons, collect data, and create graphs.

SCIENCE
The kindergarten standards emphasize the theme of “Using My Senses to Understand My World.” Students use their senses to make observations of the characteristics and interactions of objects in their world. Topics include: the study the characteristics of water, the basic needs of living things, relationships between the sun and Earth through shadows and weather, changes in motion, scientific method and the design process.

SOCIAL STUDIES
The kindergarten social studies curriculum includes an introduction to interesting Americans in history whose lives demonstrated the virtues of patriotism, courage, and kindness. Students should learn basic concepts related to history, patriotism, national symbols, good citizenship, geographic location, economics, and the importance of following rules and respecting the rights and property of other people.
FIRST GRADE

READING

Students in first grade are immersed in a text-rich environment to develop phonological awareness, phonetic skills, vocabulary, comprehension, and to use reading materials as sources of information and enjoyment while increasing vocabulary and comprehension strategies through cross-content reading. Teachers will encourage the development of reading skills that are foundational to effective comprehension and critical thinking.

WRITING

Students will be given daily opportunities to write in a variety of forms to communicate ideas. With teacher guidance and support, they will also begin to revise and edit selected pieces of their writing for a specific audience. Teachers will encourage the development of writing skills that are foundational to effective written communication and critical thinking.

MATHEMATICS

First-grade mathematics places emphasis on counting, comparing, and ordering sets of up to 110 objects; recognizing and describing simple repeating and growing patterns; and tracing, describing, and sorting plane figures. Students’ understanding of number is expanded through recognizing and describing part-whole relationships for numbers up to 10, solving story and picture problems using addition and subtraction within 20; using nonstandard units to measure; and organizing and interpreting data.

SCIENCE

The first-grade standards emphasize the theme of “How I Interact with My World.” Students continue to learn about the basic needs of all living things and that living things respond to factors in their environment, including weather and the change of seasons. They continue the examination of matter by observing physical properties and how materials interact with light. Students also are introduced to scientific process skills and the design process.

SOCIAL STUDIES

The first-grade social studies curriculum includes an introduction to the lives of leaders in the history of Virginia and their contributions to the Commonwealth. Students should develop basic map skills and study the economic concepts of goods and services, consumers and producers, and making economic choices. Students should learn to apply the traits of a good citizen and recognize that communities in Virginia have local governments.
SECOND GRADE

READING

Students in second grade will be immersed in an environment filled with fiction and nonfiction texts, which relate to all content areas and personal interests. Students will expand vocabulary, use a combination of strategies when reading, and read familiar selections with fluency, accuracy, and expression. Teachers will encourage the development of reading skills that are foundational to effective comprehension and critical thinking.

WRITING

Students will be given daily opportunities to write and will be expected to revise selected pieces and share them with others. Students will understand writing as a process and will write in a variety of forms applying written communication skills across all content areas. Teachers will encourage the development of writing skills that are foundational to effective written communication and critical thinking.

MATHEMATICS

Second-grade mathematics extends the study of number and spatial sense to include three-digit whole numbers and solid geometric figures. Students will continue to learn, use, and gain proficiency in addition and subtraction within 20. Students will begin to use U.S. Customary units to measure length and weight; predict and use simple probability; create and interpret pictographs and bar graphs; and work with a variety of patterns.

SCIENCE

The second-grade standards continue to focus on scientific process skills and the engineering design process. Living systems are introduced through habitats and the interdependence of living and nonliving things. Concept of change is explored in phases of matter, life cycles, weather patterns, and seasonal effects on plants and animals.

SOCIAL STUDIES

The second-grade social studies curriculum includes an introduction to the lives of Americans and their contributions to the United States as well as the heritage of the American Indians, past and present. Students should continue developing map skills and demonstrate an understanding of basic economic concepts. The students will identify selected American individuals who have worked to improve the lives of American citizens.
THIRD GRADE

READING
Students in third grade will read a variety of fiction and nonfiction texts, which relate to all content areas and personal interests while developing strategic reading skills, such as word analysis and construction of meaning from text. Students will continue to use comprehension strategies to compare and contrast story elements and differentiate between fiction and nonfiction. Teachers will encourage the development of reading skills that are foundational to effective comprehension and critical thinking.

WRITING
Students will use the writing process to plan, draft, revise, and edit writing in a variety of forms. Student writing will become more complex, and students will learn to select details to elaborate on the main idea of a paragraph. Teachers will encourage the development of writing skills that are foundational to effective written communication and critical thinking.

MATHEMATICS
Third-grade mathematics places emphasis on exploring multiplication and division concepts as well as the basic addition facts and subtraction facts. Concrete materials and two-dimensional representations will be used to introduce addition and subtraction with fractions and the concept of probability as chance. Students will investigate polygons and identify relevant properties of points, line segments, rays, angles, vertices, and lines.

SCIENCE
The third-grade standards place increasing emphasis on conducting scientific investigations. Students will focus on: simple and compound machines, energy, matter, food chains, ecosystems, and behavioral and physical adaptations of animals. Also, patterns in the natural world are explored and geological concepts are introduced through the investigation of the components of soil.

SOCIAL STUDIES
The third-grade social studies curriculum includes an introduction to the heritage and contributions of the peoples of ancient China, Egypt, Greece, Rome, and the West African empire of Mali. Students will examine the social, cultural, and political characteristics of major ancient world cultures. Students will recognize that many aspects of ancient cultures served as the foundation for modern governments, customs, traditions, and perspectives.
FOURTH GRADE

READING
In fourth grade, there is an increased emphasis on reading comprehension by comparing fiction and nonfiction texts, identifying cause-and-effect relationships, and differentiating between fact and opinion. Students will expand vocabulary using knowledge of roots, affixes, synonyms, antonyms, and homophones. Teachers will encourage the development of reading skills that are foundational to effective comprehension and critical thinking.

WRITING
Students will use the writing process to plan, draft, revise, and edit writing in a variety of forms to include narrative, descriptive, opinion, and expository. They will select and narrow a topic, develop a plan for writing, and organize information into several paragraphs with a central idea and supporting details. Teachers will encourage the development of writing skills that are foundational to effective written communication and critical thinking.

MATHEMATICS
Fourth-grade mathematics places emphasis on multiplication and division with whole numbers and solving problems involving addition and subtraction of fractions and decimals. Students will be fluent in the basic multiplication facts through the twelves table and the corresponding division facts as they become proficient in multiplying larger numbers. Students also will refine their estimation skills for computations and measurements.

ACCELERATED MATHEMATICS
Fourth-grade accelerated mathematics places emphasis on multiplication and division with whole numbers and solving problems involving addition and subtraction of fractions and decimals. Students will be fluent in the basic multiplication facts through the twelves table and the corresponding division facts as they become proficient in multiplying larger numbers. Students will identify and describe representations of points, lines, line segments, rays, and angles, including endpoints and vertices.

SCIENCE
In fourth-grade science, students learn where we fit in this solar system. Starting with the solar system, and then moving to the planet Earth, the Commonwealth of Virginia, and finally their specific ecosystems, students examine how features of plants and animals support life.

SOCIAL STUDIES
The Virginia Studies curriculum allows students to develop a greater understanding of Virginia’s rich history. Geographic, economic, and civic concepts are presented within this historical context. Students will use geographic tools to examine the influence of physical and cultural geography on Virginia history. Ideas that form the foundation for political institutions in Virginia and the United States also will be included as part of the story of Virginia.
FIFTH GRADE

READING

In fifth grade, there is an emphasis on reading comprehension by comparing fiction and nonfiction texts. Fifth grade instruction emphasizes nonfiction reading; students will identify authors’ organizational patterns and use texts to support opinions and conclusions and continue to expand vocabulary using knowledge of roots, affixes, synonyms, antonyms, and homophones. Teachers will encourage the development of reading skills that are foundational to effective comprehension and critical thinking.

WRITING

Students will continue to develop as readers and writers as they write in a variety of forms including narrative, descriptive, expository, and persuasive while writing multi paragraph compositions including evidence to inform or persuade an audience. Precise and descriptive vocabulary and varied sentence structure will become important tools for creating tone and voice within a text. Teachers will encourage the development of writing skills that are foundational to effective written communication and critical thinking.

MATHEMATICS

Fifth-grade mathematics places emphasis on number sense with whole numbers, fractions, and decimals. This focus includes concepts of prime and composite numbers, identifying even and odd numbers, and solving problems using order of operations for positive whole numbers. Students will develop proficiency in the use of fractions and decimals to solve problems. Students will collect, display, and analyze data in a variety of ways and solve probability problems, using a sample space or tree diagram.

ACCELERATED MATHEMATICS

Fifth-grade accelerated mathematics emphasizes rational numbers and algebraic concepts. Students will use ratios to compare data sets; recognize decimals, fractions, and percents as ratios; solve single-step and multistep problems, using rational numbers; and gain a foundation in the understanding of integers. Students will solve linear equations and use algebraic terminology and work with π (pi), focus on applications of statistics, explore the coordinate plane and apply proportions to solve practical problems.

SCIENCE

The fifth-grade standards focus on student growth in understanding the nature of science. Science skills from preceding grades, including questioning, using and validating evidence, and systematic experimentation, are reinforced at this level. Students are introduced to more detailed concepts of sound and light, matter, cellular makeup of organisms, and characteristics of the oceans and Earth’s changing surface.

SOCIAL STUDIES

The World Studies curriculum is county created and serves as a bridge between the study of the ancients in third grade and the world history courses in high school. Students will study Africa, the Americas, Asia, Europe and the Middle East. The content is international in scope, with an emphasis on geography and history along with economic development, political systems, and current world issues from selected countries.
RESOURCE

ART

Visual Arts enable students to use their knowledge and skills to synthesize information, thus allowing them to produce and respond to works of art. Emphasis is on communication of personal values and beliefs in art appreciation and production. Students gain fluency in using and understanding the elements of art (color, form, line, shape, space, texture, value) and the principles of design (balance, contrast, emphasis, movement, pattern, proportion, rhythm, unity, variety) as they relate to artistic expression and communication.

HEALTH & PHYSICAL EDUCATION

Students develop proficiency in games, dances, and educational gymnastics while demonstrating specialized skills alone, with a partner, or in a small group. They access and use resources to improve personal fitness and continue to develop responsible personal and social behaviors as they work with others in safe and respectful ways.

LIBRARY

During weekly library visits, students will experience lessons that focus on multiple literacies integrated into grade level core content. Literacies such as reading, digital, information, and multimodal are immersed with the National School Library Standards defined by the American Association of School Librarians. Students will also have the opportunity to check out books from the school library each week.

MUSIC

The standards for General Music enable students to use their music knowledge and skills to synthesize information and create music. Students continue to read, write, and compose music, using increasingly complex rhythms and meters and they begin to develop choral skills, including singing in two-and three-part harmony. Students explore and perform a variety of music styles and develop personal criteria to be used for describing and analyzing musical performances.

STEAM

Students will master integrating science, technology, engineering, arts, and mathematics (STEAM) content, practices, and processes to investigate and solve real world problems while engaging in meaningful, purposeful, and relevant hands-on inquiry-based, problem-based and/or project-based learning experiences. Also offered in a few schools is a version of STEAM where the program is taught in both English and Spanish.

WORLD LANGUAGE

Listening and speaking are practiced through four themes throughout the year. Students communicate in French at the survival level in basic language functions such as talking about school, ways of moving, self, family, holidays and leisure activities. Math, science and social studies integrations are included when appropriate. At the end of the year, students can ask and answer questions, initiate and respond to simple statements, and maintain a brief conversation in a very restricted manner. Insofar as possible, the class is conducted in the target language.

*Not all resource classes are offered at every elementary school.
SECONDARY EDUCATION
SECONDARY COURSE SEQUENCES

In addition to required courses, this Program of Studies publication contains a complete list of electives offered within Chesterfield County Public Schools. Not all electives or levels are available at each school. Each school’s elective offerings are based on student interest and any specialized programming or facilities needs. For all courses listed in the school’s offerings, however, this guide contains the course description and the listing of all prerequisites.

Course Offering Availability:

O – Standard
H – Honors
D – Dual Enrollment
E – Online
I – International Baccalaureate
C – Comprehensive
W – Cooperative Education
P – Private Placement

*Sample Progressions for Content Areas of English/Language Arts, Mathematics, Science, and History/Social Studies

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>English</th>
<th>Mathematics</th>
<th>Science</th>
<th>Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>English 6</td>
<td>Math 6 or Middle School Math 1</td>
<td>Science 6 or Science Systems I</td>
<td>Social Studies 6 (U.S. History to 1865)</td>
</tr>
<tr>
<td>7</td>
<td>English 7</td>
<td>Math 7 or Middle School Math 2</td>
<td>Life Science or Science Systems II</td>
<td>Social Studies 7 (U.S. History: 1865 to the Present)*</td>
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<tr>
<td>8</td>
<td>English 8</td>
<td>Algebra 1 or Geometry</td>
<td>Physical Science or Earth Science</td>
<td>Social Studies 8 (Civics and Economics)</td>
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<tr>
<td>9</td>
<td>English 9</td>
<td>Geometry or Algebra II</td>
<td>Biology or courses from any science discipline: Earth Science courses</td>
<td>World History &amp; Geography to 1500 or World Geography</td>
</tr>
<tr>
<td>10</td>
<td>English 10</td>
<td>Algebra II or Algebra, Functions &amp; Data Analysis (AFDA) or upper level math</td>
<td>Biology courses, Chemistry courses, Earth Science courses</td>
<td>World History &amp; Geography 1500 to Present</td>
</tr>
<tr>
<td>11</td>
<td>English 11</td>
<td>Upper level math course options</td>
<td>Physics courses</td>
<td>US and VA History</td>
</tr>
<tr>
<td>12</td>
<td>English 12</td>
<td>Upper level math course options</td>
<td></td>
<td>US and VA Government</td>
</tr>
</tbody>
</table>

* This Course Sequence displays possible progressions of the courses a student may take in the four core content areas. These progressions are by no means the only options for CCPS students. Other courses and varying levels of differentiated instruction are offered in each grade. Please see the Secondary School Course Descriptions section of this book for information about the courses listed here and to learn about Honors levels, AP, Dual Enrollment, and other accelerated coursework. In addition, many elective courses are offered in every core content area. Please see the Specialty Centers Course Descriptions and Secondary School Course Descriptions sections of this book and check with school counselors to learn about courses offered at your school.
MIDDLE SCHOOL ENGLISH LANGUAGE ARTS

EN106C ENGLISH 6
EN106H HONORS ENGLISH 6
Full year
Language Arts 6 emphasizes skill and strategy development in reading, writing, research, vocabulary, and oral communication. Students will read and apply skills and strategies to comprehend selections of fiction, nonfiction, poetry, and drama. Writing will encompass narrative, expository, and persuasive forms for a variety of purposes and audiences.

EN107C ENGLISH 7
EN107H HONORS ENGLISH 7
Full year
Language Arts 7 continues an emphasis on skill and strategy development in reading, writing, research, vocabulary, and oral communication. Students will read and apply skills and strategies to comprehend selections of fiction, nonfiction, poetry, and drama. Writing will encompass narrative, expository, and persuasive forms for a variety of purposes and audiences.

EN108C ENGLISH 8
EN108H HONORS ENGLISH 8
Full year
Language Arts 8 continues an emphasis on skill and strategy development in reading, writing, research, vocabulary, and oral communication. Students will read and apply skills and strategies to comprehend selections of fiction, nonfiction, poetry, and drama. Writing will encompass narrative, expository, and persuasive forms for a variety of purposes and audiences.

EN061O STRATEGIC READING 6
EN071O STRATEGIC READING 7
EN081O STRATEGIC READING 8
Full year
Strategic Reading offers students the chance to learn and practice reading strategies through teacher modeling, cooperative learning, and independent practice while improving fluency, reading comprehension, vocabulary, listening comprehension, and writing skills. This course lays a foundation for the school division’s English curriculum.

EN083H HONORS FUTURE PROBLEM SOLVERS
Full year
While this course may vary slightly from school to school, the design is to familiarize students with the characteristics and styles of leadership and develop skills that can then be applied first at school and later in independent or collaborative service projects, depending on grade level.

EN091O ART AND LANGUAGE ART WORKSHOP
Grades 6-8
Full year
This class is designed to build connections between English and the Visual Arts. Each project incorporates both the art and English curriculum. We strive for an equal blend of studio time, with the goal of improving their artistic skills, and English lessons, with the goal of improving their reading and writing skills. (This is not a replacement for English; it is an elective class).
EN085O PUBLIC SPEAKING AND DEBATE
Full year
Students will learn the fundamentals of public speaking and various types and techniques associated with public speaking. Students are expected to be a member in the National Speech and Debate Association, pay a $30 course fee, and participate in a minimum of two public speaking or debate tournaments each semester. (Teacher or counselor recommendation only)

EN146O READING WORKSHOP 6
EN147O READING WORKSHOP 7
EN156O READING WORKSHOP
Full year
In this course, students will receive additional in-depth instruction and practice to improve upon reading deficiencies with the goal of improving vocabulary and reading comprehension. EN1460 uses Read 180 curriculum.

EN149H HONORS ADVANCED WRITING WORKSHOP
Semester
This one-semester elective is designed to enhance writing skills for honors level Language Arts students in Grade 8 for both the writing process and traits of writing across various genres.

EN157H HONORS WRITING EXPLORATION
Full year
In this course, students will receive instruction and practice to improve upon knowledge and skills related to the process and traits of writing, while also exploring creativity.

EN056O WRITING EXPLORATION
EN056H HONORS WRITING EXPLORATION
Semester
In this course, students will receive additional in-depth instruction and practice to improve upon writing deficiencies with the goal of improving ideas, organization, voice, word choice, conventions, and sentence fluency.

EN159O ADVANCED WRITING WORKSHOP
EN159H HONORS ADVANCED WRITING WORKSHOP
Full year
course is designed to enhance writing skills for honors level Language Arts students in both the writing process and traits of writing across various genres.

EN160O PUBLICATIONS
Full year
This elective course requires that students work consistently on publications. Students learn to write and self-edit both objective and subjective pieces aimed at a specific audience for publication.
EN193O STUDY SKILLS GRADE 7
EN194O STUDY SKILLS GRADE 8
Semester
This course is designed for students who need reinforcement in learning skills. Course objectives provide specific learning strategies to assist students in improving classroom practices such as test taking and note taking abilities as well as increasing comprehension and refining organizational skills.

EN256H HONORS WRITING WORKSHOP 6
EN257H HONORS WRITING WORKSHOP 7
Full year
This elective course is designed to enhance writing skills for honors level Language Arts students for both the writing process and traits of writing across various genres.
HIGH SCHOOL ENGLISH LANGUAGE ARTS

EN109C ENGLISH 9
Full year
One credit
Students will read and apply skills and strategies to comprehend selections of fiction, nonfiction, poetry, and drama. They will also work to develop extensive vocabulary knowledge and skills with attention to connotations, idioms, and allusions, along with knowledge of literary terms and genres to be applied in the student’s own writing. Writing will encompass narrative, expository, and persuasive forms for a variety of purposes and audiences. An emphasis on research and oral communications is also integral to this course.

EN109H HONORS ENGLISH 9
Full year
One credit
In addition to the basic reading comprehension, writing, research, and oral communications skills, the honors class will challenge students who already possess advanced English skills with a higher level of rigor designed to prepare students for comprehending more complex text selections independently with a heavy emphasis on writing that includes literary analysis and persuasion.

EN110C ENGLISH 10
Full year
One credit
Students will continue to read and apply skills and strategies to comprehend and analyze selections of fiction, nonfiction, poetry, and drama. Students will draw conclusions and make inferences citing textual support. Writing will encompass persuasive and analytical forms for a variety of purposes and audiences and emphasizes research and oral communications. The bodies of literature for grades 10, 11, and 12 are interchangeable and may be taught in any of these grades.

EN110H HONORS ENGLISH 10
Full year
One credit
In addition to the basic reading comprehension, writing, research, and oral communications skills, the honors class will challenge students who already possess advanced English skills with a higher level of rigor designed to prepare students for comprehending more complex text selections independently with a heavy emphasis on writing that includes analysis and persuasion. The bodies of literature for grades 10, 11, and 12 are interchangeable and may be taught in any of these grades.

EN111C ENGLISH 11
Full year
One credit
Students will continue to read and apply skills and strategies to comprehend selections of fiction, nonfiction, poetry, and drama, drawing conclusions and making inferences citing textual support. Writing will encompass persuasive, analytical, and argumentative forms for a variety of purposes and audiences, with a continued emphasis on research and oral communications, is also integral to this course. The bodies of literature for grades 10, 11, and 12 are interchangeable and may be taught in any of these grades.
EN111H HONORS ENGLISH 11
Full year
One credit
In addition to the basic reading comprehension, writing, research, and oral communications skills, the honors class will challenge students who already possess advanced English skills with a higher level of rigor designed to prepare students for comprehending more complex text selections independently with a heavy emphasis on writing that includes literary analysis and argument. The bodies of literature for grades 10, 11, and 12 are interchangeable and may be taught in any of these grades.

EN112C ENGLISH 12
Full year
One credit
Students will continue to read and apply skills and strategies to comprehend selections of fiction, nonfiction, poetry, and drama, drawing conclusions and making inferences by citing textual support. Writing will encompass persuasive, analytical, and argumentative forms for a variety of purposes and audiences. An emphasis on research and oral communications is also integral to this course. The bodies of literature for grades 10, 11, and 12 are interchangeable and may be taught in any of these grades.

EN112H HONORS ENGLISH 12
Full year
One credit
In addition to the basic reading comprehension, writing, research, and oral communications skills, the honors class will challenge students who already possess advanced English skills with a higher level of rigor designed to prepare students for comprehending more complex text selections independently with a heavy emphasis on writing that includes literary analysis and persuasion. The bodies of literature for grades 10, 11, and 12 are interchangeable and may be taught in any of these grades.

EN097H HONORS RESEARCH LITERATURE
Full year
One credit
This course provides an opportunity for students to do an independent study involving research on a literary topic of the student’s or teacher’s choosing. This study results in a formal research paper and presentation.

EN100O LIBRARY SCIENCE
Full year
One credit
This is a graded class for juniors and seniors interested in knowing the most effective ways to use the library for academic and personal endeavors. Students will also oversee a variety of the daily library activities to gain college and career skills.
EN113H HONORS AP ENGLISH LITERATURE
Full year
One credit
(Grades 11 and 12)
This course engages students in the careful reading and analysis of imaginative literature. Through the close reading of selected texts, students deepen their understanding of the ways writers use language to provide both meaning and pleasure to their readers by considering a work’s structure, style, and themes, as well as such smaller scale elements as figurative language, imagery, symbolism, and tone. This is a college-level course that results in an AP reading and writing test for college credit.

EN114H HONORS AP ENGLISH LANGUAGE AND COMPOSITION
Full year
One credit
(Grades 11 and 12)
Focused more on nonfiction writing and essays, the reading and writing students do in this course should deepen and expand their understanding of how written language functions rhetorically by focusing on writer/reader interactions and deepening students’ knowledge and control of formal conventions. This is a college-level course that results in an AP reading and writing test for college credit.

EN115O WOMEN’S LITERATURE
Full year
One credit
This course provides the opportunity to extend the canon of literature from the traditional English class in order to focus on women’s literature and issues. Students will have the opportunity to study the historical, cultural, and societal contributions women have made by focusing on various genres of women’s literature. Students will think and write critically and analytically, while synthesizing and evaluating the information in order to apply it to their current life and time.

EN119O NON-TRADITIONAL WRITING
Full year
One credit
This course will extend the opportunity to special education students in the exploration and use of traditional elements of writing such as metaphors, descriptive phrases, sensory words, alliteration, smiles, etc. via the research of the work in nontraditional writers and songwriters. Students will develop expository, poetic, and informational writings, edit writing for mechanics, usage, and grammar, and use writing to interpret, analyze and evaluate ideas collaboratively.

EN120H HONORS LITERATURE, SOCIETY, AND SCIENCE
Full year
One credit
This inter-curricular course is an introduction to humanistic studies as they relate to culture, literature, language, history, science, and mathematics from classical Greek through contemporary society. The class will focus on the skills needed for critical thinking and research, discussion techniques, and research techniques.
EN120O LITERATURE, SOCIETY, AND SCIENCE
Full year
One credit
This inter-curricular course is an introduction to humanistic studies as they relate to culture, literature, language, history, science, and mathematics from classical Greek through contemporary society. The class will focus on the skills needed for critical thinking and research, discussion techniques, and research techniques.

EN124O TECHNICAL COMMUNICATIONS
Full year
One credit
This course is designed to prepare students for the challenges of the workplace. The course’s content employs a number of existing reading, writing, and communication strategies, refining and adapting them to the demands of technical communications. The class is taught as a practical course where students will achieve mastery through application.

EN128O AFRICAN AMERICAN LITERATURE
Full year
One credit
African-American literature represents an integral component of the Black experience in the United States, as well as an integral part of America’s cultural and literary heritage. Students learn how the African American experience – as reflected in literature, history, and culture – helped shape America.

EN129O AFRICAN AMERICAN LITERATURE 2
EN129H HONORS AFRICAN AMERICAN LITERATURE 2
Full year
One credit
This is an elective course designed to provide students of diverse ethnic backgrounds with the opportunity to study the history, literature, contributions, and culture of African Americans during the Harlem Renaissance, the Civil Rights movement, and contemporary times. The course will focus on larger works, such as contemporary novels and plays. Students will also delve deeper into the life and writings of one African American writer as a year-long project.

EN132O STRATEGIC READING
Full year
One credit
This course offers ninth-grade students the opportunity to learn and practice reading strategies through teacher modeling, cooperative learning, and independent practice while improving fluency, reading comprehension, vocabulary, listening comprehension, and writing skills. This course provides an excellent foundation for the English 9 curriculum.

EN135O APPLIED READING
Full year
One credit
This is a course is for students who need to improve reading, writing, and study skills necessary for learning any subject in high school. Emphasis is placed on vocabulary development, comprehension, and writing skills. Students who read below grade level are pre- and post-tested and receive instruction based on their needs.
EN137O SAT READING PREPARATION
Full year
One credit
This elective course is similar to a college-level study skills course. Emphasis is placed on improving vocabulary in preparation for the SAT, developing critical thinking skills, increasing reading speed, refining research/study skills, and managing time.

EN139O STUDY SKILLS
Full year
One credit
This course is designed for students who need to improve reading, listening, and learning skills. Course objectives focus on improving memory, test taking, note taking, and organizational skills. In addition, increasing reading rate, comprehension, and vocabulary are emphasized.

EN154O COLLEGE TRANSITION
Full year
One credit
This is an elective course designed to provide students with the background and strategies that are the foundation for success, comprehension monitoring, critical thinking, and independent living. SAT verbal preparation, critical reading, and speed reading also will be included.

EN150O CREATIVE WRITING (SEMESTER) / EN151O CREATIVE WRITING 1
Semester / Year
Half / one credit
This course will provide students with an opportunity to explore special writing interests through various writing experiences. Students will be encouraged to refine their writing for possible inclusion in school literary publications. It is recommended for those students who are interested in writing.

EN152O CREATIVE WRITING 2
EN152H HONORS CREATIVE WRITING 2
Full year
One credit
This course will provide students with special writing talent and industry an opportunity to strengthen their writing. These students will pursue more challenging and lengthy writing, with the opportunity to submit their works to publications outside the school.

EN153O CREATIVE WRITING 3
EN153H HONORS CREATIVE WRITING 3
Full year
One credit
This course is an advanced elective course for students who have demonstrated a high degree of skill in and dedication to writing the opportunity to cultivate their craft in greater detail. Students will submit work to audiences outside the school, including the division’s writing contest.

EN166O PUBLICATIONS
Full year
One credit
This course is designed for publications students who are interested in holding senior editor positions. Students will continue production of the school year book including, writing, copy editing, photography, layout and design, and business management.
EN161O JOURNALISM
Full year
One credit
This is an elective course designed to teach students to communicate through newspaper writing and to make students aware of all elements that make up the journalistic field. The course includes an extensive study of the newspaper and an introductory study of magazines, television, movies, and yearbooks. It is recommended only for those students who are interested in writing.

EN162O JOURNALISM 2
EN162H HONORS JOURNALISM 2
Full year
One credit
This is an elective course for those students who wish to pursue a more extensive study of journalism.

EN163O JOURNALISM 3
EN163H HONORS JOURNALISM 3
Full year
One credit
This course provides extensive study in desktop publishing, layout, design, printing, and photography. Students produce the school newspaper.

EN167O JOURNALISM 4
EN167H HONORS JOURNALISM 4
This course is designed for publication students and includes study of desktop publishing/design, digital imaging and scanning techniques, and integration of publications with the school's web page. Techniques include publication design, advertising, and writing using research skills. Business management skills are studied.

EN164O YEARBOOK 1
Full year
One credit
This course provides study in desktop publishing, layout, design, printing, and photography. Students help produce the school yearbook.

EN165O YEARBOOK 2
EN165H HONORS YEARBOOK 2
Full year
One credit
Students in this course provide leadership and management in the publication of the school yearbook.

EN184O YEARBOOK 3
EN184H HONORS YEARBOOK 3
Full year
One credit
Students in this course provide leadership and management in the publication of the school yearbook.
EN185O YEARBOOK 4  
EN185H HONORS YEARBOOK 4  
Full year  
One credit  
Students in this course provide leadership and management in the publication of the school yearbook.

EN169O ETHICS AND CULTURE IN FILM  
EN169H ETHICS AND CULTURE IN FILM  
Full year  
One credit  
Students will begin the year studying the history and development of film. Students will be exposed to the various elements of film and draw comparisons and contrasts and analyze film in much the same way they critique and analyze literature. The focus of the films will deal with characters facing moral, racial, and ethical dilemmas. There will be an application process for those who wish to enroll.

EN171O COMMUNICATIONS 1  
Full year  
One credit  
This elective course is designed to help students develop speaking as well as listening skills. It will help students become familiar with confidence building steps and exercises and will offer students opportunities to practice informative, persuasive, demonstration, and extemporaneous speeches.

EN172O COMMUNICATIONS 2  
Full year  
One credit  
This is an elective course designed to offer students the mechanics of public speaking. Emphasis is placed on research, organization of ideas, and delivery techniques. The listening process develops recognition of word usage. Students are introduced to communication through radio, television, and the theatre.

EN173O COMMUNICATIONS 3  
Full year  
One credit  
This is an elective course designed for students who wish to gain proficiency within the specific areas of forensics and debate. Oratory, extemporaneous speaking, and the oral interpretation of prose and poetry are studied and practiced.

EN174O COMMUNICATIONS 4  
Full year  
One credit  
This is an advanced elective course in public speaking, oral interpretation, and debate. It is designed for those students who display outstanding talent and acute interest in public speaking and oral interpretation. (Prerequisites: EN172 Communications 2 or EN173 Communications 3)
EN176O SHAKESPEARE
EN176H HONORS SHAKESPEARE
Full year
One credit
This course provides the opportunity to study Shakespeare’s work in-depth, focusing on comedies, tragedies, and history plays, as well as some sonnets. Since the plays were meant to be performed, students will examine each work performed on stage or film as an integral part of the program. Class performances, discussions, and/or written analyses and research are a part of the daily activities.

EN276O SHAKESPEARE 2
EN276H HONORS SHAKESPEARE 2
Full year
One credit
This course provides continued opportunity to study Shakespeare’s work in-depth, focusing on a different set of comedies, tragedies, and history plays, as well as some sonnets. Since the plays were meant to be performed, students will examine each work performed on stage or film as an integral part of the program. Class performances, discussions, and/or written analyses and research are a part of the daily activities.

EN177O MYTHOLOGY
Full year
One credit
This course involves critical reading and writing that revolve around Greek and Roman mythology, emphasizing their common origins and subsequent influence on human thought and expression.

EN209H HONORS PRE-AP ENGLISH 9
Full year
One credit
This course is designed for the advanced honors student. It provides advance preparation for success in the AP English courses listed in this guide. The focus is on reading comprehension, literary analysis, rhetorical devices, and preparation for college-level writing and the writing needed for the AP English courses.

EN210H HONORS PRE-AP ENGLISH 10
Full year
One credit
This course is designed for the advanced honors student. It provides advance preparation for success in the AP English courses listed in this guide. The focus is on deepening reading comprehension, literary analysis, rhetorical devices, and analytical and argumentative writing.

EN581O ENGLISH CADET
Full year
One credit
Students in the fourth year of high school English have the opportunity to be cadet teachers by working with students who have been absent or who might need extra help. Cadets may also lead discussion groups and will be recommended to work with selected level English classes by previous English teachers. Qualified English 12 students may work with English 9-11 classes.
EN700O AMERICAN SPORTS LITERATURE
Full year
One credit
This course is designed for in-depth analysis of the impact of sports literature. Students will read and examine sports novels and articles, and will also complete independent reading that exposes them to sports journalism.

EN701O AMERICAN SPORTS LITERATURE 2
Full year
One credit
This course is designed for a more rigorous and in-depth analysis of the impact of sports literature. Students will continue to read and examine sports novels and articles, and will complete an independent reading project and unit on sports journalism.

TR511O PEER TUTORING I
TR512O PEER TUTORING II
TR513O PEER TUTORING III
Full year
One credit
This is a year-long, student-led, teacher-supervised course offered to students in grades 10, 11, and 12. The course is designed to introduce effective communication styles, tutoring methods, and collaborative processes. Students in the class will then work with each other-developing relationships, engaging students, and sharing feedback on effective learning styles for students. Finally, these tutors will offer sessions to peers not only to provide support and strengthen study skills in content areas but also to provide an opportunity for positive peer-to-peer relationships.

EN133O / EN145O PUBLIC SPEAKING
Semester / Year
Half / one credit
This course will introduce students to the elements of speech communication, with an emphasis on public speaking, and focuses on helping students become stronger public speakers. Students will learn to evaluate their own performance and that of others.

EN102C EXPLORING HIP HOP AS LITERATURE
Full year
One credit
This course explores one of the most revolutionary art forms in American culture known as Hip Hop. Students will develop media literacy and critical analysis skills by looking critically at hip-hop texts -- including songs, films, and music videos -- with multiple “lenses” as a way of better understanding the cultural implications and social context of texts and their own lives. The course will focus on the diverse social, political, cultural and spiritual elements represented within the various genres of Hip Hop music through an analysis of song lyrics. Students will learn about the history of Hip Hop and examine the conditions that influenced its development and evolution.
TR920H AP SEMINAR
Full year
One credit
AP Seminar is a foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational literary and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in research based written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments.

TR921H AP RESEARCH
Full year
One credit
AP Research allows students to deeply explore an academic topic, problem, or issue of individual interest. Through this exploration, students design, plan, and conduct a year-long, research-based investigation to address a research question. In the AP Research course, students further their skills acquired in the AP Seminar course by understanding research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of 4000-5000 words (accompanied by a performance or exhibition of product) and a presentation with an oral defense.

DE112D COLLEGE COMPOSITION
Full year
One credit
Introduces students to critical thinking and the fundamentals of academic writing. Continues to develop college writing with increased emphasis on critical essays, argumentation, and research, developing these competencies through the examination of a range of texts about the human experience. Through the writing process, students refine topics: develop and support ideas; investigate, evaluate, and incorporate appropriate resources; edit for effective style and usage; and determine appropriate approaches for a variety of contexts, audiences, and purposes.

DE115D COLLEGE BRITISH AND AMERICAN LITERATURE
Full year
One credit
This course is designed to develop a deeper understanding of British and American literature. Students engage in literary analysis and research to better understand different cultures. Students are guided in literary analysis as readers and writers, will develop critiques and analysis, and will explore ideas and information while composing, revising, and editing. (John Tyler Community College: Six credits)
DE116D COLLEGE AMERICAN LITERATURE
Full year
One credit
This course examines American literary works from Colonial times to the present, emphasizing the ideas and characteristics of our national literature. Involves critical reading and writing.

DE133D COLLEGE PRINCIPLES OF PUBLIC SPEAKING
Semester
Half credit
This course applies theory and principles of public address with emphasis on preparation and delivery.
Middle School Mathematics

MA377C Middle School Math 1 (Grade 6)
Full year
Middle School Mathematics 1 (MSMI) is the first of two courses in middle school preparing students for the study of Algebra. The two-year sequence logically connects content found in traditional three-year pre-algebra programs and compacts it into two years. Students take the Virginia Grade 6 SOL assessment at the conclusion of the course.

MA378C Middle School Math 2 (Grade 7)
Full year
Middle School Mathematics 2 (MSM2) is the second of two courses in middle school preparing students for the study of Algebra. Problem solving, proportional reasoning, and mathematical applications are emphasized throughout the two-year sequence. Students take the Virginia Grade 8 SOL assessment at the conclusion of the course.

MA306H Honors Math 6/7 H (Grade 6)
Full year
The course covers 7th grade mathematics content and provides increased opportunities for students to experience application-based problem solving. The curriculum focuses on properties of the real number system and data analysis techniques. Topics include estimation, number theory, geometry, pre-algebra, measurement, and probability and statistics, which provide the foundation for the study of advanced mathematics. Students take the Virginia Grade 7 SOL assessment at the conclusion of the course. (Prerequisite: Grade 6 Mathematics content.)

MA307H Honors Math 7/8 H
Full year
Mathematics 7/8 Honors is the second of a two-year sequence that logically connects content found in traditional three-year pre-Algebra programs and compacts it into two years with daily extended time periods in mathematics. An emphasis on problem solving techniques will be used to find solutions to real-world problems. Students take the Virginia Grade 8 SOL assessment at the conclusion of the course.

MA071O Algebra Prep
Full year
The Algebra Prep curriculum reviews, extends and builds upon concepts and skills learned in previous grades in order to prepare students for more abstract concepts in Algebra and geometry.

MA100O Middle School Computer Science Elective
Semester
This course focuses on a broad introduction to the field of computer science and computational thinking. Students will be introduced to computer coding and computer hardware. No coding experience is required.
HIGH SCHOOL MATHEMATICS

MA320C ALGEBRA I
MA320H HONORS ALGEBRA I
Full year
One credit
The standard Algebra I course incorporates foundational algebraic skills necessary for students to pursue high school mathematics and beyond.

MA330C GEOMETRY
MA330H HONORS GEOMETRY
Full year
One credit
Geometry is a unified study of plane, solid, and coordinate geometric concepts that provides students with the prerequisite skills that will facilitate the study of advanced mathematics.

MA333C ALGEBRA FUNCTIONS AND DATA ANALYSIS
Full year
One credit
This course is designed to strengthen conceptual understandings in mathematics and develop connections between statistics and Algebra.

MA340C ALGEBRA II
MA340H HONORS ALGEBRA II
Full year
One credit
Algebra II extends the concepts that students have encountered in previous coursework and provides a thorough treatment of advanced algebraic concepts. (Prerequisites: Algebra I or Geometry)

MA351C TRIGONOMETRY/ADVANCED ALGEBRA
Full year
One credit
The design of this course allows for the extension of Algebra II concepts with an emphasis on functions, theory of equations, graph theory, matrices, sequences and series, and conic sections. (Prerequisite: MA340 Algebra II)

MA352C TRIGONOMETRY ANALYSIS
MA352H HONORS TRIGONOMETRY ANALYSIS
Full year
One credit
This course allows students to extend their Algebra II skills to advanced topics including mathematical induction, matrix Algebra, vectors, and the binomial expansion. (Prerequisite: MA340 Algebra II)

MA360C HIGH SCHOOL CALCULUS
Full year
One credit
This course is designed to strengthen students’ abilities to work effectively with major mathematical topics from elementary functions to differential and integral calculus. (Prerequisite: Trigonometry Advanced/Analysis)
MA361H HONORS AP CALCULUS AB
Full year
One credit
Advanced Placement Calculus AB explores the topics of limits/continuity, derivatives, and integrals. (Prerequisite: Trigonometry Advanced/Analysis)

MA362H HONORS AP CALCULUS BC
Full year
One credit
BC Calculus is intended for students who have a thorough knowledge of analytic geometry and elementary functions in addition to college preparatory algebra, geometry, and trigonometry. (Prerequisite: MA352 Trigonometry/Analysis)

MA368H HONORS LINEAR ALGEBRA
Full year
One credit
This course begins with practice in writing proofs, set theory, and number theory. Specific topics include set operation, equivalence relations, math induction, and the Fundamental Theorem of Arithmetic.

MA370C PROBABILITY AND STATISTICS
Semester
Half credit
This semester course in probability and statistics develops the basic principles of data collection and numerical analysis.

MA371C PROBABILITY AND STATISTICS
MA371H HONORS PROBABILITY AND STATISTICS
Full year
One credit
This year course in probability and statistics exposes students to fundamental concepts with emphasis on collecting data and interpreting data through numerical methods.

MA372C DISCRETE MATHEMATICS
Semester
Half credit
This course is the study of math properties of sets and systems that have a countable (discrete) number of elements. (Prerequisite: MA340 Algebra II)

MA373C PROBABILITY AND STATISTICS/DISCRETE MATH
MA373H HONORS PROBABILITY AND STATISTICS/DISCRETE MATH
Full year
One credit
The content of this one-year course is the same as the two semesters of courses MA370 Probability and Statistics and MA372 Discrete Math. (Prerequisite: MA340 Algebra II)

MA374O SAT MATH
Semester
Half credit
The SAT Math course covers a range of math concepts with an emphasis on problem solving, modeling, using tools strategically, and using algebraic structure. (Prerequisite: Geometry)
MA375H HONORS CALCULUS PROBABILITY AND STATISTICS
Full year
One credit
An advanced-level mathematics course offered for students who want to continue their probability and statistics knowledge. This course will work on preparing students with the skills and knowledge required for any career in science, technology, engineering, or mathematics.

MA376H HONORS AP STATISTICS
Full year
One credit
An introductory college-level statistics course that introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students will learn skills designed to successfully prepare for the AP Statistics exam. College credit and/or advanced placement in college is available to those students receiving a qualifying score on the AP examination. (Prerequisite: MA340 Algebra II or DE335H)

MA381C COMPUTER MATHEMATICS
Full year
One credit
This course provides students with experiences in workplace computer applications, personal finance, essential algebra skills necessary for college mathematics, and computer programming techniques and skills. (Prerequisites: Algebra I and Geometry)

MA384H HONORS AP COMPUTER SCIENCE PRINCIPLES
Full year
One credit
This course is designed to introduce students to the central ideas of computing and computer science, to instill ideas and practices of computational thinking, and to have students engage in activities that demonstrate how computing and computer science directly impact society.

MA390O PERSONAL LIVING AND FINANCE
Full year
One credit
This course requires students to call upon their foundation skills and knowledge of arithmetic to solve problems that are related to consumer issues.

MA560O MATHEMATICS CAPSTONE
Full year
One credit
Virginia’s College and Career Ready Mathematics Performance Expectations Grade 12 capstone course contains high-interest contextualized content designed to give students an additional boost for competent and successful entry into college and careers. (Prerequisite: Algebra, Functions and Data Analysis or Algebra II)

CP384H HONORS AP COMPUTER SCIENCE AB
Full year
One credit
AP Computer Science AB topics and syllabus align with Computer Science AB available through the College Entrance Examination Board. Major topics in AP Computer Science AB include programming methodology, algorithms, and data structures. (Prerequisites: CP 383 Computer Programming JAVA or teacher recommendation)
MA581O MATH CADET
Full year
One credit
Students in the fourth or fifth year of math have the opportunity to be cadet teachers by working with students who have been absent or require additional help. They also may lead small groups, instructional sessions. Students are recommended for this course by their previous math teacher.

MA321O FOUNDATIONS OF ALGEBRA
Full year
One credit
This foundational elective mathematics course is designed to be taken concurrently with Algebra I to provide additional support to students with additional needs in Algebra while providing them with an elective credit toward graduation.

MA331O FOUNDATIONS OF GEOMETRY
Full year
One credit
This foundational elective mathematics course is designed to be taken concurrently with Geometry to provide additional support to students with additional needs in Geometry while providing them with an elective credit toward graduation.

MA324C ALGEBRA I PART I
Full year
One credit
This is the first course in a two-year study of Algebra I content. This course is designed for students eligible for credit accommodations in mathematics. Algebra I Part I include critical skills necessary to complete the Algebra I Part II sequence. Major topics include expressions, operations, equations, inequalities, functions, statistics, systems of equations and inequalities. Emerging technologies are integrated to enhance problem solving, data analysis and applications of graphing techniques.

MA325C ALGEBRA I PART II
Full year
One credit
This is the second course in a two-year study of Algebra I content. This course is designed for students eligible for credit accommodations in mathematics. Major topics include further study of equations, inequalities, functions, statistics, systems of equations and inequalities. Additional topics include the study of exponents, radicals, polynomials, and quadratics. Emerging technologies are integrated to enhance problem solving, data analysis and applications of graphing techniques.

MA332C GEOMETRY I PART I
Full year
One credit
This is the first course in a two-year study of Geometry content. This course is designed for students eligible for credit accommodations in mathematics. Geometry is a unified study of plane, solid, and coordinate geometric concepts which provides students with prerequisite skills that facilitate the study of advanced mathematics. Geometry Part I topics include the study of reasoning, lines, transformations, triangles, polygons and circles.
MA333C GEOMETRY I PART II
Full year
One credit
This is the second course in a two-year study of Geometry. This course is designed for students eligible for credit accommodations in mathematics. Geometry is a unified study of plane, solid, and coordinate geometric concepts which provides students with prerequisite skills that facilitate the study of advanced mathematics. Topics in Geometry Part II include further study of triangles, reasoning, lines, transformations, polygons and circles. Additional topics include the study of constructions and three-dimensional figures.

DE335D COLLEGE PRE-CALCULUS
Full year
One credit
This course is dual-enrollment with John Tyler Community College. Topics include general properties of functions; operations with functions; inverse functions; complex numbers; polynomial and rational functions; trigonometric functions and equations; law of sines and law of cosines; exponential and logarithmic functions and applications; exponential and logarithmic equations; conic sections, polar coordinates and parametric equations. (JTCC equivalent MTH161 and MTH162)

DE336D COLLEGE CALCULUS
Full year
One credit
Presents concepts of limits, derivatives, differentiation of various types of functions and use of differentiation rules, application of differentiation, antiderivatives, integrals and applications of integration. Continues the study of calculus of algebraic and transcendental functions including rectangular, polar, and parametric graphing, indefinite and definite integrals, methods of integration, and power series along with applications. (JTCC equivalent MTH 263 and MTH 264)

DE337D COLLEGE PRE-CALCULUS AND APPLIED CALCULUS
Full year
One credit
The first semester will present college Algebra, matrices, and algebraic, exponential, and logarithmic functions. The second semester introduces limits, continuity, differentiation and integration of algebraic and transcendental functions, techniques of integration, and partial differentiation. (JTCC equivalent MTH 161 and MTH 261)

DE363D COLLEGE DIFFERENTIAL EQUATIONS
Full year or semester
One credit
Introduces ordinary differential equations. Designed for mathematical, physical, and engineering science programs. (JTCC equivalent MTH267; Prerequisite: AP Calculus BC)

DE376D COLLEGE STATISTICS
Full year
One credit
Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, correlation, and linear regression. Continues the study of estimation and hypothesis testing with emphasis on advanced regression topics, experimental design, analysis of variance, chi-square tests and non-parametric methods. (JTCC equivalent MTH 154 and MTH 245)
MIDDLE SCHOOL SCIENCE

SC406C SCIENCE 6
Full year
Students will experience the natural world as they study the role of the Sun’s energy on the
Earth’s systems, air and atmosphere, human interactions as they affect watershed systems,
and basic chemistry concepts. The concept of change is explored through the study of
transformations of energy and matter, solar systems and space exploration.

SC067H SCIENCE SYSTEMS I
Full year
This sixth-grade life science course is an accelerated honors course that covers all the content
in SC407 Life Science 7 and a portion of the SC406 Science 6 course. Major topics include: life
systems, life processes, weather, universal solvent and ecosystems.

SC407C LIFE SCIENCE
Full year
This course emphasizes a more complex understanding of change, cycles, patterns, and
relationships in the living world. Students build on basic principles related to these concepts by
exploring the cellular organization and the classification of organisms; the dynamic relationships
among organisms, populations, communities and ecosystems; and change as a result of the
transmission of genetic information from generation to generation. (Prerequisite: SC406 Science 6)

SC078H SCIENCE SYSTEMS II
Full year
This seventh-grade physical science course is an accelerated honors course that covers all
the content in SC408 Physical Science 8 and a portion of the SC406 Science 6 course. Major
topics include: matter, periodic table, earth systems, energy, sound, light, force and motion.
(Prerequisite: SC067 Science Systems I)

SC408C PHYSICAL SCIENCE
Full year
This course stresses a more in-depth understanding of the nature and structure of matter and
the characteristics of energy. Principles of study include: the periodic table; physical and chemical
changes; nuclear reactions; temperature and heat; sound; light; electricity and magnetism; and
work, force, and motion. (Prerequisite: SC407 Life Science)

ST061O, ST071O, ST080O STEAM EXPEDITIONS 6, 7, 8
Full year
This course is designed to introduce students to the world of invention and innovation through
the engineering design process. Students will examine the impacts of invention and innovation
on society and solve problems through research, design, and experimentation using cutting
edge technology including robotics and computer science applications. STEAM Expeditions is an
elective course and does not count as a science credit.
HIGH SCHOOL SCIENCE

SC410O DISCOVER SCIENCE
Full year
One credit
This interdisciplinary course is designed to examine topics such as scientific research, states of matter, renewable and nonrenewable energies, food, and environmental topics through experimentation. It emphasizes that science is a process of discovering answers and/or solutions to questions and problems that have come up under various scientific, technological, environmental, and economical circumstances. (Prerequisite: SC420 Earth and Space Science or SC430 Biology 1)

SC420C EARTH AND SPACE SCIENCE
SC420H EARTH AND SPACE SCIENCE
Full year
One credit
This course connects the study of Earth’s composition, structure, processes, and history; its atmosphere, fresh water, and oceans; and its environment in space. Earth science stresses the interpretation of maps, charts, tables, and profiles; the use of technology to collect, analyze, and report data; and science skills in systematic investigation. Major topics of study include plate tectonics, the rock cycle, Earth history, the oceans, the atmosphere, weather and climate, and the solar system and universe.

SC421C GEOLOGICAL EXPLORATIONS
Full year
One credit
This laboratory course will strengthen students’ conceptual understanding in Earth science topics. Students will receive additional in-depth instruction and practice to improve their Earth science knowledge and skills. Students will study a variety of advanced Earth science topics in oceanography, geology, astronomy and meteorology. (Prerequisite: SC420 Earth and Space Science)

SC422O METEOROLOGY
Semester
Half credit
This course uses live data from weather instruments, agricultural probes and other sensors to create an immersive technology-based learning experience for students. Students will gain a deeper understanding of severe weather, solar energy, energy balance, and weather over time. Topics of study include: atmosphere and oceans, atmosphere and agriculture, and impacts of changes in weather and climate. (Prerequisite: SC420 Earth and Space Science 1 or SC430 Biology 1)

SC426O OCEANOGRAPHY
SC426H OCEANOGRAPHY
Full year
One credit
In this course, the theories of Earth’s structure and plate tectonics will be presented as a base on which to build the explanation of the physical features of the ocean floor. Both historical and physical geology of the ocean floor will be investigated. Students will study the physical properties of seawater, marine chemistry, marine organisms, salinity and density, circulation within the oceans, waves, currents, tides, and oceanographic instruments and research. (Prerequisite: SC420 Earth and Space Science 1 or SC430 Biology 1)
SC428O ENVIRONMENTAL SCIENCE
SC428H ENVIRONMENTAL SCIENCE
Full year
One credit
This course integrates the study of many components of the environment, including the human impact on Earth. These outcomes focus on scientific inquiry, the physical world, the living environment, resource conservation, humans’ impact on the environment, and legal and civic responsibility.

SC482O RESEARCH AND ANALYTICS IN SCIENCE AND TECHNOLOGY
Full year
One credit
In this course, students use scientific analytics as a tool to make major decisions in the world of technology and science. This methodical approach to the scientific method will provide students with an opportunity to make a hypothesis based on a quantifiable scientific question, convert inferences, utilize existing research as necessary, and analyze data to make conclusions for a real world impact. Students will learn data retrieval along with traditional data collection to be used for analysis leading to future scientific, organizational, technological, or marketing decisions. (Prerequisite: Algebra I)

SC429H AP ENVIRONMENTAL SCIENCE
Full year
One credit
This course is an interdisciplinary course designed to be the equivalent of an introductory college course in environmental science. This course will provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world; to identify and analyze environmental problems both natural and human-made; to evaluate the relative risks associated with these problems; and to examine alternative solutions for resolving and/or preventing them. (Prerequisites: SC430 Biology 1 and SC440 Chemistry 1 or SC420 Earth and Space Science)

SC430C BIOLOGY
SC430H BIOLOGY
Full year
One credit
Biology, the study of living things, includes: experimental design, biochemistry, cellular structure, DNA and genetics, classification and kingdom, evolution, and ecology. These areas are developed within the framework of the principal biological theories with an emphasis on critical thinking and science process skills.

SC433H HONORS PRE–AP BIOLOGY
Full year
One credit
This course is designed to promote critical thinking and evaluation based on the College Board AP Biology course for high school students. Students will explore the fundamental concepts of biology, including the diversity of living organisms, their structure and function, and evolution.
SC431C BIOLOGICAL EXPLORATIONS
Full year
One credit
This laboratory course will strengthen students’ conceptual understanding in life science topics. Students will receive additional in-depth instruction and practice to improve their life science knowledge and skills. Students will study a variety of advanced life science topics in molecular and cellular biology, the biology of organisms and ecology. (Prerequisite: SC430 Biology 1)

SC434O ANATOMY AND PHYSIOLOGY
SC434H ANATOMY AND PHYSIOLOGY
Full year
One credit
This course is designed to provide students with an in-depth study of the structure and function of the human body. The skeletal, muscular, circulatory, respiratory, digestive, excretory, nervous and endocrine systems are included. The relationships of body structure and function are emphasized. (Prerequisites: SC430 Biology 1 and SC440 Chemistry 1 or SC420 Earth and Space Science)

SC439H AP BIOLOGY
Full year
One credit
This course is designed for students to explore the fundamental characteristics of living matter from the molecular level to the ecosystem level. The diversity of living organisms, their structure, function and evolution is emphasized. (Prerequisites: SC430 Biology 1 and SC440 Chemistry 1)

SC440C CHEMISTRY
SC440H CHEMISTRY
Full year
One credit
Chemistry students are introduced to basic chemical concepts including the composition of matter, atomic structure, periodic table, chemical bonding, formulas and equations, reacting quantities, and acid base theory. (Co-requisites: MA340 Algebra II or MA334 AFDA)

SC240H PRE-AP CHEMISTRY
Full year
One credit
This Pre-AP course is designed to promote critical thinking and evaluation based on the College Board AP Chemistry course for high school students. Students will explore the fundamental concepts of chemistry including structure and states of matter, intermolecular forces, and reactions. (Co-requisite: MA340 Algebra II or MA334 AFDA)

SC444C ECOLOGY
Full year
One credit
This laboratory course is designed to help students understand environmental principles, the consequences of human activities, and the impact of these activities on Earth. Major topics in this course are population biology, ecosystems, and the effects of science and technology on physical and complex adaptive systems. (Prerequisite: SC430 Biology 1 or SC420 Earth and Space Science)
SC449H AP CHEMISTRY
Full year
One credit
This course is designed to be the equivalent of a first-year college chemistry course. It differs qualitatively and quantitatively from the usual high school chemistry course with respect to the kind of textbook used; the scope, sequence, and detail of topics covered; the mathematical formulation of principles; the emphasis on calculations; and the nature and variety of laboratory work done by students. (Prerequisites: SC440 Chemistry 1 and MA340 Algebra II or MA334 AFDA)

SC450C PHYSICS 1
SC450H PHYSICS 1
Full year
One credit
This course builds on basic principles of physical science by exploring the nature of energy and its dynamic interaction with matter. Key areas covered include force and motion, kinetic molecular theory, energy transformations, wave phenomena and the electromagnetic spectrum, light, electricity and scientific investigation. (Prerequisite: Algebra I or Algebra II (Honors))

SC415C FORENSIC BIOLOGY
SC415H FORENSIC BIOLOGY
Full year
One credit
This is a multidisciplinary laboratory course, with emphasis on advanced biology topics, giving students an appreciation of how scientific concepts are applied to real world situations, specifically forensic and crime scene investigations. Topics of study will include the history of forensic science and major forensic disciplines such as fingerprinting, questioned documents, entomology, anthropology, DNA analysis, serology, trace evidence, pathology, law and ethics and current legal issues affecting the field of forensic science. (Prerequisite: SC430 Biology)

SC460C FORENSIC CHEMISTRY
SC460H FORENSIC CHEMISTRY
Full year
One credit
Students learn advanced chemistry topics from real world situations through forensic investigations. Topics of study will include the history of forensic science and major forensic disciplines such as fingerprinting, questioned documents, entomology, anthropology, DNA analysis, serology, trace evidence, pathology, law and ethics and current legal issues affecting the field of forensic science. After learning basic concepts, students will apply their knowledge to the investigation of simulated crime scenes and participate in mock trials. (Prerequisites: SC430 Biology and SC440 Chemistry 1)
SC452O / SC 473O ASTRONOMY
SC452H ASTRONOMY
Full year / Semester
One credit / Half credit
This course is designed to develop student proficiency in astronomy including planetary
orbits, origin/evolution/death of the universe (cosmology), subatomic particles, nuclear
fusion, star maps, constellations/moon phases, telescope designs/ optics, useful parts of the
electromagnetic spectrum, and spectroscopy. Historical developments of astronomy from
earliest history through quantum mechanics are important topics. (Prerequisite: SC420 Earth and
Space Science or SC430 Biology 1)

SC459H AP PHYSICS C
Full year
One credit
This course is the equivalent of a college physics course. AP Physics C prepares students two
different AP exams, Physics C: Mechanics and Physics C: Electricity and Magnetism. Mechanics,
electricity, and magnetism are covered with equal emphasis on both. AP Physics emphasizes both
physics knowledge and problem solving. (Co-requisite: MA360 Calculus or MA361 AP Calculus AB
or MA362 AP Calculus BC)

SC467O PALEONTOLOGY
Semester
In this historical geology course, the geologic, biologic, petrologic, and ecologic history of
Earth will be studied. Students will gain a deeper understanding in solar nebular theory, global
temperature changes, the fossil record, plate tectonics, paleontology, paleobotany, and glacial
geology, including human development and impacts from inception to modern day. (Prerequisite:
SC420 Earth and Space Science 1 or SC430 Biology 1)

SC476H APPLIED PHYSICS AND DESIGN THINKING: GAME LAB
Full year
One credit
The course is built on the foundational big ideas of physics: “The Game Pieces” or matter, “The
Moves” or forces and interactions, and “The Rules of the Game” that govern those interactions
(energy, momentum, waves, etc.). Students will be challenged to use logic, the engineering
design process, and collaborative storytelling to create puzzles, games, and interactive stories.
A deeper understanding of the physical world will be developed while nurturing collaboration,
competition, achievement, and narrative that come from creating and playing games.
(Prerequisite: MA340 Algebra II)

SC540C CHEMISTRY BY DESIGN
SC540H CHEMISTRY BY DESIGN
Full year
One credit
This course is designed to provide students with an in-depth study and practical application
of laboratory design and function of the chemistry laboratory. With a focus on laboratory
design, safety, and data collection using a variety of sensors as well as classical wet chemistry
techniques, the class will offer STEM experiences similar to that of higher-level lab courses.
Laboratory techniques involving colorimetric, spectroscopic, and gravitational analysis will be
developed. (Prerequisite: SC440 Chemistry I)
SC555H AP PHYSICS I
Full year
One credit
This course is an Algebra-based, introductory college-level physics course that explores topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. Through inquiry-based learning, students will develop scientific critical thinking and reasoning skills. (Corequisite: MA340 Algebra II)

SC556H AP PHYSICS II
Full year
One credit
This course is an Algebra-based, introductory college-level physics course that explores topics such as fluid statics and dynamics; thermodynamics with kinetic theory; PV diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. (Prerequisites: MA340 Algebra II and SC457 AP Physics I)

SC490O LAB ASSISTANT
Full year
One credit
This course allows students to practice laboratory skills for college, while acting as a laboratory assistant for a science teacher.

DE436HD COLLEGE GENERAL BIOLOGY
Full year
One credit
In this college-level general biology course, students explore the fundamental characteristics of living matter from the molecular level to the ecosystem level. The diversity of living organisms, their structure, function and evolution is emphasized. (Prerequisites: SC430 Biology 1 and SC440 Chemistry or SC420 Earth and Space Science) (Aligns with John Tyler Community College’s Biology 101/102 – eight credits)

DE434D COLLEGE ANATOMY AND PHYSIOLOGY
Full year
One credit
This course integrates anatomy and physiology of cells, tissues, organs, and systems of the human body. Concepts of chemistry, physics, and pathology are included. (Prerequisites: SC430 Biology and SC440 Chemistry) (Aligns with John Tyler Community College’s Biology 141/142 – eight credits)
DE449D COLLEGE CHEMISTRY
Full year
One credit
This first-year college chemistry course, designed for science and engineering majors, explores the fundamental laws, theories, and mathematical concepts of chemistry. With an emphasis on calculations and sophisticated laboratory components, this course will include a detailed study of inorganic, organic, and biological chemistry. (Prerequisites: SC440 Chemistry, MA340 Algebra II) (Aligns with John Tyler Community College’s Chemistry 111/112 – eight credits)

DE459D COLLEGE PHYSICS
Full year
One credit
This second-year college course covers the fundamental principles of physics. Covers mechanics, thermodynamics, wave phenomena, electricity and magnetism, and selected topics in modern physics. (Prerequisites: SC430 Biology, SC440 Chemistry, SC450 Physics 1) (Aligns with John Tyler Community College’s Physics 201/202)
SS206C SOCIAL STUDIES 6
SS206H HONORS SOCIAL STUDIES 6
Full year
This course is a survey of United States history to 1865. Students will use skills of historical and geographical analysis along with primary and secondary sources to better understand ideas and events in history.

SS207C SOCIAL STUDIES 7
SS207H HONORS SOCIAL STUDIES 7
Full year
This course is a survey of United States history from 1865 to the present. Students will continue to use skills of historical and geographical analysis along with primary and secondary sources to better understand ideas and events in history.

SS208C SOCIAL STUDIES 8
SS208H HONORS SOCIAL STUDIES 8
Full year
This civics and economics course emphasizes historical thinking skills and the roles citizens play in the political, governmental, and economic systems in the United States. Students examine the constitutions of Virginia and the United States; identify the rights, duties, and responsibilities of citizens; and describe the structure and operation of government at the local, state, and national levels.
HIGH SCHOOL HISTORY AND SOCIAL SCIENCES

SS201O TOPICS IN U.S. HISTORY
Full year
One credit
This course is offered as an elective for Level 2 ESL students and provides exposure and fundamental skills and knowledge that will assist students in being successful on the Virginia and United States History SOL assessment.

SS202O TOPICS IN WORLD HISTORY
Full year
One credit
This course is offered as an elective for Level 2 ESL students and provides exposure and fundamental skills and knowledge that will assist students in being successful on the World History SOL assessment.

SS209C WORLD HISTORY TO 1500
SS209H HONORS WORLD HISTORY TO 1500
Full year
One credit
This course will enable students to use historical thinking skills to explore the development of people, places, and patterns of life from ancient times until 1500 AD in terms of the impact on Western civilization.

SS210C WORLD HISTORY 1500 TO PRESENT
SS210H HONORS WORLD HISTORY 1500 TO PRESENT
Full year
One credit
This course enables students to use historical thinking skills as they examine history and geography from 1500 to the present, with emphasis on the development of the modern world. Geographic influences on history will continue to be explored, but increasing attention will be given to political boundaries that developed with the evolution of nations.

SS239H HONORS WORLD HISTORY
Full year
One credit
This course is designed to help the student to acquire the historical thinking skills necessary to be successful in AP Social Science courses. The course begins with prehistory and concludes with the Renaissance. At the conclusion of the year, students will take the World History I SOL test.

SS263C WORLD GEOGRAPHY
SS263H HONORS WORLD GEOGRAPHY
Full year
One credit
This course enables students to use historical thinking skills to study the world’s regions, people and their cultural characteristics, landforms and climates, economic development, and migration and settlement patterns. This course prepares students to take the World Geography SOL test.
**SS211C VIRGINIA/U.S. HISTORY**
**SS211H HONORS VIRGINIA/U.S. HISTORY**
Full year
One credit
This course enables students to use historical thinking skills to examine the history of the United States from the first European exploration of the Americas to the present.

**SS212C VIRGINIA/U.S. GOVERNMENT**
**SS212H HONORS VIRGINIA/U.S. GOVERNMENT**
Full year
One credit
This course enables students to use historical thinking skills to examine the structure and functions of our federal form of government. The foundations of American government, the politics of American democracy, and constitutional rights and responsibilities are explored in this course. Additionally, the decision-making processes at the local, state, national, and international levels are emphasized.

**FC612O ECONOMICS AND PERSONAL FINANCE**
**FC612H HONORS ECONOMICS AND PERSONAL FINANCE**
Full year
One credit
The goal of this course is to present economic concepts and the skills necessary to interpret the daily news, understand how interdependent the world’s economies are, and anticipate how events will impact their lives. On a personal level, students learn that their own human capital (knowledge and skills) is their most valuable resource and that investing in education and training improves the likelihood of their future economic success. The standards also help students develop thinking skills that include analyzing real-world situations, economic reasoning, decision-making, and problem-solving.

**SS213H HONORS AP U.S. GOVERNMENT**
Full year
One credit
This Honors Advanced Placement course enables students to use enhanced historical thinking skills, as required at the college level. Students will examine, in depth, the structure and functions of our federal form of government. The foundations of American government, the politics of American democracy, and constitutional rights and responsibilities are explored in this course, as well as, the decision-making processes at the local, state, national, and international levels. This course will prepare students to take the AP U.S. Government exam.

**SS214H HONORS AP U.S. HISTORY**
Full year
One credit
This Honors Advanced Placement course enables students to use enhanced historical thinking skills, as required at the college level. Students will examine, in depth, political, social, economic, diplomatic, intellectual and cultural history from the first European exploration of the Americas to the present. A major component of this course is the reading and interpretation of various historical documents. This course will prepare students to take the AP U.S. History exam.
SS216H HONORS AP WORLD HISTORY
Full year
One credit
This course is a survey of history from 12,000 BC to the present. In keeping with the global trend at both the university and secondary levels, there is an emphasis on the history of all continents and peoples. Although Europe is still an important component of the course, more focus is placed on the non-Western world. This course will prepare students to take the AP World History exam.

SS247H HONORS AP HUMAN GEOGRAPHY
Full year
One credit
This course introduces students to the field of academic geography. Emphasis will be placed on geographic concepts of location, space, place, scale, pattern, regionalization and globalization. Students will develop an understanding of human interaction, demographic change, environmental effects, and economic impacts on the world. This course will prepare students to take the AP Human Geography exam.

SS251H HONORS AP PSYCHOLOGY
Full year
One credit
This course provides students with an introduction to the study of behavior and mental processes. They will learn the facts and concepts important to the different fields of psychology and explore the methods used within these fields. This course will prepare students to take the AP Psychology exam.

SS220H HONORS AP EUROPEAN HISTORY
Full year
One credit
This course is designed to prepare students for the Advanced Placement test in what is ordinarily the freshman-level college history course. The course uses an essentially chronological approach to view the scope of European history from the Renaissance to the present. Students participate in the level of work that awaits them in college.

SS313H HONORS AP COMPARATIVE GOVERNMENT AND POLITICS
Semester
Half credit
This elective Advanced Placement course introduces students to fundamental concepts used by political scientists to study the processes and outcomes of politics in a variety of countries settings.

SS314H HONORS AP COMPARATIVE GOVERNMENT AND POLITICS
Full year
One credit
This elective course introduces students to fundamental concepts used by political scientists to study the processes and outcomes of politics in a variety of countries settings.
SS612H AP ECONOMICS AND ECONOMICS AND PERSONAL FINANCE
Full year
One credit
The microeconomic component of this elective course will provide students with the principles of economics that apply to the functions of individual decision makers, both consumers and producers, within the larger economic system. The macroeconomic component of the course will provide students with the principles of economics that apply to an economic system as a whole with emphasis on the study of national income and price determination. This course will prepare students to take the AP Economics exam while also embedding the Economics and Personal Finance course Standards of Learning.

SS215O U.S. MILITARY HISTORY AND DIPLOMACY
Full year
One credit
This elective course is designed to teach students about the development of the United States military and its role in the growth of the U.S. as a modern nation with global influence. The course will span the period from the French and Indian War to the present.

SS217O LATIN AMERICAN STUDIES
Semester
Half credit
This elective course will provide an opportunity for students to gain an understanding of Latin America's cultural patterns. Topics will include the Iberian heritage, conquest, and institutions brought to Latin America; the impact of race, ethnicity and social class on the indigenous populations; and other topics that the students might want to explore.

SS222O PRACTICAL LAW
Semester
Half credit
The purpose of this elective course is to provide practical information and problem-solving opportunities for students to develop the knowledge and skills essential for survival in today's litigious society. Through this application of knowledge, concepts, and skills, the student develops the ability to analyze facts and circumstances objectively and to determine appropriate outcomes.

SS223O PRACTICAL LAW
Full year
One credit
The purpose of this elective course is to provide practical information and problem-solving opportunities for students to develop the knowledge and skills essential for survival in today's litigious society. Through this application of knowledge, concepts, and skills, the student develops the ability to analyze facts and circumstances objectively and to determine appropriate outcomes.

SS224O SOCIOLOGY
Semester
Half credit
The purpose of this elective course is to provide the background and framework for students to better understand their roles in society and the effects of various groups' actions and interactions on society. This application of traditional social studies skills and concepts provides a valuable awareness and insight into the general importance of and need for a broad understanding of the social studies.
SS225O SOCIOLOGY
SS225H HONORS SOCIOLOGY
Full year
One credit
The purpose of this elective course is to provide the background and framework for students to better understand their roles in society and the effects of various groups’ actions and interactions on society. The application of traditional social studies skills and concepts provides a valuable awareness and insight into the general importance of and need for a broad understanding of the social studies.

SS 245C PSYCHOLOGY
Semester
Half credit
This semester course is designed to study the essential understandings of psychology - the science of mind and behavior. Students will examine psychology using innovative approaches including case studies, projects and other methods to explore this fascinating field.

SS228O ADVANCED PEER FACILITATORS
SS228H HONORS ADVANCED PEER FACILITATORS
Full year
One credit
The purpose of this elective course is for student facilitators to continue to refine their helping skills. Leadership concepts are introduced and students expand their helping emphasis through community outreach.

SS329C AFRICAN AMERICAN HISTORY
SS329H HONORS AFRICAN AMERICAN HISTORY
Full year
One credit
This course will survey African American history. Students will be introduced to key concepts from early beginnings in indigenous Africa through the transatlantic slave trade, the Civil War, Emancipation, Reconstruction, the Civil Rights era and into the present. The course requires students to complete a Capstone project. Students will pursue independent research relative to the content of a question or problem of their choice and produce a Capstone project that reflects a deeper understanding of African American history.

SS229O AFRICAN AMERICAN HISTORY
Semester
Half credit
This course will examine selected African American history concepts, from early beginnings in indigenous Africa through the transatlantic slave trade, the Civil War, Emancipation, Reconstruction, the Civil Rights era and into the present.

SS115C AMERICAN WOMEN’S STUDIES
SS115H HONORS AMERICAN WOMEN’S STUDIES
Full year
One credit
This course will explore the politics, society, race and class that have impacted the experiences of women throughout history. American Women’s Studies will examine these experiences, as well as the many contributions made by diverse groups of women from the early colonial period to the present.
SS233O INTERNATIONAL AFFAIRS
SS236H HONORS INTERNATIONAL AFFAIRS
Semester
Half credit
The purpose of this elective course is to emphasize the Cold War (Berlin Wall, Cuban Missile Crisis, Vietnam, etc.), the collapse of Communism, the evolution of the European Union, globalization, and current world hot spots. This course is open to juniors and seniors currently taking Honors or AP History. Students will be expected to write a position paper, participate in Model UN, and complete one major research paper.

SS234O MYTHS, LEGENDS AND MYSTERY
SS234H HONORS MYTHS, LEGENDS AND MYSTERIES
Semester
Half credit
The purpose of this elective course is for students to explore different cultures and beliefs as they relate to the mythological legends of Africa, Asia, America, and classical civilizations; religious traditions of East and West; and mysteries of the world today.

SS235O MYTHS, LEGENDS AND MYSTERIES
Full year
One credit
The purpose of this elective course is for students to explore different cultures and beliefs as they relate to the mythological legends of Africa, Asia, America, and classical civilizations; religious traditions of East and West; and mysteries of the world today.

SS237O VIRGINIA AND CIVIL WAR
SS237H HONORS VIRGINIA AND CIVIL WAR
Semester
Half credit
This elective course will provide an overview of the Civil War era (1845-90) with a focus on Virginia. Activities and assessments will include class research projects, lectures, independent reading, historical site visits, speakers, and museum work.

SS242O VIRGINIA AND WORLD WAR II
SS242H HONORS VIRGINIA AND WORLD WAR II
Semester
Half credit
This elective course provides a chronological study of the Second World War (World War II) from the Treaty of Versailles (1919) through the end of the War in the Pacific (1945). By the end of the semester, the student should be well equipped with a thorough understanding of the greatest conflict in world history.

SS244O NATIVE AMERICAN STUDIES
Full year
One credit
This elective course provides an in-depth study of the evolution of Native American cultures and civilization. The overall purpose is to present a cultural understanding of Native American history and society from the pre-contact period through the present day. Particular emphasis will be placed on moving away from a Euro-centric historical view of Native Americans in order to better understand the people and society from their own unique perspectives.
SS226O SERVICE LEARNING
Semester
Half credit
The purpose of this elective course is to provide the time and opportunity for students to perform community service. Students will also study contemporary social problems facing our society and understand the role volunteers can play in finding possible solutions. Each student is required to complete 160 hours of community service during the school year and to participate in class projects.

SS221O SERVICE LEARNING
Full year
One credit
The purpose of this elective course is to provide the time and opportunity for students to perform community service. Students are dismissed from school three afternoons each week to provide their services in nearby elementary and middle schools, nursing homes, parks, and hospitals. Each student is required to complete 160 hours of community service during the school year and to participate in class projects.

SS249O SERVICE LEARNING II
Full year
One credit
This elective course exposes students to the importance of volunteer work within their community. Students learn by doing. Service develops and refines responsibility and commitments. Students who perform volunteer services learn to value their skills and develop positive images about themselves. They learn to work with others and to solve problems, and in the process, develop leadership and teamwork skills.

SS252O GEOSPATIAL TECHNOLOGY
Full year
One credit
This elective course provides students with the skills and knowledge to make use of geospatial technologies such as geographic information systems (GIS), global positioning systems (GPS), and remote sensing. In this class, students will focus on building skills with the various technologies and applying them to different fields, such as environmental science, city planning, ecology, and many others.

SS253O MODERN AMERICAN HISTORY AND LITERATURE
SS253H HONORS MODERN AMERICAN HISTORY AND LITERATURE
Full year
One credit
This elective course provides an in-depth study of modern American history and an in-depth analysis of corresponding American literature. The course will examine relevant topics seen in modern American culture and daily impact on American citizens. This course will enhance student learning by delving deeper into modern subjects that are covered in a rudimentary way in existing US History and government courses.
SS254O COMPARATIVE RELIGIONS
SS254H HONORS COMPARATIVE RELIGIONS
Semester
Half credit
This elective course surveys the basic elements and historical developments of world religions. After establishing a common definition of the purpose of religion and ways to study religion, students study Buddhism, Taoism, Hinduism, Judaism, Christianity, and Islam. Other religions are studied as time and interest permit. The course is structured in such a way that interested students of any level can be successful.

SS255O THE BIBLE AND IMPACT ON HISTORY
Semester
Half credit
This elective course, acknowledged as a field of academic study, enables students to acquire an understanding and appreciation of the Bible’s major ideas, historical and geographical contexts along with the impact of the Bible on later history. The course will include the study of the Bible in its historical, sociological, and cultural contexts, and its impact on later cultures, societies, and religions.

SS267O CONTEMPORARY RACE AND CULTURE
Full year
One credit
This upper-level, elective course is for students who would like to learn about race and culture by developing self-awareness and learning about differences in a contemporary setting. Curriculum will include science, history, current events, and student’s reflections on their own lives, either in written form, online discussion, or in oral presentation.

SS268H HONORS GLOBAL STUDIES I
Full year
One credit
This elective course requires college level reading, research, writing and speaking skills. The class will explore issues that affect our world today. Emphasis on public speaking and debate will be emphasized as students will be expected to research current global issues and present them in written and oral form.

SS402C CURRENT EVENTS IN TODAY’S SOCIETY
Semester
Half credit
This elective course is open to juniors and seniors designed to use present-day events to enhance students’ knowledge of the US political climate and encourage civic awareness and participation. Broad issues such as civil liberties, participation in the electoral process, and the basic concepts of republicanism and democracy will be common threads throughout the course.

DE021D COLLEGE PHILOSOPHY
Semester
Half credit
This elective course is taught through topics found in classical philosophical writings, such as the nature of truth and knowledge, mind and body, freedom and determinism, and right and wrong. Emphasis is placed upon the complex relations of philosophy to the development of modern science, the social and political history of the West, and man’s continuing attempt to achieve a satisfactory worldview.
DE211D COLLEGE U.S. HISTORY
Full year
One credit
This course offers college credit for coursework completed through John Tyler Community College. The course content surveys United States history from its beginning to the present. Students received six credits from John Tyler Community College.

DE212D COLLEGE U.S. GOVERNMENT
Full year
One credit
This course offers college credit for coursework completed through John Tyler Community College. Topics explored in this course include federalism; the electoral process; mass media; political parties; the three branches of government; civil rights and civil liberties; and economic, domestic, and global policies. Students received six credits from John Tyler Community College.

DE213D COLLEGE WESTERN CIVILIZATION
Full year
One credit
This elective course introduces western civilization from prehistory to the early modern era. As well, the course surveys the general history of the Western world from 1600 to the present and allows students to reach a basic understanding of the characteristic features of the Western world’s historical development in that span of time. (Aligns with John Tyler Community College History 101/102 – six credits)

DE224D COLLEGE SOCIOLOGY
Semester
Half credit
The goal of this elective course is to provide a rigorous and relevant background and framework for students to better understand their roles in society and the effects of various groups’ actions and interactions on society. Some of these roles and effects are: responsibilities; rights; cause and effect; choices and their impact; the importance of communication, organizations, relationships, and the major American cultural institutions.

DE252D COLLEGE GEOSPATIAL TECHNOLOGY
Full year
One credit
This elective course provides students with the skills and knowledge to make use of geospatial technologies such as geographic information systems (GIS), global positioning systems (GPS), and remote sensing. Students will also develop a solid understanding of the different kinds of data that can be used with GIS. (Aligned with John Tyler Community College GIS 101/102 – six credits)

DE229D COLLEGE INTRODUCTION TO PSYCHOLOGY
Semester
Half credit
This course is a survey of the basic concepts of psychology and covers the scientific study of behavior, behavioral research method and analysis, and theoretical interpretations. Topics of study include physiological mechanisms, sensation/perception, motivation, learning, personality, psychopathology, therapy and social psychology.
This course studies the development of the individual from conception to death. As well, the course follows a life-span on the developmental tasks of the person's physical, cognitive and psychosocial growth.
SECONDARY WORLD LANGUAGE

WL006 INTERNATIONAL STUDIES 6 EXPLORATORY
WL063O/WL065O INTERNATIONAL STUDIES (YEAR)
WL064O INTERNATIONAL STUDIES (SEMESTER)
Full year or semester in middle schools only
Four of the six languages offered in Chesterfield County—Chinese, French, Spanish, German, Latin and Japanese—are introduced to the students through quarter-long thematic units. Each thematic unit has a common core of vocabulary: greetings and salutations, introductions, the alphabet, basic colors numbers one through twenty, days, months, seasons and basic questions words. Each unit integrates practice with study skills through the use of interactive notebooks, language decoding strategies and graphic organizers. The use of technology is encouraged to implement and enhance the students’ connection to the world.

WL511C FRENCH 1
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in French. Successful students will exit the course with a novice-mid proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. As much as possible, the class is conducted in French. Students will increase their cultural awareness through various thematic units; i.e. school, family, pastimes and friends.

WL512C FRENCH 2
WL512H HONORS FRENCH 2
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in French. Successful students will exit the course with a novice-high proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. As much as possible, the class is conducted in French. Students will increase their cultural awareness through various thematic units. (Prerequisite: French 1)

WL513C FRENCH 3
WL513H HONORS FRENCH 3
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in French. Successful students will exit the course with an intermediate-low proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. Students will increase their cultural awareness through various thematic units. The speaker can generally be understood by a sympathetic audience. (Prerequisite: French 2)
WL514C FRENCH 4
WL514H HONORS FRENCH 4
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in French. Successful students will exit the course with an intermediate-mid proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. Students will increase their cultural awareness through various thematic units. (Prerequisite: French 3)

WL515C FRENCH 5
WL515H HONORS FRENCH 5
Full year
One credit
Students increase their understanding of French in contemporary, literature, historical, and cultural contexts as they address current social problems and solutions, with focus on interpersonal speaking and writing, interpretive reading, viewing, and listening, and presentational speaking and writing in French. Successful students will exit the course with the following proficiency levels on the ACTFL scale: interpersonal speaking (intermediate high), presentational speaking (intermediate mid), presentational writing (intermediate mid/high), interpretive (Intermediate mid/high). (Prerequisite: French 4)

WL516C FRENCH 6
WL516H HONORS FRENCH 6
Full year
One credit
Successful students will exit the course with these proficiency levels on the ACTFL scale: interpersonal speaking (intermediate high/advanced low), presentational speaking (intermediate high), presentational writing (intermediate high), interpretive (intermediate high/advanced low), with a focus on individual and paired activities, listening and speaking activities, small and large group instruction, class discussions, individual projects, the Internet when appropriate, and teacher-created activities. (Prerequisite: French 5)

WL517H HONORS AP FRENCH LANGUAGE
Full year
One credit
The goal of this course is to achieve a high level of proficiency in the four linguistic skills (listening, speaking, reading and writing), as prescribed by the College Board. Students with a score of 3 or higher on the AP French Language Exam qualify for the Seal of Biliteracy. The classes are conducted in French. (Prerequisite: French 4 or higher)

WL519H HONORS FRENCH 7
Full year
One credit
This course continues to expand communicative skills, literary exposure, and cultural awareness. It also emphasizes self-directed learning. Students will conduct an interdisciplinary, in-depth investigation of one historical or cultural topic of interest per quarter using materials in the target language and present their findings in the target language. (Prerequisite: French 6)
WL521C GERMAN 1
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in German. Successful students will exit the course with a novice-mid proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. Students will increase their cultural awareness through various thematic units; i.e. school, family, pastimes, and friends.

WL522C GERMAN 2
WL522H HONORS GERMAN 2
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in German. Successful students will exit the course with a novice-high proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. (Prerequisite: German 1)

WL523C GERMAN 3
WL523H HONORS GERMAN 3
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in German. Successful students will exit the course with an intermediate-low proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. (Prerequisite: German 2)

WL524C GERMAN 4
WL524H HONORS GERMAN 4
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in German. Successful students will exit the course with an intermediate-mid proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. (Prerequisite: German 3)

WL525C GERMAN 5
WL525H HONORS GERMAN 5
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in German. Successful students will exit the course with these proficiency levels on the ACTFL scale: interpersonal speaking (intermediate high), presentational speaking (intermediate mid), presentational writing (intermediate mid/high), interpretive (intermediate mid/high). (Prerequisite: German 4)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>WL526C</td>
<td>GERMAN 6</td>
<td>Full</td>
<td>This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in German. Successful students will exit the course with these proficiency levels on the ACTFL scale: interpersonal speaking (intermediate high/advanced low), presentational speaking (intermediate high), presentational writing (intermediate high), interpretive (intermediate high/advanced low). (Prerequisite: German 5)</td>
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<tr>
<td>WL527H</td>
<td>HONORS AP GERMAN LANGUAGE</td>
<td>One</td>
<td>The goal of this course is to achieve a high level of proficiency in the four linguistic skills (listening, speaking, reading and writing), as prescribed by the College Board. Students with a score of 3 or higher on the AP German Language Exam qualify for the Seal of Biliteracy. The classes are conducted in German. (Prerequisite: German 4 or higher)</td>
</tr>
<tr>
<td>WL529H</td>
<td>HONORS GERMAN 7</td>
<td>Full</td>
<td>This course for advanced level students emphasizes self-directed learning. Students will conduct an interdisciplinary, in-depth investigation of one historical or cultural topic of interest per quarter using materials in the target language and present their findings in German. (Prerequisite: German 6)</td>
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<tr>
<td>WL531C</td>
<td>LATIN 1</td>
<td>Full</td>
<td>This academic elective focuses on presentational writing and interpretive reading in Latin. Successful students will exit the course with a novice-high proficiency level on the ACTFL scale for interpretive reading and a novice-mid proficiency level on the ACTFL scale for presentational writing.</td>
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<tr>
<td>WL532C</td>
<td>LATIN 2</td>
<td>Full</td>
<td>The second level of Latin offers a continuing study and review of grammar previously introduced. Most of the formal grammar necessary for the reading of Latin literature will be presented. Readings continue to focus on daily life. Successful students will exit the course with an intermediate-low proficiency level on the ACTFL scale for interpretive reading and a novice-high proficiency level on the ACTFL scale for presentational writing. (Prerequisite: Latin 1)</td>
</tr>
<tr>
<td>WL533C</td>
<td>LATIN 3</td>
<td>Full</td>
<td>The third level reviews and completes the study of grammar. Additional vocabulary is introduced through the readings. Latin prose reading selections, featuring the Republic and the Empire, include such authors as Cicero, Caesar, Eutropius, Augustus, and Petronius. (Prerequisite: Latin 2)</td>
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</table>
WL534C LATIN 4
WL534H HONORS LATIN 4
Full year
One credit
This course features the study of a variety of authentic Roman texts that could include Virgil’s Aeneid, Ovid’s Metamorphoses, Plautus plays, poetry by Catullus and Horace among other classical authors and works. Students will study the politics, history, mythology and culture relevant to the texts. Students will also explore the influence of what they read on later generations and draw connections to the world in which they live today. (Prerequisite: Latin 3)

WL535C LATIN 5
WL535H HONORS LATIN 5
Full year
One credit
The study of authentic Roman texts that could include Virgil’s Aeneid, Ovid’s Metamorphoses, Plautus plays, poetry by Catullus and Horace among other classical authors and works. Students will study the politics, history, mythology and culture relevant to the texts. Students will also explore the influence of what they read on later generations and draw connections to the world in which they live today. (Prerequisite: Latin 4)

WL536C LATIN 6
WL536H HONORS LATIN 6
Full year
One credit
Study of authentic Roman texts that could include Virgil’s Aeneid, Ovid’s Metamorphoses, Plautus plays, poetry by Catullus and Horace among other classical authors and works. Students will study the politics, history, mythology and culture relevant to the texts. Students will also explore the influence of what they read on later generations and draw connections to the world in which they live today. Students will refine their grammatical skills and gain familiarity with vocabulary central to the texts. (Prerequisite: Latin 5)

WL538H HONORS AP LATIN
Full year
One credit
Students may opt for an AP prescription at Levels 4 or 5. The designated author is Virgil. Through these readings and independent work, a study of Roman history and culture is continued. A review of grammar and writing is instituted when necessary. The use of technology is encouraged to implement and enhance the student’s study. Student with a score of 3 or higher on the AP Latin Language Exam qualify for the Seal of Biliteracy. (Prerequisites: Latin 4 (AP may start as early as Latin 4; in such cases, Latin 3 will be the prerequisite.))

WL539H HONORS LATIN 7
Full year
One credit
Study of authentic Roman texts that could include Virgil’s Aeneid, Ovid’s Metamorphoses, Plautus plays, poetry by Catullus and Horace among other classical authors and works. Students will study the politics, history, mythology and culture relevant to the texts. Students will also explore the influence of what they read on later generations and draw connections to the world in which they live today. (Prerequisite: Latin 6)
WL541C SPANISH 1
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in Spanish. Successful students will exit the course with a novice-mid proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. These goals will be accomplished through individual and paired activities, listening and speaking activities, small- and large-group instruction, class discussions, individual projects, the Internet when appropriate, and teacher-created activities.

WL542C SPANISH 2
WL542H HONORS SPANISH 2
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in Spanish. Successful students will exit the course with a novice-high proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. These goals will be accomplished through individual and paired activities, listening and speaking activities, small- and large-group instruction, class discussions, individual projects, the Internet when appropriate, and teacher-created activities. (Prerequisite: Spanish 1)

WL543C SPANISH 3
WL543H HONORS SPANISH 3
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in Spanish. Intermediate-low proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. Goals will be accomplished through individual and paired activities, listening and speaking activities, small- and large-group instruction, class discussions, individual projects, the Internet when appropriate, and teacher-created activities. Students will increase their cultural awareness through various thematic units. (Prerequisite: Spanish 2)

WL544C SPANISH 4
WL544H HONORS SPANISH 4
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in Spanish. Intermediate-mid proficiency level on the ACTFL scale in the areas of listening, speaking, reading, and writing. Goals will be accomplished through individual and paired activities, listening and speaking activities, small- and large-group instruction, class discussions, individual projects, the Internet when appropriate, and teacher-created activities. Students will increase their cultural awareness through various thematic units. (Prerequisite: Spanish 3)
WL545C SPANISH 5
WL545H HONORS SPANISH 5
Full year
One credit
This academic elective focuses on interpersonal speaking and writing, interpretive reading and listening, and presentational speaking and writing in Spanish. Successful students will exit the course with these proficiency levels on the ACTFL scale: interpersonal speaking (intermediate high), presentational speaking (intermediate mid), presentational writing (intermediate mid/high), interpretive (intermediate mid/high). These goals will be accomplished through individual and paired activities, listening and speaking activities, small- and large-group instruction, class discussions, individual projects, the Internet when appropriate, and teacher-created activities. (Prerequisite: Spanish 4)

WL546C SPANISH 6
WL546H HONORS SPANISH 6
Full year
One credit
Successful students will exit the course with these proficiency levels on the ACTFL scale: interpersonal speaking (intermediate high/advanced low), presentational speaking (intermediate high), presentational writing (intermediate high), interpretive (intermediate high/advanced low). Goals will be accomplished through individual and paired activities, listening and speaking activities, small- and large-group instruction, class discussions, individual projects, the Internet when appropriate, and teacher-created activities. (Prerequisite: Spanish 5)

WL547H HONORS AP SPANISH LANGUAGE
Full year
One credit
The goal of this course is to achieve a high level of proficiency in the four linguistic skills, listening, speaking, reading, and writing, as prescribed by the College Board. Students with a score of 3 or higher on the AP Spanish Language Exam qualify for the Seal of Biliteracy. The use of technology is encouraged to implement and enhance the student’s studies. The classes are conducted in Spanish. (Prerequisites: Spanish 5 or 6)

WL548H HONORS AP SPANISH LITERATURE
Full year
One credit
The goal of this course is to achieve a high level of proficiency in the four linguistic skills, listening, speaking, reading, and writing, as prescribed by the College Board. Students with a score of 3 or higher on the AP Spanish Literature Exam qualify for the Seal of Biliteracy. The classes are conducted in Spanish. The use of technology is encouraged to implement and enhance the student’s studies. (Prerequisite: Spanish Language and Culture)
WL550H HONORS SPANISH 7
Full year
One credit
Students will conduct an interdisciplinary, in-depth investigation of one historical or cultural topic of interest per quarter using materials in the target language and present their findings in the target language. Students speak the language with enough accuracy to participate effectively in formal and informal conversations on a wide variety of topics. They can support opinions and hypothesize in Spanish. (Prerequisites: Spanish 6 or AP Spanish Literature)

WL561C HERITAGE SPANISH LANGUAGE 1
Full year
One credit
This course is intended for students whose dominant spoken language is Spanish, but who lack expertise in reading and writing in their native. (Prerequisites: Intermediate-mid interpersonal speaking proficiency in Spanish, novice-low interpersonal writing proficiency in Spanish, and novice-low interpretive reading proficiency in Spanish.)

WL562C HERITAGE SPANISH LANGUAGE 2
WL562H HONORS HERITAGE SPANISH LANGUAGE 2
Full year
One credit
This course is intended for students whose dominant spoken language is Spanish, but who lack expertise in reading and writing in their native language. (Prerequisite: Native Spanish Language 1 or intermediate-high interpersonal speaking proficiency, novice-high interpersonal writing proficiency, and novice-high interpretive reading proficiency)

WL563C HERITAGE SPANISH LANGUAGE 3
Full year
One credit
This course is designed to further student’s progress in the development of the four language skills, while deepening their insight into Hispanic culture through the exposure to works by modern writers of the Spanish-speaking world. Grammar topics focus on strengthening the writing skills of heritage speakers. Students taking this course are ready to transition to AP Spanish Language and Culture. (Prerequisite: Native Spanish Language 2)

WL567C CHINESE 1
Full year
One credit
Students begin to acquire skills in understanding and speaking the Chinese language. Basic grammar and vocabulary used in daily living, practical conversations, and discussions of Chinese culture are studied. Through the language, students study history, geography, culture, and customs of the country. Novice-mid proficiency level in interpersonal speaking and a novice-low proficiency level in interpretive reading on the ACTFL Proficiency scale.
WL568C CHINESE 2
Full year
One credit
Successful students will exit the course with a novice-mid/high proficiency level in interpersonal speaking and interpretive listening, novice-mid in presentational speaking and writing, and a novice-mid proficiency level in interpretive reading on the ACTFL scale. These goals will be accomplished through individual and paired activities, listening and speaking activities, small- and large-group instruction, class discussions, individual projects, the Internet when appropriate, and teacher-created activities. (Prerequisite: Chinese 1)

WL580O WORLD LANGUAGE CADET
Semester
Half credit
Students in the fourth or fifth year of a world language have the opportunity to be cadet teachers by working with students who have been absent or need extra help. They also may lead discussion groups in the target language. Students are recommended for this course by their previous world language teachers. A qualified fourth-year student could work with a first-year class, and fifth-year students could work with a first- or second-year class. The use of technology is encouraged to implement and enhance the student’s studies.

WL581O WORLD LANGUAGE CADET
Full year
One credit
Students in the fourth or fifth year of a world language have the opportunity to be cadet teachers by working with students who have been absent or need extra help. They also may lead discussion groups in the target language. Students are recommended for this course by their previous world language teachers. A qualified fourth-year student could work with a first-year class, and fifth-year students could work with a first- or second-year class. The use of technology is encouraged to implement and enhance the student’s studies.

WL584O SPANISH FOR HEALTH PROFESSIONALS
Full year
One credit
This course covers all four linguistic skills (speaking, listening, reading and writing) necessary to communicate with the 21st century Hispanic patient population encountered in the various healthcare professions. Emphasis will be placed on perfecting speaking and listening skills on applied medical terminology. Students will be expected to participate in activities such as role-playing based on typical office and emergency procedures. The use of technology is encouraged to implement and enhance the student’s studies. (Prerequisites: Spanish 1, 2 and 3 with a grade of C or better)

WL551C JAPANESE 1
Full year
One credit
Basic grammar and vocabulary used in daily living, practical conversations, and discussions of Japanese culture are studied. Hiragana, the Japanese syllabify writing system, and katakana, the Japanese syllabify for foreign words, are taught, and kanji characters are also introduced. Through the language, students study history, geography, culture, and customs of the country. Novice-mid proficiency level in interpersonal speaking and a novice-low proficiency level in interpretive reading on the ACTFL scale.
WL552C JAPANESE 2
WL552H HONORS JAPANESE 2
Full year
One credit
Students gain depth in the linguistic skills of listening, speaking, reading, and writing, and use simple mechanical responses, demonstrating the ability to manipulate and create in the language. Students leave with novice-mid/high proficiency level in interpersonal speaking and interpretive listening, novice-mid in presentational speaking and writing, and a novice-mid proficiency level in interpretive reading on the ACTFL scale. (Prerequisite: Japanese 1)

WL553C JAPANESE 3
WL553H HONORS JAPANESE 3
Full year
One credit
Linguistic skills and grammatical concepts are reviewed and strengthened, while cultural concepts are expanded to enable students to understand cultural differences. The goal is for students to communicate with increasing proficiency by discussing the world of work, travel in Japan, and Japanese cuisine. Successful students will exit the course with a novice-high proficiency level in interpersonal speaking and interpretive listening, novice-mid/high in presentational speaking and writing, and interpretive reading on the ACTFL scale. (Prerequisite: Japanese 2)

WL554H HONORS JAPANESE SEMINAR 4
Full year
One credit
Students continue to broaden the range of topics discussed and compared. Successful students will exit the course with an intermediate-low proficiency level in interpersonal speaking and interpretive listening, novice-high in presentational speaking and writing, and interpretive reading on the ACTFL scale. (Prerequisite: Japanese 3)

WL590C AMERICAN SIGN LANGUAGE 1
Full year
One credit
This course introduces the fundamentals of American Sign Language (ASL) used by the deaf community, including basic vocabulary, syntax, fingerspelling, and grammatical non-manual signals. It introduces cultural knowledge and increases understanding of the deaf community. During the year, students will develop gestural skills as a foundation for ASL enhancement. Students will focus on communicative competence.

WL595C AMERICAN SIGN LANGUAGE 2
Full year
One credit
Building on the skills developed in ASL 1, students will ask and respond to questions for clarification, express opinions and preferences regarding themselves and their daily lives, develop and propose solutions to school and community issues, and demonstrate cultural competence when interacting with and/or describing aspects of the deaf culture and community. Students will focus on communicative competence. (Prerequisite: American Sign Language 1)
WL597C AMERICAN SIGN LANGUAGE 3
Full year
One credit
Students will learn to express, understand, and produce signed language regarding the themes of voting and civic responsibility, chores, educational plans, careers and jobs, entertainment, sports and leisure, nature and wildlife, ecology, current events, history, celebrations, and traditions, and the arts, architecture and literature. (Prerequisites: American Sign Language 1 and 2)

DE514D COLLEGE INTERMEDIATE FRENCH
Full year
One credit
Students strengthen their communication skills, their intercultural competencies, listening, speaking, reading, writing tasks and understanding of francophone culture. In addition to topics of personal interest, students will learn to communicate in French about science and technology, societal changes, the influence of the media, and work perspectives, in this college-level course.

DE563D COLLEGE BEGINNING SPANISH
Full year
One credit
Students build language skills and cultural awareness through the active use of art, music, and literature. Through carefully sequenced reading, vocabulary, and practice activities, students build proficiency in this college-level course.

DE564D COLLEGE INTERMEDIATE SPANISH
Full year
One credit
Students strengthen their language skills and cultural awareness through the active use of art, music, and literature. Through carefully sequenced reading, vocabulary, and practice activities, students progress to an intermediate-high level of proficiency in this college-level course.
HP701O HEALTH/PHYSICAL EDUCATION SP 6-8
Full year
This is a diversified program of developmental activities suited to needs, capabilities, and limitations of students who may not safely, successfully or with personal satisfaction engage in activities included in the regular physical education program. Through carefully designed movement experiences, students should gain knowledge about skills, fitness, and health education concepts.

HP706O HEALTH/PHYSICAL EDUCATION 6
Full year
Students will experience a developmentally designed program of skill and fitness. Emphasis is placed on students learning basic skills and acquiring competence and confidence necessary to participate in and enjoy physical activity. Students are provided with learning experiences that help them acquire current health information and practice essential skills for making healthy decisions.

HP707O HEALTH/PHYSICAL EDUCATION 7
Full year
Students will experience a developmentally designed program of skill and fitness. Emphasis is placed on students learning basic skills and acquiring competence and confidence necessary to participate in and enjoy physical activity. Students are provided with learning experiences that help them acquire current health information and practice essential skills for making healthy decisions.

HP708O HEALTH/PHYSICAL EDUCATION 8
Full year
Students will experience a developmentally designed program of skill and fitness. Emphasis is placed on students learning basic skills and acquiring competence and confidence necessary to participate in and enjoy physical activity. Students are provided with learning experiences that help them acquire current health information and practice essential skills for making healthy decisions.

HP782O PHYSICAL EDUCATION 8
Semester
Students will experience a developmentally designed program of skill and fitness. Emphasis is placed on students learning basic skills and acquiring competence and confidence necessary to participate in and enjoy physical activity. Students are provided with learning experiences that will expose them to a variety of lifetime activities.

HP780O FITNESS FOR LIFE
Full year
Suggested Grade Level: 8
This course will provide students with the knowledge and skills to make good personal physical activity choices. Students will assess their present level of physical fitness, set realistic and appropriate goals, and develop and manage a plan to reach those goals. Students will realize the benefits of developing their own unique exercise plan and be able to explain the relationship between sleep, exercise, nutrition, self-esteem, academic performance, and avoidance of substance abuse to achieving and maintaining good physical fitness.
HP778O FITNESS FOR LIFE
Semester
Suggested Grade Level: 8
This course will provide students with the knowledge and skills to make good personal physical activity choices. Students will assess their present level of physical fitness, set realistic and appropriate goals, and develop and manage a plan to reach those goals. Students will realize the benefits of developing their own unique exercise plan and be able to explain the relationship between sleep, exercise, nutrition, self-esteem, academic performance, and avoidance of substance abuse to achieving and maintaining good physical fitness.

HP785O SPORTS MANAGEMENT/ADVENTURE RECREATION
Full year
This course offers students the opportunity to be active in a blend of traditional and adventure-based activities that challenge the student personally and socially while at the same time having classroom-based opportunities to look at the organizational structures found in the sports industry and the foundations of managerial and leadership concepts. Recreation-based instruction may include learning skills for biking, fishing, archery, geocaching, Frisbee golf, and other non-traditional sports.

HP783O ADVENTURE RECREATION
Semester
This course offers students the opportunity to be active while participating in a blend of non-traditional and adventure-based activities that challenge the student personally and socially. Recreation-based instruction may include learning skills for activities such as biking, fishing, archery, geocaching, Frisbee golf, and other non-traditional sports.

HP786O TEAM SPORTS
Full year
This course will take an in-depth learning experience to a variety of real and modified versions team sports and activities. Students will engage in the classroom setting to gain knowledge of rules, history, field diagrams, game play and strategy. Assessments will take place in the classroom on their cognitive learning of the sport, the skill development in actual game play, and the component of the skills being taught in the team sport.

HP787O/HP788O TEAM SPORTS I AND II
Semester
Team sports is an in-depth experience into traditional and non-traditional sports. Students will learn basic rules, requirements, and concepts necessary to participate in each sport. Engagement will be in partner, small group, and regular team settings to differentiate learning and playing styles. A variety of sports will be highlighted in each semester.

HP600O UNIFIED PHYSICAL EDUCATION
Full year
One credit
This course provides a unique opportunity for students with and without disabilities to come together through ongoing educational and physical activities. The course is structured around physical education standards and grade-level outcomes, which include gaining the knowledge and skills necessary to maintain a health-enhancing level of fitness. Additionally, the class supports the development of leadership skills for all students, and the empowerment of all students to foster an inclusive class and school-wide environment. This course can be a gateway for further participation in Special Olympics programs and events.
HIGH SCHOOL HEALTH AND PHYSICAL EDUCATION

HP709O HEALTH/PHYSICAL EDUCATION 1
Full year
One credit
This course is designed for students to apply a variety of health concepts, skills, and behaviors when making health-related decisions. The health education content focuses on nutrition, fitness, substance prevention, first aid and family life education. In physical education, emphasis is placed on students becoming confident and competent in performing lifetime physical activities.

HP710O HEALTH/PHYSICAL EDUCATION 2
Full year
One credit
This course is designed for students to continue applying health concepts, skills, and behaviors when making health-related decisions. The health education content focuses on driver education, personal and community health and wellness, violence prevention and family life education. In physical education, emphasis is placed on student’s confidence and competence in physical activities they are likely to participate in throughout life.

HP070O ADAPTIVE PHYSICAL EDUCATION
Full year
One credit
For special education students only
This course is a diversified program of developmental activities suited to needs, capabilities, and limitations of students who may not safely, successfully, or with personal satisfaction engage in activities included in a regular physical education program. Through carefully designed movement experiences, students should gain knowledge about skills, fitness, and the applications to their lives. This course includes health education concepts. (This is not a health/physical education credit toward graduation credits.)

HP702O HEALTH/PHYSICAL EDUCATION 9 FOR SPECIAL POPULATIONS
Full year
One credit
For special education students only
This is a diversified program of developmental activities suited to needs, capabilities, and limitations of students who may not safely, successfully or with personal satisfaction engage in activities included in the regular physical education program. Through carefully designed movement experiences, students should gain knowledge about skills, fitness, and health education concepts. (This is not a health/physical education credit toward graduation credits.)

HP703O HEALTH/PHYSICAL EDUCATION 10 FOR SPECIAL POPULATIONS
Full year
One credit
For special education students only
This is a diversified program of developmental activities suited to needs, capabilities, and limitations of students who may not safely, successfully or with personal satisfaction engage in activities included in the regular physical education program. Through carefully designed movement experiences, students should gain knowledge about skills, fitness, and health education concepts. (This is not a health/physical education credit toward graduation credits.)
HP711O ADVANCED PHYSICAL EDUCATION 1
Full year
One credit
This elective course stresses participation in a variety of lifetime activities. The course includes recreational activities, fitness activities, and individual, dual, and team sports. Possible activities are aerobics and aerobic games, badminton, basketball, canoeing, cycling, golf, pickle ball, soccer, swimming/water safety, strength training, and volleyball. Fitness experiences and individual fitness assessments are integrated throughout the year.

HP712O ADVANCED PHYSICAL EDUCATION 2
Full year
One credit
This elective course stresses participation in a variety of lifetime activities. The course includes recreational activities, fitness activities, and individual, dual, and team sports. Possible activities are aerobics and aerobic games, badminton, basketball, canoeing, cycling, golf, pickle ball, soccer, swimming/water safety, strength training, tennis, and volleyball. Fitness experiences and individual fitness assessments are integrated throughout the year.

HP713O DRIVER EDUCATION
The purpose of driver education is to provide students with a detailed understanding of the fundamentals of driving and to foster responsible driving attitudes and behaviors. This content is incorporated into the Health/Physical Education 2 course.

HP718O/HP719O PHYSICAL EDUCATION 9 / 10
Semester
Half credit
These semester courses emphasize students becoming confident and competent in performing lifetime physical activities.

HP720O FITNESS FOR LIFE 1
Full year
One credit
This elective course is designed for students to develop and maintain lifetime skills focused on strength training and conditioning. Emphasis is placed on students self-managing their programs.

HP721O FITNESS FOR LIFE 2
Full year
One credit
This elective course is designed for students to develop and maintain lifetime skills focused on strength training and conditioning. Emphasis is placed on student self-managing their programs.

HP723O LIFE FITNESS
Full year
One credit
Lifetime Fitness is designed to provide students with the opportunity to participate in numerous team, dual and individual sports. The purpose of the class is to expose students to a wide range of fitness activities that can be pursued throughout their life.
HP730O PERSONAL FITNESS  
Semester  
Half-credit  
This is an elective physical education course that focuses on fitness, strength training, physical conditioning, and lifetime health concepts, activities and knowledge to promote health and wellness for a lifetime. The course requires mastery of training principles and thorough understanding of fitness center safety rules prior to participation in weight-room laboratory experiences. The course content is presented so that teachers may select strategies and instructional techniques designed to improve muscular strength and endurance, flexibility, and cardiorespiratory endurance.

HP733O TEAM SPORTS  
Semester  
Half-credit  
Students will learn the rules and history, skills and strategies of team sports. Sports may include, but are not limited to: basketball, flag football, soccer, tennis, ultimate Frisbee, pickle ball, badminton, table tennis and volleyball. This course will also include a daily focus on health-related fitness.

HP734O RECREATIONAL SPORTS  
Semester  
Half-credit  
This course offers students the opportunity to be active while participating in a blend of non-traditional and adventure-based activities that challenge the student personally and socially. Recreation-based instruction may include learning skills for activities such as biking, fishing, archery, geocaching, Frisbee golf, and other non-traditional sports.

HP735O WEIGHT TRAINING  
Semester  
Half-credit  
This course is structured to develop individualized knowledge of strength training and physical conditioning for the beginning student and the advanced student. The course requires mastery of training principles and thorough understanding of fitness center safety rules prior to participation in weight-room laboratory experiences. The student will be shown lifts, safe spotting techniques and how to follow designed programs.

HP 741O YOGA/PILATES  
Full year  
One credit  
This is a course for students to gain strength, flexibility, stamina and concentration with a variety of movements that will improve their balance, posture and self-esteem. The course will pay attention to building strength and endurance of the core to gain stability, enhancing posture and creating a fit, streamlined shape.
HP738O UNIFIED PHYSICAL EDUCATION
Full year
One credit
This course provides a unique opportunity for students with and without disabilities to come together through ongoing educational and physical activities. The course is structured around physical education standards and grade-level outcomes, which include gaining the knowledge and skills necessary to maintain a health-enhancing level of fitness. Additionally, the class supports the development of leadership skills for all students, and the empowerment of all students to foster an inclusive class and school-wide environment. This course can be a gateway for further participation in Special Olympics programs and events.

DE700D COLLEGE PERSONAL HEALTH AND FITNESS
Full year
One credit
Surveys scientific principles, methodologies, and research as applied to exercise and physical fitness. Emphasizes physiological responses and adaptations to exercise. Addresses basic elements of kinesiology, biomechanics, and motor learning. Presents an introduction to the physical fitness industry.
MIDDLE SCHOOL PERFORMING ARTS

PA1060 SPEECH AND DRAMA 6
Quarter
This nine-week course that offers an introduction to basic activities in drama such as pantomime, improvisation, creating a character, role playing, and script reading. Opportunities to participate in classroom presentations improve imagination, movement, and verbal skills.

PA1070 SPEECH AND DRAMA 7
Semester
This elective course focuses on communication skills learned through pantomime, dialogue writing, memorization of written material, speech making, and oral reading. Improvisation and role-playing emphasize concentration and other skills that help students gain self-confidence.

PA1080 SPEECH AND DRAMA 8
Semester
This semester course is designed to give students intense work in pantomime, improvisation, stage geography, character development, and vocal projections and expressiveness. Students will be involved in a stage production and various public speaking activities.

PA1050 SPEECH AND DRAMA 8
Full year
This year-long course gives students the opportunity to be involved in two or more stage productions and to study two three-act plays. Intense work in pantomime, improvisation, dialogue writing, videotaping, and public speaking help students to gain self-confidence. (Prerequisite: Drama teacher recommendation)

PA1040 THEATRE ARTS 7
Full year
This course is designed as an introduction to the study of theatre history, dramatic literature and theatrical production.

PA1090 THEATRE ARTS 8
Full year
This course prepares students for further theatrical study and the acquisition of concepts, content and skills in theatre arts.

PA3010 BEGINNING BAND 6
Full year
This course provides an opportunity for students to learn a band instrument (brass, woodwind, percussion) and completes Level 1 as specified in the band curriculum. This class helps students appreciate the relationships among music, other arts, and society. Performances are mandatory and are part of the overall grade in this class. Instrumentation will be determined by the teacher, and special attire may be required for performances.
PA302O INTERMEDIATE BAND 7
Full year
This course completes Level 2 as specified in the band curriculum to help students appreciate the relationships among music, other arts, and society. Performances are mandatory and are a part of the overall grade in this class. Students must provide their own instrument, method book, and special attire may be required for performances. (Prerequisite: Beginning Band 6 and/or band teacher recommendation.)

PA303O ADVANCED BAND 8
Full year
This class completes Level 3 as specified in the band curriculum and helps students appreciate the relationships among music, other arts, and society. Performances are mandatory and are a part of the overall grade in this class. Students must provide their own instruments, method book, and special attire may be required for performances. (Prerequisites: Beginning Band 6, Intermediate Band 7, and/or Band teacher recommendation.)

PA400O CHORUS 6 EXPLORATORY
Quarter
Grade Level: 6
This class fosters skills that help students appreciate the relationships among music, other arts, and society. This course enables students to become knowledgeable music consumers. Performances are mandatory and are a part of the overall grade in this class. Special attire may be required for performances.

PA401O BEGINNING CHORUS 6
Full year
This course completes Level 1 of the vocal curriculum by teaching the mechanics of music notation and music reading and fosters skills that help students become better singers and appreciate the relationships among music, other arts, and society. Performances are mandatory and are a part of the overall grade in this class, and special attire may be required for performances.

PA402O INTERMEDIATE CHORUS 7
Full year
This course completes Level 2 of the vocal curriculum by teaching music production that helps students become better singers and appreciate the relationships among music, other arts, and society. Performances are mandatory and are a part of the overall grade in this class, and special attire may be required for performances.

PA403O ADVANCED CHORUS 8
Full year
This course completes Level 3 of the vocal curriculum by teaching music production that helps students become better singers and appreciate the relationships among music, other arts, and society. Performances are mandatory and are a part of the overall grade in this class. Special attire may be required for performances.

PA404O GENERAL MUSIC EXPLORATORY
Quarter
This general music course is designed to involve students in the development of music skills through singing, playing instruments, moving, and listening. Students will explore the creative aspects of music and study various cultural/historical periods of music.
PA405O WORLD MUSIC EXPLORATORY 6
Quarter
This general music course is designed as an introduction to a variety of musical styles and cultures from around the world. Students will explore the creative aspects of world music by applying music knowledge and skills.

PA406O WORLD MUSIC EXPLORATORY 6
Semester
This general music course is designed as an introduction to a variety of musical styles and cultures from around the world. Students will explore the creative aspects of world music by applying music knowledge and skills.

PA407O WORLD MUSIC EXPLORATORY 7
Semester
This general music course is designed as an introduction to a variety of musical styles and cultures from around the world. Students will explore the creative aspects of world music by applying music knowledge and skills.

PA408O WORLD MUSIC EXPLORATORY 8
Semester
This general music course is designed as an introduction to a variety of musical styles and cultures from around the world. Students will explore the creative aspects of world music by applying music knowledge and skills.

PA515O MIDDLE SCHOOL BEGINNER GUITAR 6
Quarter
This course is designed as a foundation for the beginning guitar student. Students will learn and develop techniques and skills to play in ensembles and individually. Students must provide their own instrument and method book.

PA526O MIDDLE SCHOOL BEGINNER GUITAR 6
Full year
This course is designed as a foundation for the beginning guitar student. Students will learn and develop techniques and skills to play in ensembles and individually. Evaluation criteria will include student attendance at performances and classroom participation, and student must provide own instrument and methods books.

PA527O MIDDLE SCHOOL BEGINNER GUITAR 7
Full year
This course is designed as a foundation for the beginning guitar student. Students will learn and develop techniques and skills to play in ensembles and individually. Evaluation criteria will include student attendance at performances and classroom participation, and student must provide own instrument and methods books.

PA517O MIDDLE SCHOOL BEGINNER GUITAR 8
Full year
This course is designed as a foundation for the beginning guitar student. Students will learn and develop techniques and skills to play in ensembles and individually. Evaluation criteria will include student attendance at performances and classroom participation, and student must provide own instrument and method book.
PA518O MIDDLE SCHOOL BEGINNER GUITAR 7/8  
Semester  
This course is designed as a foundation for the beginning guitar student. Students will learn and develop techniques and skills to play in ensembles and individually. Students must provide their own instrument and method book.

PA551O TECHNOLOGY-ASSISTED MUSIC 6  
Quarter  
This course allows student musicians the opportunity to learn how to create sound maps and basic recording techniques and explore the use of electronic and software-based instruments to create music and become active music makers.

PA552O TECHNOLOGY-ASSISTED MUSIC 7  
Full year  
One credit  
This course allows student musicians the opportunity to learn how to create sound maps and basic recording techniques while creating original compositions. Students will learn to collaborate with others to create a production plan for performance and recordings, microphone selection and placement, explore the use of electronic and software-based instruments to create music and become active music makers.

PA553O TECHNOLOGY-ASSISTED MUSIC 8  
Full year  
This course allows student musicians the opportunity to learn how to create sound maps and basic recording techniques while creating original compositions. Students will learn to collaborate with others to create a production plan for performance and recordings, microphone selection and placement, explore the use of electronic and software-based instruments to create music and become active music makers.

PA554O TECHNOLOGY-ASSISTED MUSIC 7  
Semester  
This course allows student musicians the opportunity to learn how to create sound maps and basic recording techniques while creating original compositions. Students will learn to collaborate with others to create a production plan for performance and recordings. Students will utilize multiple software-based tools to accomplish these objectives.

PA555O TECHNOLOGY-ASSISTED MUSIC 8  
Semester  
This course allows student musicians the opportunity to learn how to create sound maps and basic recording techniques while creating original compositions. Students will learn to collaborate with others to create a production plan for performance and recordings. Students will utilize multiple software-based tools to accomplish these objectives.

PA601O BEGINNING ORCHESTRA 6  
Full year  
Students enrolled in beginning orchestra will learn to play an orchestral instrument (violin, viola, cello or string bass). This class is designed to teach the basic skill development of stringed instruments and music reading. Students enrolled in this course are expected to attend mandatory rehearsals/performances, provide their own instrument, and special clothing may be required for performances.
PA602O INTERMEDIATE ORCHESTRA 7
Full year
The primary focus of this class is the further development and expansion of basic skills learned in sixth-grade orchestra. Students will study bowing technique, music reading and notation, scales and ensemble playing. Students enrolled in this course are expected to attend mandatory rehearsals/performances, provide their own instrument, and special clothing may be required for performances. (Prerequisite: Orchestra teacher recommendation)

PA603O CONCERT ORCHESTRA 8
Full year
This course is an advanced performing ensemble for students playing stringed instruments. Students will continue to refine their technical skills and expand their knowledge of music expression. Students enrolled in this course are expected to attend mandatory rehearsals/performances, provide their own instrument, and special clothing may be required for performances. (Prerequisite: Orchestra teacher recommendation)
HIGH SCHOOL PERFORMING ARTS

PA111O THEATRE 1
Full year
One credit
This is an introductory course that offers students the opportunity to study theatre including theatre, history, technical skills, and acting.

PA112O THEATRE 2
Full year
One credit
This is an advanced elective course with emphasis on performing techniques and interpretation of dramatic literature, as well as an introduction to costuming and makeup. (Prerequisites: Theatre 1 and staff recommendation)

PA113O THEATRE 3
Full year
One credit
This is an advanced elective course with emphasis on directing, playwriting, and advanced acting projects. It is designed for those students who are highly advanced in dramatic techniques and who may pursue the study of theatre arts. (Prerequisites: Theatre 2 and staff recommendation)

PA113H HONORS THEATRE 3
Full year
One credit
This is an advanced elective course with emphasis on directing, playwriting, and advanced acting projects. It is designed for those students who are highly advanced in dramatic techniques, and who may pursue the study of theatre arts. In addition, they must fulfill the requirements of the Honors Syllabus. (Prerequisites: Theatre 2 and staff recommendation)

PA114O THEATRE 4
Full year
One credit
This course is designed for students who are highly advanced in dramatic techniques, rehearsal process and performance and who wish to pursue a career in theatre beyond high school. The major objective is to give advanced students a clear understanding of elements involved in developing characters from analysis to performance. (Prerequisites: Theatre 1, 2, and 3 and staff recommendation)

PA114H HONORS THEATRE 4
Full year
One credit
This course is designed for students who are highly advanced in dramatic techniques, rehearsal process and performance and who wish to pursue a career in theatre beyond high school. The major objective is to give advanced students a clear understanding of elements involved in developing characters from analysis to performance and in addition they must fulfill the requirements of the Honors Syllabus. (Prerequisites: Theatre 1, 2, and 3 and staff recommendation)
PA121O THEATRE PRODUCTION 1
Full year
One credit
This introductory course is designed to give students the opportunity to study technical production, set construction, lighting, sound and makeup. Students enrolled in this course will need a recommendation from the theatre teacher. (Prerequisite: Theatre teacher recommendation)

PA122O THEATRE PRODUCTION 2
Full year
One credit
Students enrolled in this course will study advanced techniques in all phases of theatrical production. (Prerequisites: Theatre Production 1 and theatre teacher recommendation)

PA123O THEATRE PRODUCTION 3
Full year
One credit
This course is designed for students who will be pursuing theatre studies beyond high school. The class consists of contracted projects designed to meet the needs of the particular student and includes the highest level of theatre that incorporates light, sound, costuming, and makeup. (Prerequisites: Theatre Production 2 and interview with the theatre teacher)

PA123H HONORS THEATRE PRODUCTION 3
Full year
One credit
This course is designed for students who will be pursuing theatre studies beyond high school. The class consists of contracted projects designed to meet the needs of the particular student. The content includes the highest level of theatre that incorporates light, sound, costuming, and makeup. In addition, they must fulfill the requirements of the Honors Syllabus. (Prerequisites: Theatre Production 2 and interview with the theatre teacher)

PA124H HONORS THEATRE PRODUCTION 4
Full year
One credit
The content is designed for students who want to pursue further study in theatre. The course will include specific projects that meet the requirements for the particular student and differs from other theatre production courses in that the study and projects will be specific to theatre design and production management skills. Selection by interview with the theatre teacher and in addition they must fulfill the requirements of the Honors Syllabus.

PA141O INDEPENDENT STUDY THEATRE
Full year
One credit
This course is taken in conjunction with the Theatre 4 or Theatre Production 4 courses. In order to enroll in independent study students must have permission from their instructor. The objective is to allow advanced level students the opportunity to explore in-depth studies of specific techniques and develop proficiency in theatre. (Prerequisite: Instructor evaluation)
PA141H HONORS INDEPENDENT STUDY THEATRE
Full year
One credit
This course is taken in conjunction with the Theatre 4 or Theatre Production 4 courses. In order to enroll in independent study, students must have permission from their instructor. The objective is to allow advanced-level students the opportunity to explore in-depth studies of specific techniques and develop proficiency in theatre. In addition, they must fulfill the requirements of the Honors Syllabus. (Prerequisite: Instructor evaluation)

PA171O MUSICAL THEATRE WORKSHOP
Full year
One credit
A survey of musical theatre as an art form. Students will study, analyze, and perform a variety of selections from musical theatre shows spanning multiple periods and styles. (Prerequisite: Theatre 1)

PA180O LIGHTING AND SOUND FOR STAGE
Full year
One credit
Explore, analyze, manipulate and evaluate the technology used for stage lighting and sound.

PA221O DANCE MOVEMENT 1
Full year
One credit
This course introduces the basics of movement, dance technique, and composition. Through work in hip-hop, jazz, ballet and contemporary dance technique, students will develop an appreciation of the elements of dance, the purposes for dancing, and will explore basic choreography, repertory rehearsals, and performance.

PA222O DANCE MOVEMENT 2
Full year
One credit
This course dives deeper into dance technique, improvisation, and composition. Through more focused work in modern, jazz, ballet and contemporary dance technique, students will explore the foundations of dance history and more complex choreographic theory as well as participating in repertory rehearsals and performances.

PA223O DANCE MOVEMENT 3
Full year
One credit
This course encourages students to work towards higher and more comprehensive levels of dance technique in modern, jazz, hip hop, ballet and contemporary dance styles. Students will explore cultural and world dance and find connections and historical relevance. Students work in complex choreographic theory and participate in regular repertory rehearsals with increased opportunity for performance.
PA224O DANCE MOVEMENT 4
Full year
One credit
This course encourages students to work towards fluent levels of dance technique in modern, jazz, hip hop, ballet and contemporary dance styles. Students will delve deeper into choreographic theory, create larger group dances, and consider non-traditional stage spaces. Students will participate in regular repertory rehearsals with increased opportunity for performance.

PA310O BEGINNING BAND
Full year
One credit
High school students will have the opportunity to learn a band instrument (brass, woodwind, percussion) and complete Level 1 as specified in the HS band curriculum. Student must provide their own instrument and method book. Special attire may be required for performances. Performances are mandatory and are part of the overall grade in this class.

PA311O INTERMEDIATE BAND
Full year
One credit
This course is open to students who have previous band experience and will focus on the sequential development of music skills. Students enrolled in this course are expected to attend mandatory performance/rehearsals and provide their own instrument. Marching band may be a part of this course, and special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA312O ADVANCED BAND
Full year
One credit
Students will study ensemble playing, musical interpretation, and appropriate band literature. Students are expected to attend mandatory rehearsals/performances, provide their own instrument and fulfill the requirements of the Honors Syllabus. Marching band may be a part of this course, and special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA312H HONORS ADVANCED BAND
Full year
One credit
Students will study ensemble playing, musical interpretation, and appropriate band literature. Students enrolled in this course are expected to attend mandatory rehearsals/performances, fulfill honors syllabus requirements and provide their own instrument. Marching band may be a part of this course, and special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA313O SYMPHONIC BAND
Full year
One credit
The course will focus on technical facility, musicianship, tone quality, maturity, and musical interpretation. Students enrolled in this course are expected to attend mandatory rehearsals/performances and provide their own instrument. Marching band may be a part of this course, and special clothing may be required for performances. (Prerequisite: Instructor evaluation)
PA313H HONORS SYMPHONIC BAND
Full year
One credit
The course will focus on technical facility, musicianship, tone quality, maturity, and musical interpretation. Students are expected to attend mandatory rehearsals/performances, provide their own instrument, and fulfill the requirements of the Honors Syllabus. Marching band may be a part of this course, and special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA314O INTERMEDIATE JAZZ BAND
Full year
One credit
This course is a study of the basic literature, rehearsal, and performance techniques and will focus on the development of improvisational skills and analysis of chord structure. Students enrolled in this course are expected to attend mandatory rehearsals/performances and provide their own instrument. Special clothing may be required for performances. (Prerequisites: Audition and instructor evaluation)

PA315O ADVANCED JAZZ BAND
Full year
One credit
This course is a study of the basic literature, rehearsal, and performance techniques and will focus on the development of improvisational skills and analysis of chord structure. Students enrolled in this course are expected to attend mandatory rehearsals/performances and provide their own instrument. Marching band may be a part of this course, and special clothing may be required for performances. (Prerequisites: Audition and Instructor evaluation)

PA315H HONORS ADVANCED JAZZ BAND
Full year
One credit
This course is a study of the basic literature, rehearsal, and performance techniques and will focus on the development of improvisational skills and analysis of chord structure. Students enrolled in this course are expected to attend mandatory rehearsals/performances, provide their own instrument and fulfill the requirements of the Honors Syllabus. Special clothing may be required for performances. (Prerequisites: Audition and instructor evaluation)

PA316O INSTRUMENTAL ENSEMBLE
Full year
One credit
This course is designed to study the literature and performance techniques of small music ensembles for brass, woodwind, strings, and percussion instruments. Students enrolled in this course are expected to attend mandatory performances and/or rehearsals and provide their own instrument. Marching band may be a part of this course, and special clothing may be required for performances. (Prerequisite: Instructor evaluation)
PA316H HONORS INSTRUMENTAL ENSEMBLE
Full year
One credit
This course is designed to study the literature and performance techniques of small music ensembles for brass, woodwind, strings, and percussion instruments. Students enrolled in this course are expected to attend mandatory performances and/or rehearsals, provide their own instrument and fulfill the requirements of the Honors Syllabus. Marching band may be a part of this course, and special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA317O GUITAR ENSEMBLE
Full year
One credit
This course is designed to study the literature and performance techniques of small music ensembles for guitar. Students enrolled in this course are expected to attend mandatory performances and/or rehearsals, provide their own instrument and method book. (Prerequisite: Instructor evaluation)

PA317H HONORS GUITAR ENSEMBLE
Full year
One credit
This course is designed to study the literature and performance techniques of small music ensembles for guitar. Students enrolled in this course are expected to attend mandatory performances and/or rehearsals, provide their own instrument/method book and fulfill the Honors Syllabus requirements. (Prerequisites: Instructor evaluation)

PA318O STRING ENSEMBLE
Full year
One credit
This course is designed to study the literature and performance techniques of small music ensembles for brass, woodwind, strings, and percussion instruments. Students enrolled in this course are expected to attend mandatory performances and/or rehearsals and provide their own instrument. Special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA318H HONORS STRING ENSEMBLE
Full year
One credit
This course is designed to study the literature and performance techniques of small music ensembles for brass, woodwind, strings, and percussion instruments. Students enrolled in this course are expected to attend mandatory performances and/or rehearsals, provide their own instrument, and fulfill the requirements of the Honors Syllabus. Special clothing may be required for performances. (Prerequisite: Instructor evaluation)
PA319O WIND ENSEMBLE
Full year
One credit
This course is designed to further develop ensemble playing and continuing improvement of the playing skills and music interpretation of each student. Attendance at scheduled performances and rehearsals is mandatory, and the student must provide own instrument. Marching band may be part of this program, and special clothing may be required for performances. (Prerequisites: Audition by and permission of director.)

PA319H HONORS WIND ENSEMBLE
Full year
One credit
This course is designed to further develop ensemble playing and continuing improvement of the playing skills and music interpretation of each student. Attendance at scheduled performances and rehearsals is mandatory, and the student must provide own instrument. Marching band may be part of this program, special clothing may be required for performances and students fulfill the requirements of the Honors Syllabus. (Prerequisites: Audition by and permission of director)

PA411O TREBLE CHOIR
Full year
One credit
This course is open to any interested student with a treble (unchanged) voice and will build on the student’s knowledge of music reading, sight-singing, vocal technique and basic music theory. Students enrolled in this course are expected to attend mandatory rehearsals/performances. Special dress apparel may be required for performances. (Prerequisite: Instructor evaluation)

PA411H HONORS TREBLE CHOIR
Full year
One credit
This course is open to any interested student with a treble (unchanged) voice and will build on the student’s knowledge of music reading, sight-singing, vocal technique and basic music theory. Students enrolled in this course are expected to attend mandatory rehearsals/performances. Special dress apparel may be required for performances, and students are expected to fulfill Honors Syllabus requirements. (Prerequisite: Instructor evaluation)

PA412O MIXED CHORUS
Full year
One credit
This course is designed to focus on multipart singing and the continued development of the voice. Fundamentals will include music reading, sight-singing, musical interpretation and vocal technique. Students enrolled in this course are expected to attend mandatory rehearsals/performances. Special dress apparel may be required for performances. (Prerequisite: Instructor evaluation)

PA412H HONORS MIXED CHORUS
Full year
One credit
This course is designed to focus on multipart singing and the continued development of the voice. Fundamentals will include music reading, sight-singing, musical interpretation and vocal technique. Students enrolled in this course are expected to attend mandatory rehearsals/performances. Special dress apparel may be required for performances, and students are expected to fulfill the requirements of the Honors Syllabus. (Prerequisites: Instructor evaluation)
PA413O ADVANCED MIXED CHORUS
Full year
One credit
This course is open to students of advanced choral ability to increase musical development. Students enrolled in this course are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. (Prerequisite: Instructor evaluation)

PA413H HONORS ADVANCED MIXED CHORUS
Full year
One credit
This course is open to students of advanced choral ability to increase musical development. Students enrolled in this course are expected to attend mandatory rehearsals/performances. Special dress apparel may be required for performances, and students are expected to fulfill the requirements of the Honors Syllabus. (Prerequisites: Instructor evaluation)

PA414O JAZZ SHOW CHOIR
Full year
One credit
This course provides the opportunity for select music students to learn jazz vocal music in a show atmosphere. Students will study vocal technique, microphone technique, choreography, and stage presence. Students enrolled in this course are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. (Prerequisite: Instructor evaluation)

PA414H HONORS JAZZ SHOW CHOIR
Full year
One credit
This course provides the opportunity for select music students to learn jazz vocal music in a show atmosphere. Students will study vocal technique, microphone technique, choreography, and stage presence. Special dress apparel may be required for performances, and students are expected to fulfill the requirements of the Honors Syllabus. (Prerequisites: Instructor evaluation)

PA415O BOYS SHOW CHOIR
Full year
One credit
This course provides the opportunity for select music students to learn jazz vocal music in a show atmosphere. Students will study vocal technique, microphone technique, choreography, and stage presence. Students enrolled in this course are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. (Prerequisite: Instructor evaluation)

PA415H HONORS BOYS SHOW CHOIR
Full year
One credit
This course provides the opportunity for select music students to learn jazz vocal music in a show atmosphere. Students will study vocal technique, microphone technique, choreography, and stage presence. Special dress apparel may be required for performances, and students are expected to fulfill the requirements of the Honors Syllabus. (Prerequisites: Instructor evaluation)
PA416O GIRLS SHOW CHOIR
Full year
One credit
This course provides the opportunity for select music students to learn jazz vocal music in a show atmosphere. Students will study vocal technique, microphone technique, choreography, and stage presence. Students enrolled in this course are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. (Prerequisite: Instructor evaluation)

PA416H HONORS GIRLS SHOW CHOIR
Full year
One credit
This course provides the opportunity for select music students to learn jazz vocal music in a show atmosphere. Students will study vocal technique, microphone technique, choreography, and stage presence. Students enrolled in this course are expected to attend mandatory rehearsals/performances. Special dress apparel may be required for performances, and students are expected to fulfill the requirements of the Honors Syllabus. (Prerequisites: Instructor evaluation)

PA417O VOCAL ENSEMBLE 1
Full year
One credit
This course provides an opportunity to select students to participate in the highest forms of vocal art. Students will be chosen at the discretion of the teacher. Students enrolled in this course are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. (Prerequisite: Instructor evaluation)

PA417H HONORS VOCAL ENSEMBLE 1
Full year
One credit
This course provides an opportunity to select students to participate in the highest forms of vocal art. Students will be chosen through audition by the instructor. Students enrolled in this course are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. Students are expected to fulfill the requirements of the Honors Syllabus. (Prerequisite: Instructor evaluation)

PA418O VOCAL ENSEMBLE 2
Full year
One credit
This course provides an opportunity to select students to participate in the highest forms of vocal art. Students will be chosen at the discretion of the teacher. Students enrolled in this course are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. (Prerequisite: Instructor evaluation)

PA418H HONORS VOCAL ENSEMBLE 2
Full year
One credit
This course provides an opportunity to select students to participate in the highest forms of vocal art. Students will be chosen at the discretion of the teacher. Students enrolled in this course are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. Students are expected to fulfill the requirements of the Honors Syllabus. (Prerequisite: Instructor evaluation)
PA511O PIANO LAB
Full year
One credit
This course is a study of the piano in a laboratory setting. The content will include music theory, technique, expression, structure and history. Students enrolled in this course may be asked to purchase a piano method book.

PA511H HONORS PIANO LAB
Full year
One credit
This course is a study of the piano in a laboratory setting. The content will include music theory, technique, expression, structure and history. Students enrolled in this course may be asked to purchase a piano method book and are expected fulfill the requirements of the Honors Syllabus.

PA512O PIANO LAB 2
Full year
One credit
This course provides direct instruction to students who have already mastered elementary piano skills. Students explore standard keyboard repertoire; improvise in blues and jazz modalities; play a variety of popular music styles; and perform in a variety of settings. Students further their study of music theoretical and analytical processes using keyboard theory books at the appropriate level.

PA512H HONORS PIANO LAB 2
Full year
One credit
This course provides direct instruction to those students who have already mastered elementary piano skills. Students explore standard keyboard repertoire; improvise in blues and jazz modalities; play a variety of popular music styles; and perform in a variety of settings. Students further their study of music theoretical and analytical processes using keyboard theory books at the appropriate level. Students are expected to fulfill the requirements of the Honors Syllabus.

PA513O PIANO LAB 3
Full year
One credit
This course provides direct instruction to students who have already mastered intermediate piano skills. Students explore standard keyboard repertoire; improvise in blues and jazz modalities; play a variety of popular music styles; and perform in a variety of settings. Students further their study of music theoretical and analytical processes using keyboard theory books at the appropriate level.

PA513H HONORS PIANO LAB 3
Full year
One credit
This course provides direct instruction to students who have already mastered intermediate piano skills. Students explore standard keyboard repertoire; improvise in blues and jazz modalities; play a variety of popular music styles; and perform in a variety of settings. Students further their study of music theoretical and analytical processes using keyboard theory books at the appropriate level. Students also are expected to fulfill the requirements of the Honors Syllabus.
PA514O PIANO LAB 4
Full year
One credit
This course provides direct instruction to students who have already mastered advanced piano skills. Students explore standard keyboard repertoire; improvise in blues and jazz modalities; play a variety of popular music styles; and perform in a variety of settings. Students further their study of music theoretical and analytical processes using keyboard theory books at the appropriate level.

PA514H HONORS PIANO LAB 4
Full year
One credit
This course provides direct instruction to students who have already mastered advanced piano skills. Students explore standard keyboard repertoire; improvise in blues and jazz modalities; play a variety of popular music styles; and perform in a variety of settings. Students further their study of music theoretical and analytical processes using keyboard theory books at the appropriate level and fulfill the requirements of the Honors Syllabus.

PA520O GUITAR
Semester
Half credit
This introductory course is designed to give the beginning guitarist an opportunity to develop the fundamentals of guitar. The course study will include note reading, chord structure, scale patterns, fingerings, strumming rhythms, fingerpicking, flatpicking and performance. Students must provide their own instrument and method book.

PA521O GUITAR
Full year
One credit
This introductory course is designed to give the beginning guitarist an opportunity to develop the fundamentals of guitar. The course study will include note reading, chord structure, scale patterns, fingerings, strumming rhythms, fingerpicking, flatpicking and performance. Students must provide their own instrument and method book.

PA522O ADVANCED GUITAR
Full year
One credit
Students will further develop and refine guitar techniques and musical skills. These will include multiple note reading, forming more complex chords, scale patterns, fingerings, strumming rhythms, finger picking, flat picking, and composing. Students must provide their own instrument and method book. (Prerequisite: Intermediate Guitar)

PA522H HONORS ADVANCED GUITAR
Full year
One credit
Students will further develop and refine guitar techniques and musical skills. These will include multiple note reading, forming more complex chords, scale patterns, fingerings, strumming rhythms, finger picking, flat picking, and composing. Students must provide their own instrument and method book and fulfill the requirements of the Honors Syllabus. (Prerequisite: Intermediate Guitar)
PA523O INTERMEDIATE GUITAR
Full year
One credit
This course will build upon the skills learned in Beginning Guitar. Students must provide their own instrument and method book. (Prerequisite: Beginning Guitar)

PA523H HONORS INTERMEDIATE GUITAR
Full year
One credit
This course will build upon the skills learned in Beginning Guitar. Students must provide their own instrument and method book and fulfill the requirements of the Honors Syllabus. (Prerequisite: Beginning Guitar)

PA556O TECHNOLOGY-ASSISTED MUSIC
Full year
One credit
This course allows student performers the opportunity to learn how to create sound maps and basic recording techniques while creating original compositions. Students will learn to collaborate with others to create a production plan for performance and recordings. Both tracking and looping techniques will be explored, and students will utilize multiple software-based tools to accomplish objectives.

PA557O TECHNOLOGY-ASSISTED MUSIC 2
Full year
One credit
Students will continue their learning of music and music theory through individual and group-based projects centered around creating original compositions. Students will continue their practice of recording live instruments and exploring techniques to achieve unique sounds for their music. Keyboard skills will be advanced to performing with two hands at a time. Students will be tasked with creating high quality music that makes listeners want more.

PA600O BEGINNING ORCHESTRA
Full year
One credit
High school students will have the opportunity to learn a string instrument (violin, viola, cello, bass) and complete Level 1 as specified in the high school string curriculum. Students enrolled in this course are expected to attend mandatory rehearsals/performances and provide their own instrument. Special clothing may be required for performances.

PA600H HONORS BEGINNING ORCHESTRA
Full year
One credit
High school students will have the opportunity to learn a string instrument (violin, viola, cello, bass) and complete Level 1 as specified in the high school string curriculum. Students enrolled in this course are expected to attend mandatory rehearsals/performances and provide their own instrument. Special clothing may be required for performances. Students are expected to fulfill the requirements of the Honors Syllabus. (Prerequisite: Instructor evaluation)
PA611O INTERMEDIATE ORCHESTRA
Full year
One credit
This course provides an opportunity for students to further develop skills on their instrument. Students will study and perform appropriate orchestra literature. Students enrolled in this course are expected to attend mandatory rehearsals/performances and provide their own instrument. Special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA611H HONORS INTERMEDIATE ORCHESTRA
Full year
One credit
This course provides an opportunity for students to further develop skills on their instrument. Students will study and perform appropriate orchestra literature. Students enrolled in this course are expected to attend mandatory rehearsals/performances, provide their own instrument, and fulfill the requirements of the Honors Syllabus. Special clothing make be required for performances. (Prerequisite: Instructor evaluation)

PA612O CONCERT ORCHESTRA
Full year
One credit
This course provides an opportunity for students to study strings and full orchestra, and ensemble literature. In addition, students will continue to develop the technical advancement skills needed for their instrument. Students enrolled in this course are expected to attend mandatory rehearsals/performances and provide their own instrument. Special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA612H HONORS CONCERT ORCHESTRA
Full year
One credit
This course provides an opportunity for students to study strings and full orchestra, and ensemble literature. In addition, students will continue to develop the technical advancement skills needed for their instrument. Students enrolled in this course are expected to attend mandatory rehearsals/performances, provide their own instrument, and fulfill the requirements of the Honors Syllabus. Special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA711O INDEPENDENT MUSIC
Full year
One credit
This course is taken in conjunction with an advanced level music course. In order to enroll in independent study, students must have permission from their instructor. The objective is to allow advanced level students the opportunity to explore technique and develop proficiency in music. (Prerequisite: Instructor evaluation)

PA711H HONORS INDEPENDENT MUSIC
Full year
One credit
This course is taken in conjunction with an advanced level music course. In order to enroll in independent study, students must have permission from their instructor. The objective is to allow advanced level students the opportunity to explore technique and develop proficiency in music. Students must fulfill the requirements of the Honors Syllabus. (Prerequisite: Instructor evaluation)
PA712O MUSIC THEORY
Full year
One credit
This course is designed to expose students to the mechanics of written music through the analysis of music forms and composition, ear training, melody, counter melody, harmony, rhythmic structure, scales and music history. (Prerequisite: Instructor evaluation)

PA712H HONORS MUSIC THEORY
Full year
One credit
This course is designed to expose students to the mechanics of written music through the analysis of music forms and composition, ear training, melody, counter melody, harmony, rhythmic structure, scales and music history. Students must fulfill the requirements of the Honors Syllabus. (Prerequisite: Instructor evaluation)

PA713H HONORS AP MUSIC THEORY
Full year
One credit
This course is designed to develop the student’s ability to recognize, understand and describe basic materials and processes of music that are heard or presented in a musical score. Students will study aspects of melody, harmony, texture, rhythm and form, through musical analysis and elementary composition. In addition, the student will study the various aspects of history and style as it relates to musical composition.

DE651D COLLEGE MUSICIANSHIP
Semester
Students gain a new understanding of music history, basic music theory, with cultural and historical connections. These dual enrollment credits will help students satisfy their college elective credits.
(Aligns with John Tyler Community College Music 101)

DE652D COLLEGE MUSIC APPRECIATION
Full year
One credit
Acquaints the student with music from Medieval to contemporary times, while emphasizing the relationship music has as an art form. Students gain an understanding of historical connections, and an awareness of the composers and performers. These dual enrollment credits help students satisfy college elective credits. (Aligns with John Tyler Community College Music 121)

DE303D COLLEGE MUSIC APPRECIATION/MUSICIANSHIP
Full year
One credit
Students gain a new understanding of music history, basic music theory, with cultural and historical connections and acquaints the student with music from Medieval to contemporary times, while emphasizing the relationship music has as an art form. Students gain an understanding of historical connections, and an awareness of the composers and performers. These dual enrollment credits help students satisfy college elective credits. (Aligns with John Tyler Community College Music 101 and 121)
DE653D COLLEGE MUSIC THEORY
Full year
One credit
Theory I and II - develop a student's ability to recognize, understand, and describe the fundamental processes of musical composition by an integrated approach to develop aural skills, sight-singing, written skills, compositional skills, and analytical skills. Introduction of the analysis of the Bach chorale style facilitates harmonic dictation and enables the student to use these techniques at the keyboard. These dual enrollment credits help students satisfy college elective credits. (Aligns with John Tyler Community College Music 111 and 112)
MIDDLE SCHOOL VISUAL ARTS

VA060O ART 6 EXPLORATORY
Quarter
Students build skills in art media while developing an understanding of the elements and principles of design. Artwork of the masters will be studied with an emphasis on personal vision and expression of the individual. Interdisciplinary relationships among other subject areas will be studied.

VA061O ART 6
Full year
Students build skills in art media while developing an understanding of the elements and principles of design. Artwork of the masters will be studied with an emphasis on personal vision and expression of the individual. Interdisciplinary relationships among other subject areas will be studied.

VA062O ART 6
Semester
Students build skills in art media while developing an understanding of the elements and principles of design. Artwork of the masters will be studied with an emphasis on personal vision and expression of the individual. Interdisciplinary relationships among other subject areas will be studied.

VA0630 COMPUTER ART
Quarter
An introductory course in the use of the computer as an artistic and creative tool. Students will explore software applications that promote creativity, meaning making and visual literacy. Elements and principles of design will be emphasized in the creation of digital images.

VA070O ART 7
Semester
Students build skills media; painting, drawing, printmaking, and sculpture while focusing on the elements of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as will understanding art worlds, artists, cultures and how they relate to the student’s life.

VA071O ART 7
Full year
Students build deeper sets of skills media; painting, drawing, printmaking, and sculpture while focusing on the elements of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as will understanding art worlds, artists, cultures and how they relate to the student’s life.

VA072O COMPUTER ART
Semester
An introductory course that allows students to build deeper sets of skills in the use of the computer as an artistic and creative tool. Students will explore software applications that promote creativity, meaning making and visual literacy. Elements and principles of design will be emphasized in the creation of digital images.
VA074O DIGITAL PHOTOGRAPHY 1
Semester
Grade level: 7
This level 1 course is designed to introduce students to digital photography as an art form and to basic digital media programs. Students will use various techniques and methods to create digital images and explore photography as a creative process.

VA075O DIGITAL PHOTOGRAPHY 2
Semester
Grade level: 7
In this level 2 course, students will continue to explore digital photography as an art form and to basic digital media programs. Students will use various techniques and methods to create digital images and explore photography as a creative process. (Prerequisite: Digital Photography 1, 7th Grade)

VA078O ART 7/8
Semester
Students build deeper sets of skills media; painting, drawing, printmaking, and sculpture while focusing on the elements of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as will understanding art worlds, artists, cultures and how they relate to the student’s life.

VA080O ART 8
Semester
Students build deeper sets of skills media; painting, drawing, printmaking, and sculpture while focusing on the elements of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as will understanding art worlds, artists, cultures and how they relate to the student’s life.

VA081O ART 8
Full year
Students build deeper sets of skills media; painting, drawing, printmaking, sculpture and new media while focusing on the elements of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as will understanding art worlds, artists, cultures and how they relate to the student’s life.

VA082O COMPUTER ART 8
Semester
A level 1, introductory course that introduces students in the use of the computer as an artistic and creative tool. Students will explore software applications that promote visual literacy. The elements and principles of design will be emphasized in the creation of personal meaning through digital images.

VA083O DIGITAL PHOTOGRAPHY 1
Semester
Grade Level: 8
This course introduces students to digital photography as an art form and to basic digital media programs. Students will use various techniques and methods to create photographic digital images and explore photography as a creative process.
VA085O DIGITAL PHOTOGRAPHY 2
Semester
Grade Level: 8
Students continue to explore digital photography as an art form and to basic digital media programs. Students will use various techniques and methods to create digital images and explore photography as a creative process. (Prerequisite: Digital Photography 1, 8th Grade)

VA086O COMPUTER ART 2
Semester
Grade Level: 8
Students build on the technical skills necessary for artistic problem-solving using applied visual solutions. Emphasis will focus on approaching the computer as a creative and practical tool. Graphic design in the commercial / practical and fine art fields and developing the design process and positive studio habits in the creation of works of art. (Prerequisite: Computer Art 1)

VA087O COMPUTER ART 7/8
Semester
This introductory course introduces students in the use of the computer as an artistic and creative tool. Students will explore software applications that promote visual awareness. The elements and principles of design will be emphasized in the creation of digital images

VA0960 ADVANCED ART 6
Full year
Students will explore a variety of art media to develop a full understanding of the elements and principles of design in the creative process. Artwork from all times and cultures are studied and through projects, students will create works expressing personal meaning. (Prerequisite: Elementary art teacher recommendation or evaluation of student’s artwork)

VA0970 ADVANCED ART 7
Full year
Students will develop technical skills in drawing, painting, printmaking, various sculptural/craft media and new media. Students will create works expressing personal meaning. Prerequisite: Art teacher recommendation.

VA0980 ADVANCED ART 8
Full year
Students will develop technical skills in drawing, painting, printmaking, various sculptural/craft media and new media. Students will create works expressing personal meaning. (Prerequisite: Art teacher recommendation.)
HIGH SCHOOL VISUAL ARTS

VA911O ART 1
Full year
One credit
The foundation course designed to build the student's skill and confidence in using a variety of art media, encourage creativity, and increase awareness of art in world cultures. The elements and principles of design will be stressed in all techniques and media explored so students can create works that express personal meaning. (Lab fee is required.)

VA912O ART 2
Full year
One credit
The Art 2 student continues to develop technical skills and an understanding of why artists create. Emphasis is placed on student involvement in making choices and expressing ideas. Through studying visual arts heritage, the student will learn about art in America. (Lab fee is required.) (Prerequisites: Art 1 or teacher recommendation)

VA912H HONORS ART 2
Full year
One credit
Students will continue to develop technical skills and an understanding of why artists create with an emphasis in choice and expressing ideas. Through studying visual arts heritage, the student will learn about art in America. Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisites: Art 1 or teacher recommendation)

VA913O ART 3
Full year
One credit
An advanced art class in which the student will begin to plan a course of study with the goal of strengthening personal style by an increasing competency in student selected media. An emphasis will be placed on contemporary art and art careers. Students who are applying for scholarships or to college art programs will be given assistance in preparing portfolios. (Lab fee is required.) (Prerequisite: Art 2)

VA913H HONORS ART 3
Full year
One credit
An advanced art class in which the student will begin to plan a course of study with the goal of strengthening personal style by an increasing competency in student selected media. Emphasis will be placed on contemporary art and art careers. Students who are applying for scholarships or to college art programs will be given assistance in preparing portfolios. Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisite: Art 2)

VA914O ART 4
Full year
One credit
An advanced art class in which the student will plan with the art teacher an individualized course of study. The student will choose media in which to work in-depth, study the visual arts heritage associated with the media to create meaning and a career or college level portfolio. (Lab fee is required.) (Prerequisite: Art 3)
VA914H HONORS ART 4
Full year
One credit
This is an advanced art class in which the student will plan with the art teacher an individualized course of study. The student will choose media in which to work in-depth, study the visual arts heritage associated with the media to create meaning and a career or college level portfolio. Lab fee is required. Honors Contract requirements must be met to receive weighted grading. (Prerequisite: Art 3)

VA915O ART 5
Full year
One credit
Students continue to explore the aspects and relationships of commercial and studio art careers. The student should have prior skills, competencies, and maturity to assume assignments on a contractual basis. The student will select areas in which to problem solve, create meaning and a career or college level portfolio. (Lab fee is required.) (Prerequisite: Art 4)

VA915H HONORS ART 5
Full year
One credit
Students continue to explore the aspects and relationships of commercial and studio art careers. The student should have prior skills, competencies, and maturity to assume assignments on a contractual basis. The student will select areas in which to problem solve, create meaning and a career or college level portfolio. Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisite: VA914 Art 4)

VA920O ART AESTHETICS/HISTORY
Full year
One credit
Students will study and experience a select number of major periods in art, history and aesthetics. Students will be engaged in Socratic discussion, studio work and the analysis of cultural expression. Students will gain insight into innovations and techniques through the studio experience.

VA920H HONORS ART AESTHETICS/HISTORY
Full year
One credit
Students will study and experience a select number of major periods in art, history and aesthetics associated with them. Students will be engaged in Socratic discussion, studio work and the analysis of cultural expression. Students will gain insight into innovations and techniques through the studio experience. Honors Contract requirements must be met to receive weighted grading.

VA921O 3-D DESIGN AND CRAFTS 1
Full year
One credit
Students will explore a wide variety of media and techniques in fibers, jewelry, pottery, and sculpture. Emphasis will be placed on craftsmanship and the elements and principles of design as applied to functional and nonfunctional crafts in many cultures. (Lab fee is required.)
VA922O 3-D DESIGN AND CRAFTS 2
Full year
One credit
Students will continue to develop technical skills while learning to make choices and express personal ideas in a variety of craft media. Individual craft artists and artists from other cultures will be studied. (Lab fee is required.) (Prerequisite: 3-D Design and Crafts 1)

VA922H HONORS 3-D DESIGN AND CRAFTS 2
Full year
One credit
Students will continue to develop technical skills while learning to make choices and express personal ideas in a variety of craft media. Individual craft artists and artists from other cultures will be studied. Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisite: 3-D Design and Crafts 1)

VA923O 3-D DESIGN AND CRAFTS 3
Full year
One credit
Students will plan a course of study with the art teacher in which the student will work in-depth in one or more craft areas. Research on the areas chosen will reflect the historical aspects of the craft. (Lab fee is required.) (Prerequisites: 3-D Design and Crafts 2)

VA923H HONORS 3-D DESIGN AND CRAFTS 3
Full year
One credit
Students will plan a course of study with the art teacher in which the student will work in-depth in one or more craft areas. Research on the areas chosen will reflect the historical aspects of the craft. Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisite: 3-D Design and Crafts 2)

VA924H HONORS AP 3-D DESIGN AND CRAFTS
Full year
One credit
An advanced 3-D design studio course for the college-bound and career-oriented art student. Emphasis is placed on 3-D design principles as they relate to the integration of space, volume and surface through any three-dimensional approach, including, figurative or nonfigurative sculpture, architectural models, metal work, ceramics, glass work, installation, performance, assemblage and 3-D fabric/fiber arts. A career- or college-level portfolio will be created. (Lab fee is required.) (Prerequisite: 3-D Design and Crafts 3 or art teacher recommendation)

VA926O 3-D DESIGN AND CRAFTS 4
Full year
One credit
Students will focus on advanced visual ideas in media such as ceramics, glass, fiber, and mixed media. Management of the studio equipment, a unifying theme, a distinct personal voice should reflect in the body of work throughout the full year. A career- or college-level portfolio will be created. (Prerequisite: 3-D Design and Crafts 3)
VA926H HONORS 3-D DESIGN AND CRAFTS 4
Full year
One credit
Students will focus on advanced visual ideas in media such as ceramics, glass, fiber, and mixed media. Management of the studio equipment, a unifying theme, a distinct personal voice should reflect in the body of work throughout the Full year. A career- or college-level portfolio will be created. Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisites: 3-D Design and Crafts 3 or art teacher recommendation)

VA931O PHOTO 1
Full year
One credit
An introductory course in black and white photography ranges from the study of pinhole photography to basic film development basic photographic processes. These skills and techniques will be applied to the introduction to 35mm darkroom photography. A 35mm SLR camera and a lab fee are required.

VA932O PHOTO 2
Full year
One credit
Basic photographic processes and skills covered in Photography 1 will be reviewed, with emphasis placed on perfecting and fine-tuning composition and meaning making while exploring in-depth creative approaches to solving photographic problems. A 35mm SLR camera and a lab fee are required. (Prerequisites: Photography 1 or teacher recommendation)

VA932H HONORS PHOTO 2
Full year
One credit
This is an intermediate course in black and white photography. Basic photographic processes and skills covered in Photography 1 will be reviewed with emphasis placed on perfecting and fine-tuning composition and meaning making while exploring in-depth creative approaches to solving photographic problems. A 35mm SLR camera and a lab fee are required. Honors Contract requirements must be met to receive weighted grading. (Prerequisite: Photography 1 or teacher recommendation)

VA933O PHOTO 3
Full year
One credit
This course is for the student who has a special interest in and aptitude for photography and is considering photography as a possible career choice. A career- or college-level portfolio will be created. A 35mm SLR camera and a lab fee are required. (Prerequisite: Photography 2)

VA933H HONORS PHOTO 3
Full year
One credit
This course is for the student who has a special interest in and aptitude for photography and is considering photography as a possible career choice. A career or college level portfolio will be created. A 35mm SLR camera and a lab fee are required. Honors Contract requirements must be met to receive weighted grading. (Prerequisite: Photography 2)
VA934O PHOTO 4
Full year
One credit
This course is for the student who has a special interest in and aptitude for photography and is considering photography as a possible career choice. A career or college level portfolio will be created. A 35mm SLR camera and a lab fee are required. (Prerequisite: Photography 3)

VA934H HONORS PHOTO 4
Full year
One credit
This course is for the student who has a special interest in and aptitude for photography and is considering photography as a possible career choice. A career or college level portfolio will be created. A 35mm SLR camera and a lab fee are required. Honors Contract requirements must be met to receive weighted grading. (Prerequisite: Photography 3)

VA935H HONORS AP 2- DESIGN PHOTOGRAPHY
Full year
One credit
AP photography students produce a body of work exhibiting a mastery of photograph, design elements and principles, critical and creative decision-making and problem-solving skills related to creativity, inventiveness, and originality. A college-level course, portfolios are compiled and submitted to AP. Lab fee is required. (Prerequisites: Photo 3 and/or instructor approval)

VA943H HONORS AP ART HISTORY
Full year
One credit
This is a college level course designed to introduce students to cultures, art history and aesthetics in works of art. Students will take the College Board’s AP Art History test at the end of the full year, which allows students to receive college credit from participating colleges and universities.

VA944H HONORS AP STUDIO ART
Full year
One credit
This is an advanced studio course for the college-bound and career-oriented art student with an emphasis placed on personal meaning making and art making skills. Portfolios are compiled and submitted to AP at the end of the full year. Successful completion, submission and scoring of the portfolio (scores of 4 and above) may entitle students to receive college credit. (Prerequisites: Art 3 or art teacher recommendation)

VA945H HONORS AP 2-D DESIGN AND DIGITAL MEDIA
Full year
One credit
This course is for the college- and career-oriented student. Emphasis on purposeful, artful decision making while demonstrating proficiency in a variety of graphics software for creating works of art. A college-level course geared to high school students, portfolios are compiled and submitted to AP at the end of the full year. Successful completion, submission and scoring of the portfolio (scores of 4 and above) may entitle students to receive college credit. (Prerequisites: Digital Media and Graphic Design 2 or teacher recommendation)
VA942O DIGITAL MEDIA AND GRAPHIC DESIGN I
Full year
One credit
Students will explore and expand creative knowledge in the field of electronic imaging and graphic communications. The student will learn the technical skills necessary for artistic problem solving using the elements and principles of design as well as using the computer and new media as creative and practical tools. (Lab fee required.)

VA950O DIGITAL MEDIA AND GRAPHIC DESIGN II
Full year
One credit
Students will use the computer to create art while exploring multimedia and 3-D design. Combining images, using multiple programs and new media students will develop critical and creative thinking skills, media literacy and advanced communication skills. (Lab fee required. Prerequisites: Digital Media and Graphic Design I)

VA950H HONORS DIGITAL MEDIA AND GRAPHIC DESIGN II
Full year
One credit
Students will use the computer to create art while exploring multimedia and 3-D design. Combining images, using multiple programs and new media students will develop critical and creative thinking skills, media literacy and advanced communication skills. Honors Contract requirements must be met to receive weighted grading. (Lab fee required. Prerequisites: Digital Media and Graphic Design I)

VA953O DIGITAL MEDIA AND GRAPHIC DESIGN III
Full year
One credit
Advanced skills in the field of digital media, graphic design, computer and commercial art are developed while students plan, design and create images for multiple industries in the form of displays, billboards, brochures, packaging, catalogs, books, magazines, newspapers, television, internet and new media. Students will develop work suitable for an extensive career or college portfolio while developing critical thinking, creativity, communications and world applications. (Lab fee required. Prerequisites: Digital Media and Graphic Design II)

VA953H HONORS DIGITAL MEDIA AND GRAPHIC DESIGN III
Full year
One credit
In this honors course, advanced skills in the field of digital media, graphic design, computer and commercial art are developed while students plan, design and create images for multiple industries in the form of displays, billboards, brochures, packaging, catalogs, books, magazines, newspapers, television, internet and new media. Students will develop work suitable for an extensive career or college portfolio while developing critical thinking, creativity, communications and world applications. Honors Contract requirements must be met to receive weighted grading. (Lab fee required. Prerequisites: Digital Media and Graphic Design II)
VA954O DIGITAL MEDIA AND GRAPHIC DESIGN IV
Full year
One credit
Advanced skills in the field of digital media, graphic design, computer and commercial art are developed while students plan, design and create images for multiple industries in the form of displays, billboards, brochures, packaging, catalogs, books, magazines, newspapers, television, internet and new media. Students will develop work suitable for an extensive career or college portfolio while developing critical thinking, creativity, communications and world applications. (Lab fee required. Prerequisites: Digital Media and Graphic Design III)

VA954H HONORS DIGITAL MEDIA AND GRAPHIC DESIGN IV
Full year
One credit
In this honors course, advanced skills in the field of digital media, graphic design, computer and commercial art are developed while students plan, design and create images for multiple industries in the form of displays, billboards, brochures, packaging, catalogs, books, magazines, newspapers, television, internet and new media. Students will develop work suitable for an extensive career or college portfolio while developing critical thinking, creativity, communications and world applications. Honors Contract requirements must be met to receive weighted grading. (Lab fee required. Prerequisites: Digital Media and Graphic Design III)

VA951O INDEPENDENT STUDY
Semester
Half credit
This course is taken in conjunction with an advanced level course, such as Art 4/5, Crafts/3-D Design 4, or Photography 4, and with prior permission of the instructor. The objective is to allow advanced level students the opportunity to explore technique and develop proficiency in a selected medium. (Seniors only.)

VA951H HONORS INDEPENDENT STUDY
Full year
One credit
This course is taken in conjunction with an advanced level course, such as Art 4/5, Crafts/3-D Design 4, or Photography 4, and with prior permission of the instructor. The objective is to allow advanced level students the opportunity to explore technique and develop proficiency in a selected medium. Honors Contract requirements must be met to receive weighted grading. (Seniors only.)

VA952O INDEPENDENT STUDY
Full year
One credit
This course is taken in conjunction with an advanced level course, such as Art 4/5, Crafts/3-D Design 4, or Photography 3, and with prior permission of the instructor. The objective is to allow advanced level students the opportunity to explore technique and develop proficiency in a selected medium. (Seniors only.)
VA955O FILM/VIDEO 1
Full year
One credit
This advanced art/photography course is designed to introduce students to the film-making process. Students will explore the different roles of production through the completion of film projects. Emphasis will be placed on the student’s development of visual storytelling techniques. The artistic critique of current and historical films will be a major component of the curriculum. Mass Communications specialty center students may take this course for Mass Communications credit. (Lab fee is required.) (Prerequisites: Any of the following: Art 1, Photo 1, Mass Communications 1, Theatre 1 or teacher recommendation.)

VA956H HONORS VIDEO PRODUCTION 1
Full year
One credit
Students will learn to edit, produce, film and organize their own videos using modern video equipment. Honors Contract requirements must be met to receive weighted grading.

VA957H HONORS VIDEO PRODUCTION 2
Full year
One credit
Students will learn to edit, produce, film and organize their own videos using modern video equipment. Honors Contract requirements must be met to receive weighted grading.

DE955D COLLEGE FILM APPRECIATION
Semester
Half credit
Provides students with a critical understanding of film through the discussion and viewing of motion pictures with emphasis upon the study of film history and the forms and functions of film. Students will develop skills to analyze the shared social, cultural and historical influences of films and their contexts.

DE962D COLLEGE DRAWING
Semester
Half credit
Drawing develops drawing skills and understanding of visual language through studio instruction/lecture. Focuses on proportion, space, perspective, tone and composition.

DE963D COLLEGE PAINTING
Semester
Half credit
The course will provide lecture and studio instruction on the fundamentals, practices and related concepts of painting. Includes representational painting in acrylic or oil mediums with emphasis on value, color, composition and technique.
ES100O ESL NEWCOMER  
Full year  
This course is designed for English Learners (ELs) with an English language proficiency level of 1. Listening, speaking, reading, and writing skills are developed through the use of WIDA English Language Development (ELD) Standards. Through differentiated instruction and scaffolded support, ELs will demonstrate progress in English language development and academic achievement.

ES120O ESL READING 1  
Full year  
This interdisciplinary course is designed to expose sixth- and seventh-grade ELs (Levels 1.0-2.9) who are at developing and expanding levels of language development to academic vocabulary. The content areas of science, social studies and language arts will be explored through non-fiction material and presented through blended learning and differentiated interactions. Preparation for WIDA Access testing and grade-level content SOLs will be emphasized.

ES121O ESL READING 2  
Full year  
This interdisciplinary course is designed to expose sixth-grade ELs (Level 3.3-4.3) who are at developing and expanding levels of language development to academic vocabulary. The content areas of science, social studies and language arts will be explored through non-fiction material and presented through blended learning and differentiated interactions. Preparation for WIDA Access testing and grade-level content SOLs will be emphasized.

ES122O ESL READING 3  
Full year  
This interdisciplinary course is designed to expose seventh-grade ELs (Level 3.3-4.3) who are at developing and expanding levels of language development to academic vocabulary. The content areas of science, social studies and language arts will be explored through non-fiction material and presented through blended learning and differentiated interactions. Preparation for WIDA Access testing and grade-level content SOLs will be emphasized.

ES123O ESL READING 4  
Full year  
This interdisciplinary course is designed to expose ELs who are at expanding and bridging levels of language development to academic vocabulary. The content areas of science, social studies and language arts will be explored through non-fiction material and presented through blended learning and differentiated interactions. Preparation for WIDA Access testing and grade-level content SOLs will be emphasized.

ES130O ESL CONTENT READING 1  
Full year  
This course is designed to prepare beginning level English learners for courses in math and science. Course concentration will be on basic content vocabulary presented in conjunction with basic concepts. Through the curriculum, ELs will build the language necessary to communicate information, ideas, and concepts necessary for academic success in the content areas of math and science.
ES131O ESL CONTENT READING 2
Full year
This course is designed to give English learners additional exposure to content instruction in the areas of math and science and is recommended for ELs who need further literacy development prior to entering rigorous core courses. The academic language and content vocabulary to communicate information, ideas, and concepts necessary for academic success in the content area of Science

ES160O ESL LITERACY
Full year
This course is designed to meet the literacy needs of students with limited or interrupted formal education (SLIFE). The course will focus on basic literacy skills (alphabet, sound-letter recognition, vocabulary and beginning reading skills). The course will utilize high-interest but low readability materials.

ES165O ESL MATH
Full year
This course is designed to provide an additional support for English Learners in math. This course is aligned with grade-level standards and focuses on building fundamental math skills for ELs in need of additional math support.

ES170O ESL RESOURCE
Full year
This course is designed to provide remedial and supplemental support across content areas.
HIGH SCHOOL ENGLISH AS A SECOND LANGUAGE

ES028O ESL TUTOR
Full year
One credit
This is an elective course in which students will serve as language tutors to ESL students. ESL tutors assist in the preparation and delivery of small group instruction, provide ESL accommodations as appropriate, create manipulatives, and other instructional activities aligned to students’ proficiency level.

ES104O ESL NEWCOMER
Full year
One credit
This course is designed for English Learners (ELs) with an English language proficiency level of 1. This course is for students who are enrolled in a U.S school for the first time. Listening, speaking, reading, and writing skills are developed through the use of WIDA English Language Development (ELD) Standards. Through differentiated instruction and scaffolded support, ELs will demonstrate progress in English language development and academic achievement.

ES105O ENGLISH 9
Full year
One credit
Students will read and apply skills and strategies to comprehend selections of fiction, nonfiction, poetry, and drama. They will also work to develop extensive vocabulary knowledge and skills with attention to connotations, idioms, and allusions, along with knowledge of literary terms and genres to be applied in the student’s own proficiency needs. Writing will encompass narrative, expository, and persuasive forms for a variety of purposes and audiences.

ES106O ENGLISH 10
Full year
One credit
Students will continue to read and apply skills and strategies to comprehend and analyze selections of fiction, nonfiction, poetry, and drama. Students will draw conclusions and make inferences citing textual support. Writing will encompass persuasive and analytical forms for a variety of purposes and audiences and emphasizes research and oral communications. *The bodies of literature for grades 10, 11, and 12 are interchangeable and may be taught in any of these grades.

ES107O ENGLISH 11
Full year
One credit
Students will apply skills and strategies to comprehend selections of fiction, nonfiction, poetry, and drama, drawing conclusions and making inferences citing textual support. Writing encompasses persuasive, analytical, and argumentative forms for a variety of purposes and audiences, with a continued emphasis on research and oral communication. *The bodies of literature for grades 10, 11, and 12 are interchangeable and may be taught in any of these grades.
ES124O ESL READING 1
Full year
One credit
This course is designed for English learners (ELs) with a Level 1 language proficiency and will introduce students to basic decoding skills with emphasis on phonological awareness, phonics, and high-frequency word recognition. This class is intended to provide direct language instruction to beginners with an emphasis on the receptive domains of reading and listening.

ES125O ESL READING 2
Full year
One credit
This course is designed with a focus on literacy instruction for English learners with a Level 2 language proficiency level. This course is intended to extend reading skills with the continued emphasis on vocabulary development and academic language. This class will place an emphasis on the receptive language domains of reading and listening comprehension across content areas.

ES132O ESL READING CONTENT 1
Full year
One credit
This course is designed to prepare beginning level English learners for courses in math and science. Course concentration will be on basic content vocabulary presented in conjunction with basic concepts. Through the curriculum, ELs will build the language necessary to communicate information, ideas, and concepts necessary for academic success in the content areas of math and science.

ES142O ESL LANGUAGE/CULTURE 1
Full year
One credit
This course is designed to prepare beginning level English learners for courses in social studies. Course concentration will be on basic content vocabulary presented in conjunction with basic concepts. Through the curriculum, ELs will build the language necessary to communicate information, ideas, and concepts necessary for academic success in the content area of social studies.

ES156O ESL SLIFE ENGLISH
Full year
One credit
The course is designed for students with limited or interrupted formal education and is driven by student needs and their unique cultural, linguistic, and academic backgrounds. The focus of this course general English vocabulary as well as, academic vocabulary development. This course will prepare students to transition to English content classes and help to bridge the gaps from limited or interrupted formal education.

ES157O ESL SLIFE READING
Full year
One credit
This course is designed for English Learners with limited or interrupted formal education and is driven by student needs and their unique cultural, linguistic, and academic backgrounds. This course introduces fundamental literacy strategies to enhance vocabulary, phonics, fluency, and reading comprehension. This course also aligns with grade level SOL to prepare students to take content classes and state assessments.
ES158O ESL SLIFE LANGUAGE/CULTURE
Full year
One credit
This course is designed to build background knowledge for students with limited or interrupted formal education in the content of social studies. Course concentration will be on basic content vocabulary presented in conjunction with foundational concepts. Through the curriculum, ELs will build the language necessary to communicate information, ideas, and concepts necessary for academic success in the content area of social studies.

ES159O ESL SLIFE MATH
Full year
One credit
This course is designed for English Learners with limited or interrupted formal education. The course offers students the opportunity to master basic math vocabulary and skills. English learners will have the opportunity to build the language necessary to communicate information, ideas, and concepts necessary for academic success in the content area of math.

ES265O ESL MATH
Full year
One credit
This course is designed to provide an additional layer of support for students needing support in math. This course is aligned with grade-level standards and focuses on building fundamental math skills for ELs in need of additional math support.

ES270O ESL RESOURCE
Full year
One credit
This course is designed to provide remedial and supplemental support across content areas.

ES112C ESL ENGLISH 12
Full year
One credit
This English course is for ESL identified students. Students will continue to read and apply skills and strategies to comprehend selections of fiction, nonfiction, poetry, and drama, drawing conclusions and making inferences by citing textual support. Writing will encompass persuasive, analytical, and argumentative forms for a variety of purposes and audiences. An emphasis on research and oral communications is also integral to this course. "The bodies of literature for grades 10, 11, and 12 are interchangeable and may be taught in any of these grades."
ES280O ESL SLIFE READING IN THE CONTENT

Full year
One credit

This course is designed to build background knowledge for students with limited or interrupted formal education in the content of science and math. Course concentration will be on basic content vocabulary presented in conjunction with foundational concepts. Through the curriculum, ELs will build the language necessary to communicate information, ideas, and concepts necessary for academic success in the content area of science and math.
MIDDLE SCHOOL SPECIAL EDUCATION

Special education course offerings are for students with disabilities and require an Individualized Education Program (IEP). Students assessed through the Standards of Learning (SOLs) are expected to meet grade level curriculum standards and are able to do so in general education classes. General education course descriptions also apply to collaboratively instructed classes. Students assessed by the Virginia Alternate Assessment Program (VAAP) are assessed through the Aligned Standards of Learning. The following classes are designed to meet the unique educational needs of students assessed by the Aligned Standards of Learning in the special education setting. Some courses may not be available in every school.

**IP106O FOUNDATIONS OF LANGUAGE ARTS 6**
**IP107O FOUNDATIONS OF LANGUAGE ARTS 7**
**IP108O FOUNDATIONS OF LANGUAGE ARTS 8**
Full year
This course is designed for students assessed by the Aligned Standards of Learning (ASOL). Emphasis will be placed on the Middle School Reading and Writing ASOLs, which includes word analysis strategies, word reference materials, comprehension of fictional and nonfictional texts. In Grade 8, emphasis will also be placed on Writing ASOLs, which includes research, plan, compose, revise, and editing for a variety of purposes. Attention will also be given to building vocabulary, basic reading, and reading fluency to improve written communication skills.

**IP114O ESSENTIAL READING**
Full year
This course is designed for students assessed on the Standards of Learning to provide basic reading instruction that address phonological awareness and phonics. Instruction will be individualized to meet the specific needs of each student. This class is designed as an elective for students with an IEP. (IP2140 in second year; IP3140 in third year)

**IP306O FOUNDATIONS MATH 6**
**IP307O FOUNDATIONS MATH 7**
**IP308O FOUNDATIONS MATH 8**
Full year
This course is designed for students assessed by the Aligned Standards of Learning (ASOL). Emphasis will be placed on the Middle School Math ASOLs, which includes Number, Number Sense, Computation, Measurement, Geometry, Probability, Statistics, Patterns, Functions, and Algebra. Students will also practice basic math operations, including whole numbers, fractions, decimals, percents, and measurements.

**IP206O FOUNDATIONS SOCIAL STUDIES 6**
**IP207O FOUNDATIONS SOCIAL STUDIES 7**
**IP208O FOUNDATIONS SOCIAL STUDIES 8**
Full year
This course is designed for students assessed by the Aligned Standards of Learning (ASOL). Emphasis will be placed on the Middle School History/Social Science ASOLs, which includes Virginia, American history, Geography, Economics, Civics. Students will also learn skills necessary for adult life in the community through intensive, direct, and practical instruction. Content areas may include academic, self-management, leisure/recreation, and vocational skills.
IP406O FOUNDATIONS SCIENCE 6  
IP407O FOUNDATIONS SCIENCE 7  
IP408O FOUNDATIONS SCIENCE 8  
Full year  
This course is designed for students assessed by the Aligned Standards of Learning (ASOL). Emphasis will be placed on the Middle School Science ASOLs, which includes Scientific Investigation, Force, Motion, Energy, and Life Systems, Ecosystems, Earth and Space Systems. Students will also engage in basic concepts of health, ecology, and biology geography that can be applied to everyday living.

IP051O SOCIAL SKILLS 6  
IP052O SOCIAL SKILLS 7  
IP053O SOCIAL SKILLS 8  
Full year  
Students will learn a variety of social skills necessary for successful interaction in all environments. They will demonstrate an understanding of appropriate adult and peer relations, conflict resolution, and problem-solving strategies.

IP054O PRE-VOCATIONAL SKILLS 6  
IP055O PRE-VOCATIONAL SKILLS 7  
IP056O PRE-VOCATIONAL SKILLS 8  
Full year  
This course allows students to explore career options and begin investigating career opportunities. Students assess and identify their personal strengths, preferences, interests and needs; as well as, their roles as workers in specific occupations for further study. Students enrolled in this course will identify and demonstrate the workplace skills for future employment through hands-on learning in school based work experiences, community based instruction, and/or school-based entrepreneurship.

IP701O ADAPTIVE PHYSICAL EDUCATION 6-8  
Full year  
This course is designed for students who require an adaptive physical education experience based on physical need. Emphasizes will be placed on developmental activities addressing the needs, capabilities, and limitations of students who may not safely engage in activities included in a regular physical education program. Through carefully designed movement experiences, students should gain knowledge about skills, fitness, and the applications to their lives. This course includes health education concepts. (This is not a health/physical education credit toward graduation credit.)
High School Special Education

Special education course offerings are for students with disabilities and require an Individualized Education Program (IEP). Students assessed through the Standards of Learning (SOLs) are expected to meet grade level curriculum standards and are able to do so in general education classes. General education course descriptions also apply to collaboratively instructed classes. Students assessed by the Virginia Alternate Assessment Program (VAAP) are assessed through the Aligned Standards of Learning. The following classes are designed to meet the unique educational needs of students assessed by the Aligned Standards of Learning in the special education setting. Some courses may not be available in every school.

IP103O Language Arts
Full year
One credit
This course is designed for students assessed by the Aligned Standards of Learning (ASOL). Emphasis will be placed on the High School Reading and Writing ASOLs, which includes word analysis strategies, word reference materials, comprehension of fictional and nonfictional texts. In Grade 11, emphasis will also be placed on Writing ASOLs, which includes research, plan, compose, revise, and editing for a variety of purposes. Attention will also be given to building vocabulary, basic reading, and reading fluency to improve written communication skills.

IP101O Practical Reading
Full year
One credit
This course is designed for students who have completed Applied English 9-12. The course will support students in developing their literacy skills through a variety of reading and writing activities. Students will learn strategies to support their development as active and critical readers and will explore a variety of text types, including both fiction and nonfiction. This course will assist in building vocabulary and improve written communication needed in real-life situations.

IP134O Essential Reading I
IP234O Essential Reading II
IP334O Essential Reading III
Full year
One credit
This course is designed for students assessed on the Standards of Learning (SOLs). The course will provide basic reading instruction that addresses phonological awareness and phonics. This class is an elective credit for students with an IEP instructed in the special education setting.

IP303C Applied Math
Full year
One credit
This course is designed for students assessed by the Aligned Standards of Learning (ASOL). Emphasis will be placed on the High School Math ASOLs, which includes Expressions and Operations, Equations and Inequalities, and Functions and statistics. Students will also practice basic math operations, including whole numbers, fractions, decimals, percents, and measurements.
IP310C PRACTICAL MATH
Full year
One credit
This course is designed for students who have completed Applied Math 9-12. Students will explore math skills through a variety of hands-on practical activities. Areas of study will include measurement, number sense, operations, time, money, fractions, decimals, percents, and other skills related to real-life situations in the home and community.

IP201O SOCIAL STUDIES 9
IP202O SOCIAL STUDIES 10
IP240O SOCIAL STUDIES 11
IP241O SOCIAL STUDIES 12
Full year
One credit
This course is designed for students assessed by the Aligned Standards of Learning (ASOL). Emphasis will be placed on the Middle School History/Social Science ASOLs, which includes World and United States History, Geography, Economics, Civics. Course objectives also focus on improving time management, comprehension, memory, note taking, study, and test taking skills.

IP400O SCIENCE
Full year
One credit
This course is designed for students assessed by the Aligned Standards of Learning (ASOL). Emphasis will be placed on the High School Science ASOLs, which includes Scientific Investigation and the Nature of Science, Earth and Space Systems, Earth Materials and Processes, Cosmology, Origins, and Time, Earth Resources and Human Interactions. Students will also engage in basic concepts of health, ecology, and biology that can be applied to everyday living.

IP133O STUDY SKILLS I
Full year
One credit
This course is designed to teach study skills and learning strategies that will enhance student performance in general and vocational classes. The course follows a specific curriculum and students apply strategies learned to assignments from content classes. Curriculum focuses on understanding content material, taking tests effectively, organizing time and materials, accessing and utilizing resource materials for oral and written projects, and developing technology and self-advocacy skills. This class is open only to students whose IEP goals and objectives indicate a need for study skills and learning strategies instruction. This class is designed as an elective credit for students with an IEP and does not meet requirements for any content area.
IP139O STUDY SKILLS II
Full year
One credit
This course is a continuation of IP133C Study Skills I. It is designed to teach study skills and learning strategies that will enhance student performance in general and vocational classes. Curriculum focuses on understanding content material, taking tests effectively, organizing time and materials, accessing and utilizing resource materials for oral and written projects, and developing technology and self-advocacy skills. Course objectives include extension of skills taught in Study Skills Methodology and emphasis on methods of research, use of technology, learning strategies, and higher order thinking skills as they relate to academic courses. This class is open only to students whose IEP goals and objectives indicate a need for study skills and learning strategies instruction. This class is designed as an elective credit for students with an IEP and does not meet requirements for any content area.

IP790O SOCIAL SKILLS I
Full year
One credit
This course is designed to teach thinking skills, problem solving techniques, and social skills to students in special education who require instruction in these areas. Students may be admitted to this course only if it is indicated as a need on the Individualized Education Program (IEP).

IP791O SOCIAL SKILLS 2
Full year
One credit
This course places emphasis on having students refine and apply the skills developed in Coping Skills 1. Improvements in overall behavior are achieved by developing the student’s ability to use thinking skills and social skills to solve personal and interpersonal problems. Students may be admitted to this course only if it is indicated as a need on the Individualized Education Program (IEP).

HP070O ADAPTIVE PHYSICAL EDUCATION 9
Full year
One credit
This course is designed for students who require an adaptive physical education experience based on physical need. Emphasizes will be placed on developmental activities addressing the needs, capabilities, and limitations of students who may not safely engage in activities included in a regular physical education program. Through carefully designed movement experiences, students should gain knowledge about skills, fitness, and the applications to their lives. This course includes health education concepts. (This is not a health/physical education credit toward graduation credit.

IP602O FUNDAMENTALS OF KEYBOARDING
Full year
One credit
This course focuses on acquiring basic keyboarding skills. Students will understand their computer, the keyboard layout and its functions practice typing smoothly at the rate and pace students are able to learn.
IP380O COMPUTER APPLICATIONS 1
Full year
One credit
This course is designed to teach basic computer application skills that students can use in entry level positions. Skills covered include data entry, word processing, using the internet, using simple spreadsheets and presentations, and simple graphic programs.
Pre-requisite: IP602C: Fundamentals of Keyboarding

IP770O OCCUPATIONAL ORIENTATION
Full year
This course will provide employment and education opportunities for selected individuals with significant disabilities. The program is dedicated to workforce development that benefits the individual, community and workplace. It is based on a collaborative effort with agencies that assist students with their transition into their community after high school. It is modeled after Project Search, the nationally recognized vocational preparation program. Students must apply and be selected to take this course; as a result, students are only enrolled in this course at the direction of central office administration.

IP780O EMPLOYABILITY SKILLS 1
IP780O EMPLOYABILITY SKILLS 2
IP780O EMPLOYABILITY SKILLS 3
Full year
One credit
This course is designed to teach students self-advocacy and self-determination skills needed to be successfully employed. Hands-on activities will be included to expose and prepare students to the expectations of employment through use of school based-work experiences and community based instruction, when appropriate. This course is designed as an elective for students with an IEP.

IP788O TRANSITION TO EMPLOYMENT 1
IP788O TRANSITION TO EMPLOYMENT 2
IP788O TRANSITION TO EMPLOYMENT 3
Full year
One credit
Emphasis will be placed on teaching students those skills needed to acquire and retain a job. Job acquisition skills will include matching individual skills with job requirements, identifying and practicing appropriate work related behaviors, including self-advocacy and self-determination skills both within school and the community. Students will learn essential skills such as communication, decision making and problem solving. They will also learn about interviews, resume writing, and the job application process. Instruction will focus on a students secondary postsecondary employment goal in their transition plan. This course is designed as an elective for students with an IEP.

IP801O COMMUNITY SKILLS 1
IP801O COMMUNITY SKILLS 2
Full year
This course is designed to provide instruction to develop functional skills needed to be successful in the community. It includes reading simple signs, using skills that facilitate successful participation in community activities, and money handling skills.
IP802O RECREATION AND LEISURE SKILLS 1
IP802O RECREATION AND LEISURE SKILLS 2
Full year
This course is designed to provide instruction in how to participate in age-appropriate activities that facilitate friendship building and enhance socialization, communication, and language skills.

IP886O LIFE SKILLS 1
IP886O LIFE SKILLS 2
Full year
One credit
Emphasis will be placed on teaching students the foundational skills that will enable them to be independent in the home, community, and workplace, including self-determination and goal setting. Students will be taught how to work with others, care for their personal needs, make responsible expenditures, and utilize community resources.

IP885O INDEPENDENT LIVING 1
IP885O INDEPENDENT LIVING 2
Full year
The Independent Living Skills course will give students exposure to a variety of skills needed for independence, such as grocery shopping, cooking, health and safety, homecare, navigating the community and communication. Instruction will focus on a student’s individualized Independent Living goal and the steps needed to take to achieve that goal.
ADDITIONAL OFFERINGS AND PROGRAMS

THE AVID PROGRAM

Advancement Via Individual Determination (AVID) is an academic elective course that prepares students for college readiness and success. Students receive instruction that utilizes a rigorous college-preparatory curriculum provided by AVID Center, tutor-facilitated study groups, motivational activities, and academic success skills. In AVID, students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Additionally, students engage in activities centered around exploring college and career opportunities and their own agency.

TR080O AVID ELECTIVE 6TH GRADE
Full year
Students will develop an awareness of the values accompanying academic goals and success. The course will focus on building students’ self-confidence and communication skills in working with peers and adults. Students will be exposed to reading strategies that will assist them in building vocabulary and understanding a variety of texts and will also focus on pre-writing techniques, summary writing, and structural components of note-taking. Students will increase college and career awareness through guest-speaker presentations, field-trip opportunities, and research. (Prerequisites: Teacher/Counselor recommendations, application, and interview)

TR080O AVID ELECTIVE 7TH GRADE
Full year
The 7th grade AVID Elective course builds upon the foundational components of the AVID philosophy. Students will refine short- and long-term goals and, as a result, begin to understand the value in taking charge of their actions. They will start working on intrapersonal and interpersonal skills as well as formal and informal speech. Students will complete self-evaluations and peer evaluations related to reading, writing, organization, and speaking. In broadening their writing practice, students will begin considering audience, purpose, and form in their writing. Students will take an active role in their learning, understanding the roles of all members in assignments and collaborative lessons. They will expand their knowledge base regarding note-taking in relation to studying and test preparation. Students will be exposed to various field trips, guest speakers, and research to increase their knowledge of college and career options. (Prerequisites: Successful completion of AVID 6th grade and/or Teacher/Counselor recommendations, application, and interview)

TR080O AVID ELECTIVE 8TH GRADE
Full year
The 8th grade AVID Elective course is the year of preparation for high school. Students will regularly exhibit and utilize the skills and strategies learned in the 6th and 7th grade AVID courses. They will refine previous goals, focusing on their transition to high school as part of a college-preparatory path. Their writing will focus on completing all steps of the writing process and varying style, word choice, vocabulary, structure, and voice. Major writing assignments include persuasive, expository, descriptive, and timed writing. Students will transition from active learners to leaders. Other areas of focus include increasing the use of technology and building upon test-preparation and test-taking knowledge. Students will broaden their experience with analyzing text and utilizing appropriate reading strategies in various settings. They will become more involved in guest-speaker presentations and field trips, particularly as they relate to preparation and prior knowledge. Students will also participate in college-preparatory testing and build connections with the high school they will attend. (Prerequisites: Successful completion of AVID 7th grade and/or Teacher/Counselor recommendations, application, and interview)
The AVID Excel Elective is a program especially designed for 7th- and 8th-grade English language learners. The program provides explicit instruction in English language development and academic language through reading, writing, oral language, academic vocabulary, and college readiness skills. AVID Excel combines the key features of the AVID Program and the development of academic English skills needed for college preparatory work with the goal of accelerating their academic English language development and providing them a pathway into college preparatory coursework.

In the 9th grade AVID Elective course, students will develop and/or refine academic and personal goals and communication while adjusting to the high school setting. Students will increase their awareness of their personal contributions to their learning as well as their involvement in their school and community. There is an emphasis on analytical writing, focusing on personal goals and thesis writing. Students will work in collaborative settings, learning how to participate in collegial discussions and use sources to support their ideas and opinions. Students will prepare for and participate in college entrance and placement exams while refining study skills and test-taking, note-taking, and research techniques. They will take an active role in field trips and guest-speaker preparations and presentations. Their college research will include financial topics and building their knowledge of colleges and careers of interest. (Prerequisites: Successful completion of AVID 8th grade and/or Teacher/Counselor recommendations, application, and interview)

During the 10th grade AVID Elective course, students will refine the AVID strategies to meet their independent needs and learning styles. Students will continue to refine and adjust their academic learning plans and goals, increasing awareness of their actions and behaviors. As students increase their rigorous course load and school/community involvement, they will refine their time-management and study skills accordingly. Students will expand their writing portfolio to include analyzing prompts, supporting arguments and claims, character analysis, and detailed reflections. Students will also analyze various documents in order to participate in collaborative discussions and develop leadership skills in those settings. Students will expand their vocabulary use, continuing to prepare for college entrance exams. Text analysis will focus on specific strategies to understand complex texts. Lastly, students will narrow down their colleges and careers of interest based on their personal interests and goals. (Prerequisites: Successful completion of AVID 9th grade and/or Teacher/Counselor recommendations, application, and interview)

The 11th grade AVID Elective course is the first part in a junior/senior seminar course that focuses on writing and critical thinking expected of first- and second-year college students. In addition to the academic focus of the AVID seminar, there are college-bound activities, methodologies, and tasks that should be undertaken during the junior year to support students when they apply to four-year universities and confirm their postsecondary plans. (Prerequisites: Successful completion of AVID 10th grade and/or Teacher/Counselor recommendations, application, and interview)
TR814O AVID 4 ELECTIVE 12TH GRADE
Full year
One credit
The 12th grade AVID Elective course is the second part in a junior/senior seminar course that focuses on the writing and critical thinking expected of first- and second-year college students. Students will complete a final research essay project with research skills gained in their junior year in AVID. In addition to the academic focus of the AVID senior seminar, there are college-bound activities, methodologies, and tasks that should be achieved during the senior year that support students as they apply to four-year universities and confirm their postsecondary plans. All AVID seniors are required to develop and present a portfolio representing their years of work in the AVID program, as well as complete the requirements for the seminar course. (Prerequisites: Successful completion of AVID 11th grade and/or Teacher/Counselor recommendations, application, and interview)

FOR GIFTED STUDENTS IN MIDDLE SCHOOL

ER006O Academic Success and Enrichment
ER007O Academic Success and Enrichment
ER008O Academic Success and Enrichment

Academic Success and Enrichment (ASE) provides opportunities for middle school CBG students to learn more about themselves, to deepen their knowledge through directed independent study, to develop leadership skills, and to serve their communities in meaningful ways. Students gain an understanding of what it means to be a gifted thinker and uncover how their strengths and challenges help them succeed. They engage in a directed independent study composed of research and design experiences that allows them to capitalize on their passions and interests. By the end of eighth grade, students explore the concept of leadership and complete a service learning project of their choice.
MIDDLE AND HIGH SCHOOL SUCCESS PROGRAMS

TR801O SUCCESS 1 FOR MIDDLE SCHOOL
Full year
This is a multi-faceted class that may be personalized to meet specific student needs at the school level. Character education is emphasized, as well as academic skills, positive decision making, and organizational strategies. (Placement in this course is based on school recommendation.)

TR901O SUCCESS 1 FOR HIGH SCHOOL
Full year
One credit
Enrollment restricted to rising freshmen. The class includes: character education; positive decision making; conflict resolution; study methods and organizational strategies. Students will participate in journal writing, self-reflection, and college/career exploration. The course also includes numerous community outreach activities throughout the year. (Placement in this course is based on school recommendation.)

TR902O SUCCESS 2 FOR HIGH SCHOOL
Full year
One credit
Completion of Success 1 is highly recommended. Curriculum content is a continuation of topics covered in Success 1, with curricular components of: reading, reflective writing, community outreach projects, and development of the skills and qualities necessary to participate in Success Peer Facilitator Program. (Placement in this course is based on school recommendation.)

TR903O SUCCESS 3 FOR HIGH SCHOOL
Full year
One credit
Completion of Success 2 is highly recommended. Curriculum content is a continuation of topics covered in Success 2, at the level needed for work in the 11th or 12th grades. Reading, reflective writing, community outreach projects, and development of the skills and qualities necessary to participate in Success Peer Facilitator Program. (Placement in this course is based on school recommendation.)

TR904O SUCCESS 4 FOR HIGH SCHOOL
Full year
One credit
Completion of Success 3 is highly recommended. Curriculum is a continuation of topics covered in Success 3. Students will participate in journal writing, reflections of selected readings and involvement/promotion in outreach projects throughout the entire school year. Students receive academic support from teachers and tutors and develop the skills and qualities necessary to participate in Success Peer Facilitator Program. Recommended 11-12th grades. (Placement in this course is based on school recommendation.)
Career and Technical Education
CAREER AND TECHNICAL EDUCATION
CAREER AND TECHNICAL EDUCATION

CAREER AND TECHNICAL EDUCATION CAREER CLUSTERS

The National Career Clusters® Framework serves as an organizing tool for Career and Technical Education (CTE) programs, curriculum design, and instruction. There currently are 16 Career Clusters in the National Career Clusters Framework, representing 79 Career Pathways to help learners navigate their way to greater success in college and career.

The framework also functions as a useful guide in developing programs of study bridging secondary and postsecondary systems, and for creating individual student plans of study for a complete range of career options. As such, it helps learners discover their interests and their passions, and empowers them to choose the educational pathway that may lead to success in high school, college, and career.

Chesterfield County Public Schools offers programs of study in each career cluster, though, not all of the nationally identified pathways are available due to our local business economy alignment.

- Agriculture, Food and Natural Resources
- Architecture and Construction
- Arts, A/V Technology and Communications
- Business Management and Administration
- Education and Training
- Finance
- Government and Public Administration
- Health Science
- Hospitality and Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections and Security
- Manufacturing
- Marketing
- Science, Technology, Engineering and Mathematics
- Transportation, Distribution and Logistics
# MIDDLE SCHOOL CAREER AND TECHNICAL EDUCATION COURSES

## Course Pathways

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<td>Keyboading C6148O - .25</td>
<td>FACS Exploratory I C8206O - .25 C8208O - .5</td>
<td>Introduction to STEM C8481O - .25</td>
<td>Design and Modeling, PLTW CDM76O - .25</td>
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<td>Career Investigations C9068O, E - .25</td>
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## COURSE OFFERING AVAILABILITY

O – Standard  
E – Online
BUSINESS AND INFORMATION TECHNOLOGY

C6609O COMPUTER SOLUTIONS
Semester
Students are introduced to computing devices and software as problem-solving tools. Emphasis is placed on using basic touch keyboarding skills to complete a variety of projects incorporating word processing, database, presentation, and spreadsheet software. Basic Internet safety, coding, and device maintenance are components of this course.

C6610O COMPUTER SOLUTIONS
Full year
One credit
Students are introduced to computing devices and software as problem-solving tools. Emphasis is placed on using basic touch keyboarding skills to complete a variety of projects incorporating word processing, database, presentation, and spreadsheet software. Basic Internet safety, coding, and device maintenance are components of this course.

C6160O DIGITAL TECHNOLOGY FOUNDATIONS
Semester
This foundation course introduces the use of relevant and emerging technologies, tools, and applications to prepare students for current workplace practices and everyday life. Students will demonstrate information processing using a variety of hardware and software and Internet-based tools to produce and integrate data in various formats. This course is designed for students wishing to progress through more advanced business and information technology coursework.

C6161O DIGITAL TECHNOLOGY FOUNDATIONS
Full year
One credit
This foundation course introduces the use of relevant and emerging technologies, tools, and applications to prepare students for current workplace practices and everyday life. Students will demonstrate information processing using a variety of hardware and software and Internet-based tools to produce and integrate data in various formats. This course is designed for students wishing to progress through more advanced business and information technology coursework.

C6148O KEYBOARDING
Quarter
This course is designed to introduce middle school students to the basics of computers, keyboarding skills, and potential careers. Students will develop and enhance touch skills for entering information using a keyboard to compose and produce personal, educational, and professional documents.

C8114O MAKE IT YOUR BUSINESS
Semester
Students design, establish, and operate a small group or class business, producing a service or product that meets an identified school or community need. Emphasis is placed on the introduction and application of business terminology, basic entrepreneurship concepts, and fundamental business principles. Basic academic skills (mathematics, science, English, and history/social science) are integrated into this course.
CAREER EXPLORATIONS

C9068O CAREER INVESTIGATIONS
C9068E CAREER INVESTIGATIONS
Quarter
This course allows students to explore career options and begin investigating career opportunities. Students assess their roles in society, identify their roles as workers, analyze their personal assets, complete a basic exploration of career clusters, select career pathways or occupations for further study, and create an Academic and Career Plan based on the their academic and career interests. This course also helps students identify and demonstrate the workplace skills that employers desire in their future employees.

C9069O CAREER INVESTIGATIONS
C9069E CAREER INVESTIGATIONS
Semester
This course allows students to explore career options and begin investigating career opportunities. Students assess their roles in society, identify their roles as workers, analyze their personal assets, complete a basic exploration of career clusters, select career pathways or occupations for further study, and create an Academic and Career Plan based on the their academic and career interests. This course also helps students identify and demonstrate the workplace skills that employers desire in their future employees.

FAMILY AND CONSUMER SCIENCES

C8206O FAMILY AND CONSUMER SCIENCES EXPLORATORY I
Quarter
Family and Consumer Sciences Exploratory I students will prepare to be life-ready as they manage individual, family, career, and community roles and responsibilities.

C8208O FAMILY AND CONSUMER SCIENCES EXPLORATORY I
Semester
Family and Consumer Sciences Exploratory I students will prepare to be life-ready as they manage individual, family, career, and community roles and responsibilities.

C8263O FAMILY AND CONSUMER SCIENCES EXPLORATORY II
Semester
Family and Consumer Sciences Exploratory II helps students develop essential knowledge and skills to lead better lives, be career-ready, build strong families, and make meaningful contributions to their communities.

C8244O FAMILY AND CONSUMER SCIENCES EXPLORATORY III
Semester
Family and Consumer Sciences Exploratory III students continue to build on knowledge and skills acquired in Family and Community Sciences Exploratory I and II to lead better lives, be career-ready, build strong families, and make meaningful contributions to their communities.
TECHNOLOGY AND ENGINEERING EDUCATION

CAC79O APP CREATORS (PLTW)
Quarter
This course will expose students to computer science as a means of computationally analyzing and developing solutions to authentic problems through mobile app development, and will convey the positive impact of the application of computer science to other disciplines and to society. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)

CAR76O AUTOMATION AND ROBOTICS (PLTW)
Quarter
In this course, students learn about the history and impact of automation and robotics as they explore mechanical systems, energy transfer, machine automation, and computer control systems. Using the VEX Robotics® platform, students apply what they know to design and program traffic lights, robotic arms, and more. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)

CCS79O COMPUTER SCIENCE FOR INNOVATORS AND MAKERS (PLTW)
Quarter
Throughout the course, students will learn about programming for the physical world by blending hardware design and software development, allowing students to discover computer science concepts and skills by creating personally relevant, tangible, and shareable projects. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)

CDM76O DESIGN AND MODELING (PLTW)
Quarter
In this course, students discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They are then challenged and empowered to use and apply what they’ve learned throughout the unit to design a therapeutic toy for a child who has cerebral palsy. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)

CEE79O ENERGY AND THE ENVIRONMENT (PLTW)
Quarter
In this course, students are challenged to think big and toward the future as they explore sustainable solutions to our energy needs and investigate the impact of energy on our lives and the world. They use what they’ve learned to design and model alternative energy sources, as well as evaluate options for reducing energy consumption. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)

C8463O ENGINEERING SYSTEMS
Semester
Students study technological resources through problem-solving processes and various hands-on activities. They relate the impact of technology on society, environment, and culture to future consequences and decisions.
C8464O EXPLORING ENGINEERING
Semester
Students study technological resources through problem-solving processes and various hands-on activities. They relate the impact of technology on society, environment, and culture to future consequences and decisions.

CGA79O GREEN ARCHITECTURE (PLTW)
Quarter
In this course, students learn how to apply green concepts to the fields of architecture and construction. They explore dimensioning, measuring, and architectural sustainability and apply what they have learned to design affordable housing units using Autodesk’s® 3-D architectural design software. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)

C8481O INTRODUCTION TO STEM
Quarter
Students study technological resources through problem-solving processes and various hands-on activities. They relate the impact of technology on society, environment, and culture to future consequences and decisions.

CST79O SCIENCE OF TECHNOLOGY (PLTW)
Quarter
Science impacts the technology of yesterday, today, and the future. In this unit, students apply the concepts of physics, chemistry, and nanotechnology to activities and projects, including making ice cream, cleaning up an oil spill, and discovering the properties of nano-materials. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)
HIGH SCHOOL CAREER AND TECHNICAL EDUCATION COURSES

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

Course offering availability

O - Standard
H - Honors
D - Dual Enrollment
E - Online
I - International Baccalaureate
W - Cooperative Education
C - Comprehensive
P - Private Placement
CAREER CREDENTIALS
CCPS students enrolled in a CTE pathway (a sequence of courses within a student’s area of career interest) have the opportunity to earn an industry-recognized credential, a valid assessment of a student’s knowledge and skills. Credentials include state-issued professional licenses, industry certifications, pathway industry certifications, national occupational competency assessments, and/or the Workplace Readiness Skills for the Commonwealth Assessment. In addition, many credentials are recognized in the labor market as essential to employment, and provide students with greater opportunities for career advancement. Students graduating from a Virginia public school may also use a career and technical education (CTE) credential as their additional requirement for graduation.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Career and Technical Student Organizations (CTSOs) enhance Career and Technical Education in CCPS/Virginia through the co-curricular network of programs, business and community partnerships and leadership experiences at the school, state, and national levels. CCPS students enrolled in career and technical education courses are encouraged to become members of the local CTSO related to their courses and area of interest and are provided with opportunities to apply academic, technical and employability knowledge and skills necessary in today’s workforce.

WORK-BASED LEARNING
Work-based learning (WBL) consists of school-coordinated workplace experiences that are related to students’ career goals and/or interests, are integrated with instruction, and are performed in partnership with local businesses and organizations. WBL experiences enable students to apply classroom instruction in a real-world business or service-oriented work environment. The Virginia Department of Education (VDOE) recognizes eleven WBL experiences.
<table>
<thead>
<tr>
<th>Pathway</th>
<th>Animal Systems Career Pathway</th>
<th>Environmental Service Systems Career Pathway</th>
<th>Agribusiness Systems Career Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Focus</td>
<td>Veterinary Science</td>
<td>Environmental Engineering</td>
<td>Plant Systems</td>
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<td>HS Level 2</td>
<td>*Veterinary Science I C8088 O, H, D - 1</td>
<td>Biotechnology Foundations in Agriculture C8085 O, H - 1</td>
<td>Agricultural Business Operations II C8024 O - 1</td>
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<td>Veterinary Science II C8089 O, H, D - 1</td>
<td>Biotechnology Applications in Agriculture C8087 O, H - 1</td>
<td>Horticulture Sciences C8034 O - 1</td>
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* = Entry Point
C8022O AGRICULTURAL BUSINESS FUNDAMENTALS I
Full year
One credit
Students develop the necessary knowledge, skills, habits, and attitudes for employment in agricultural businesses. Emphasis is placed on personal financial management practices, consumer choices, financial records, business structures and procedures, and the economics of marketing agricultural products and services.

C8024O AGRICULTURAL BUSINESS OPERATIONS II
Full year
One credit
Much of the content in this occupational preparation course may be provided through individualized instruction. Students focus on farming, farm management, and occupational experience as they receive instruction in adjusting, operating, and maintaining farm machinery and equipment and in planning and constructing farm buildings and facilities. Continued emphasis is placed on leadership training. (Prerequisite: C8022)

NEW C8086H BIOLOGICAL APPLICATIONS IN AGRICULTURE
Full Year
One credit
This course applies biological principles to agriculture, food, and natural resources. Competencies emphasize and reinforce standards of learning for biology with agricultural applications. This course gives students the foundational knowledge to be successful in Biotechnology Foundations in Agricultural and Environmental Science.

C8087H BIOTECHNOLOGY APPLICATIONS IN AGRICULTURE
Full year
One credit
This course enables students to understand the uses of biotechnology in the fields of plant and animal agriculture, the environment, and food science. Students develop occupational skills in agricultural biotechnology and have opportunities to apply the skills and concepts needed for careers in biotechnology. The course provides students with the knowledge to make balanced judgments regarding the benefits and concerns posed by agricultural biotechnology. The students are involved in many research and application activities. (Prerequisite: 8085)

C8085H BIOTECHNOLOGY FOUNDATIONS IN AGRICULTURE AND ENVIRONMENTAL SCIENCE
Full year
One credit
This course focuses on techniques used to modify plants, animals, and microbes for specific purposes. Student activities include bioprocessing, DNA analysis, bioengineering, and forensic analysis. Students gain insight and understanding about biotechnology as it relates to agricultural and environmental science careers within the Agriculture, Food, and Natural Resources Career Cluster. Participation in FFA activities, leadership development events (LDEs), and career development events (CDEs) is encouraged. (Prerequisite: C8086)
C8048O COMMUNITY FORESTRY AND TREE MANAGEMENT
Full year
One credit
Students in this course will be instructed in the value and benefit of trees and forests in urban areas. Course content will include identifying, selecting, and caring for trees in urban areas.

C8038O FLORICULTURE
Full year
One credit
This course prepares students for postsecondary educational career programs and entry-level positions in the floriculture, horticulture, and floral design industries. Instruction includes industry safety in floriculture, the science of floriculture and nursery plant production, plant material identification, floral design basics, marketing, and business management.

C8035O GREENHOUSE PLANT PRODUCTION AND MANAGEMENT
Full year
One credit
This course prepares students for postsecondary educational career programs and entry-level positions in the greenhouse plant production and management industry. Instruction includes industry safety in greenhouse plant production, development of plant production facilities, greenhouse management and operations, plant identification, the science of plant production, business management, and marketing skills. Participation in FFA Career Development Events (CDEs), Leadership Development Events (LDEs), and Supervised Agricultural Experiences (SAEs) is strongly encouraged. (Prerequisite: C8007, C8034)

C8034O HORTICULTURE SCIENCES
Full year
One credit
This course prepares students for postsecondary educational career programs and entry-level positions in the horticulture industry. Instruction includes safety in the horticulture industry, the science of horticulture and nursery plant production, greenhouse operation and management, landscape design, and turf management. Through hands-on activities, students will identify and manage plant-growing substrates and propagate and grow horticultural plants in the greenhouse and land laboratory. Participation in FFA Career Development Events (CDEs), Leadership Development Events (LDEs), and Supervised Agricultural Experiences (SAEs) is strongly encouraged.

C8008O INTRODUCTION TO ANIMAL SYSTEMS
C8008H INTRODUCTION TO ANIMAL SYSTEMS
C8008D INTRODUCTION TO ANIMAL SYSTEMS
Full year
One credit
Students develop competencies in each of the major areas of the Animal Systems career pathway including animal nutrition, reproduction, breeding, care, and management. Students learn agricultural mechanics applicable to animal systems. As with all agriculture courses, students will be exposed to principles of leadership and opportunities within student organizations along with Supervised Agricultural Experience opportunities. (Co-requisites: C8088H/O/D and C8089H/O/D)
INTRODUCTION TO PLANT SYSTEMS
Full year
One credit
Students develop competencies in each of the major areas of the Plant Systems career pathway, including applied botany, plant propagation, and plant care and selection. Instructional content also includes an introduction to the various divisions of the plant systems industry. Students learn agricultural mechanics applicable to plant systems. As with all agriculture courses, students will be exposed to the principles of leadership and opportunities within student organizations, along with Supervised Agricultural Experience opportunities.

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

LANDSCAPING II
Full year
One credit
This course offers skilled workers satisfying career opportunities in varying work environments. The expanding and ever-evolving green industry requires skilled workers for high-demand occupations that offer educational and leadership opportunities. This course focuses on preparing students for entry-level employment in the landscaping industry through hands-on experiences, to include landscape design, installation, and maintenance, incorporating technology, plant and soil science, and utilizing landscaping tools, equipment, and machinery. Participation in FFA Career Development Events (CDEs), Leadership Development Events (LDEs), and Supervised Agricultural Experiences (SAEs) is strongly encouraged. Prerequisite: C8036

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

VETERINARY SCIENCE I
VETERINARY SCIENCE I
VETERINARY SCIENCE I
Full year
One credit
This course prepares students for postsecondary education and/or careers in veterinary medicine or related fields. Students develop their skills in anatomy, nutrition, medical terminology, sanitation, clinical exams, and handling animals. Live animal handling may occur. Course content also includes facility maintenance, and office functions, as well as safety practices. The National FFA Organization, Supervised Agricultural Experience (SAE), or related student organization activities are encouraged.
(Co-requisites: C8008H/O/D and C8089H/O/D)
C8089O VETERINARY SCIENCE II
C8089H VETERINARY SCIENCE II
C8089D VETERINARY SCIENCE II
Full year
One credit
Students expand their knowledge of animal science and the care of animals, including animal structure and function, microbes and disease prevention, parasitology, and genetics and breeding. Students develop more advanced skills and techniques for assisting the veterinarian/technician in the following areas: performing first aid and surgery, applying aseptic techniques, performing technical functions, administering medication, handling death and dying, working with wildlife, and performing office functions. On-the-job clinical instruction coordinated by the instructor may be included in veterinary offices or animal clinics. (Co-requisites: C8008H/O/D and C8088H/O/D)
# Career Cluster: Architecture & Construction

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<th>Design/Pre-Construction Pathway</th>
<th>Construction Pathway</th>
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<td>C8435</td>
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<td>Advanced Drawing and Design</td>
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<td>O, D, H - 1</td>
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<tr>
<td>HS Level 4</td>
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<tr>
<td>*Construction Technology</td>
<td>Carpentry II</td>
<td>Electricity II</td>
</tr>
<tr>
<td>C8431</td>
<td>C8534</td>
<td>C8504</td>
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<td>O - 1</td>
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<td></td>
<td>Carpentry III</td>
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<tr>
<td>C8603</td>
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* = Entry Point
C8438O ADVANCED DRAWING AND DESIGN  
C8438D ADVANCED DRAWING AND DESIGN  
C8438H ADVANCED DRAWING AND DESIGN  
Full year  
One credit  
Students use a graphic language for product design and technical illustration. They increase their understanding of drawing techniques learned in the prerequisite courses. They research design-related fields while identifying the role of advanced drawing and design in manufacturing and construction industry processes. They apply the design process, analyze design solutions, reverse engineer products, create 3-D solid models using CADD, construct physical models, and create multimedia presentations of finished designs. They complete a work portfolio based on a chosen graphic project. (Prerequisites: C8437, C8436)

C8437O ARCHITECTURAL DRAWING AND DESIGN  
C8437D ARCHITECTURAL DRAWING AND DESIGN  
C8437H ARCHITECTURAL DRAWING AND DESIGN  
Full year  
One credit  
Students learn the principles of architecture and increase understanding of working drawings and construction techniques learned in the prerequisite course. Experiences include residential and commercial building designs, rendering, model development, and structural details. Students use computer-aided drawing and design (CADD) equipment and established standards or codes to prepare models for presentation. The course is especially beneficial to future architects, interior designers, or home builders. (Prerequisite: C8435)

C8601O CARPENTRY I  
Full year  
One credit  
Carpentry I is foundational for achieving high-level construction industry skills that can result in an exciting and lucrative career. With an emphasis on safety, students are taught to use hand and power tools, cut stock, apply construction mathematics, interpret blueprints, and understand basic rigging. Students will become proficient in identifying types of residential construction components to frame walls, floors, ceilings, roofs, doors, and windows. All students will obtain the required Construction Industry OSHA 10 safety credential.

C8602O CARPENTRY II  
Full year  
Two credits  
Carpentry II prepares students for successful transition into postsecondary education for careers in carpentry and related fields, such as construction management, architecture, and others. Students are taught the safe use of hand and power tools common to the industry to complement their Construction Industry OSHA 10 safety credential earned in Carpentry I. Students will become proficient in assembling and installing various types of residential construction components according to industry standards, including forming foundations, framing floors, walls, ceiling, roofs, trusses, roofing materials, stairs, and exterior doors and windows. (Prerequisite: C8601)
C8603O CARPENTRY III
Full year
Two credits
Carpentry III is an advanced course that allows students to gain in-depth knowledge and hands on experience in construction skills. Students explore specialized areas in carpentry, such as building decks and porches, alternative framing, interior finishes, drywall installation and finishing, as well as energy efficiency and green technology. Exploration of licensure requirements and entrepreneurial opportunities are emphasized. (Prerequisite: C8602)

C8430O CIVIL ENGINEERING AND ARCHITECTURE (PLTW)
C8430H CIVIL ENGINEERING AND ARCHITECTURE (PLTW)
Full year
One credit
In this specialization course for Project Lead the Way (PLTW), students collaborate on both the development of community-based building and design projects and conceptual design for project presentations. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.) (Prerequisite: C8439)

C8431O CONSTRUCTION TECHNOLOGY
Full year
One credit
Students build structures and engage in problem-based learning that exposes them to commercial, industrial, residential, public works and institutional technologies to help them understand the jobs of construction careers. They learn proper safety procedures for tools and machinery, vocabulary and terms associated with construction, blueprint reading and symbols associated with architecture, and math concepts and principles used in construction.

C8533O ELECTRICITY I
C8533D ELECTRICITY I
Full year
One credit
Students develop fundamental electrical skills to help them prepare for a career in the installation, operation, maintenance, and repair of residential, commercial, and industrial systems. Students will engage in hands-on activities in a lab setting. They will be introduced to residential wiring of houses and apartments; commercial wiring of retailers, schools, businesses, and hospitals; and industrial wiring of factories.

C8534O ELECTRICITY II
C8534D ELECTRICITY II
Full year
Two credits
Students will continue to develop skills in the installation, operation, maintenance, and repair of residential, commercial, and industrial electrical systems. Students will also study electrical theory and mathematical problems related to electricity, apply requirements of the National Electrical Code (NEC) Book, select and install conductors, examine lighting, communication, and power systems, and work with conduit and raceways, panelboards, switchboards, grounding systems, and generators. (Prerequisite: C8533)
C8535O ELECTRICITY III
Full year
Two credits
Through hands-on experiences, students continue building skills in the installation, operation, maintenance, and repair of electrical systems, with emphasis on industrial applications. They also study lighting fixtures, overcurrent protection, service equipment, motor controls, transformers, grounding, and the National Electrical Code (NEC) Book. (Prerequisite: C8534)

C8503O HEATING, VENTILATION, AIR CONDITIONING, AND REFRIGERATION I
Full year
One credit
In this first course of the instructional program, students are taught to professionally install, repair, and maintain the operating conditions of heating, ventilation, air-conditioning, and refrigeration (HVACR) systems. Students work with piping and tubing, study the principles of heat and electricity, install duct systems, and comply with U.S. Environmental Protection Agency (EPA) regulations. Successful completion of the two-course sequence may prepare students for a career as a HVACR technician.

C8504O HEATING, VENTILATION, AIR CONDITIONING, AND REFRIGERATION II
Full year
Two credits
This instructional program teaches students to professionally install, repair, and maintain the operating conditions of heating and cooling systems. Students also explore emerging technologies, Environmental Protection Agency (EPA) regulations, energy conservation techniques, and systems with exempt and non-exempt refrigerants. Completion of this sequence will prepare students for employment in a variety of heating, ventilation, air-conditioning, and refrigeration (HVACR) occupations. (Prerequisite: C8503)

C8439O INTRODUCTION TO ENGINEERING DESIGN (PLTW)
Full year
One credit
In this foundation course in Project Lead the Way (PLTW), students use 3-D computer modeling software as they learn the engineering-design process and solve design problems for which they develop, analyze, and create product models. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)

C8512O MASONRY I
Full year
One credit
Students develop the basic skills to use both hand and power tools, as well as machinery and equipment, related to brick and block masonry construction. Students focus on problem-solving and employability skills while performing entry-level brick masonry tasks.

C8513O MASONRY II
Full year
Two credits
Students further refine and expand their skills in the use of hand and power tools, as well as machinery and equipment, to construct masonry wall systems typical of the 21st century. Students may have the opportunity to experience work-based learning. (Prerequisite: C8512)
C8551O PLUMBING I
Full year
One credit
Students are introduced to the plumbing profession and practice mathematical calculations required for plumbing systems. They learn to safely assemble, install, and repair pipes and fittings, and are introduced to installing fixtures of heating, water, and drainage systems, according to specification and plumbing codes.

C8552O PLUMBING II
Full year
Two credits
Students practice mathematics skills related to the plumbing profession. They read, interpret, and create drawings of piping systems. Students learn to safely assemble, install, and repair pipes, fittings, and fixtures of heating, water, and drainage systems, according to specification and plumbing codes. (Prerequisite: C8551)

C8435O TECHNICAL DRAWING AND DESIGN
C8435D TECHNICAL DRAWING AND DESIGN
C8435H TECHNICAL DRAWING AND DESIGN
Full year
One credit
In this foundation course, students learn the basic language of technical drawing and design, and they design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.
## Career Cluster: Arts, A/V Technology & Communications

### Visual Arts Career Pathway

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<thead>
<tr>
<th>Career Focus</th>
<th>Commercial Photography</th>
<th>Digital Graphics</th>
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<tbody>
<tr>
<td>Career Outlook</td>
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<td>Mean Wage &amp; Salary</td>
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<td>101</td>
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<td>Regional Opening</td>
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<tr>
<th>HS Level 1</th>
<th>*Commercial Photography I C8607 H - 1</th>
<th>*Graphic Communications Systems C8458 O, H - 1</th>
<th>*Technical Drawing and Design C8435 O, H, D - 1</th>
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<tr>
<td>HS Level 2</td>
<td>Commercial Photography II C8608 H - 2</td>
<td>Digital Visualization C8459 O, H - 1</td>
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<tr>
<td>HS Level 3</td>
<td></td>
<td>Modeling and Simulation Technology C8460 O, H - 1</td>
<td></td>
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</tbody>
</table>

* = Entry Point
C8607H COMMERCIAL PHOTOGRAPHY I
Full year
One credit
The ability to apply principles of visual literacy to produce visual content gives students an advantage in today’s global, multimedia society. Students will be taught industry-relevant technical skills and have the opportunity to work with a variety of technology, including digital cameras, design software, and editing tools to stage, shoot, process, print, and present professional-grade images. In addition, students will evaluate and analyze photographic work and investigate the history of photography, including (optionally) the fundamentals of film and darkroom development.

C8608H COMMERCIAL PHOTOGRAPHY II
Full year
Two credits
The ability to apply principles of visual literacy to produce visual content gives students an advantage in today’s global, multimedia society. In this final year of Commercial Photography, students are taught industry-relevant technical skills and have the opportunity to work with a variety of technology, including digital cameras, lighting, design software, and editing tools to stage, shoot, process, print, and present professional-grade images while developing a portfolio for a related career. In addition, students (optionally) explore the fundamentals of film and darkroom development. (Prerequisite: C8607)

C8459O DIGITAL VISUALIZATION
C8459H DIGITAL VISUALIZATION
Full year
One credit
Students gain experiences related to computer animation by using graphics and design concepts. Students solve problems involving 3-D object manipulation, storyboarding, texturing/mapping, lighting concepts, and environmental geometry. Students create a variety of animations that reflect real-world applications and are introduced to interactive and 3-D animation software. Production of a portfolio showcasing examples of original student work is included.

C8458O GRAPHIC COMMUNICATIONS SYSTEMS
Full year
One credit
This course provides experiences related to a wide range of tools and materials used to reproduce information and images. Several mediums are used, including paper, metal, plastic, and fabric. Students develop competencies in message design, composition and assembly, and message transfer and product conversion.

C8460O MODELING AND SIMULATION TECHNOLOGY
C8460H MODELING AND SIMULATION TECHNOLOGY
Full year
One credit
Students gain experiences related to computer animation by using graphics and design concepts. Students solve problems involving 3-D object manipulation, storyboarding, texturing/mapping, lighting concepts, and environmental geometry. Students create a variety of animations that reflect real-world applications and are introduced to interactive and 3-D animation software. Production of a portfolio showcasing examples of original student work is included. (Prerequisite: C8459)
C8435O TECHNICAL DRAWING AND DESIGN
C8435H TECHNICAL DRAWING AND DESIGN
C8435D TECHNICAL DRAWING AND DESIGN

Full year
One credit
In this foundation course, students learn the basic language of technical drawing and design, and they design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.
## Career Cluster: Business Management & Administration

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Business Management Pathway</th>
<th>Administrative Support Pathway</th>
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<tbody>
<tr>
<td>Career Focus</td>
<td>Business Administration</td>
<td>Business Office Specialist</td>
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<tr>
<td>Career Outlook</td>
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<td>Growth by 2026</td>
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<td>7%</td>
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<td>288</td>
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### HS Level 1
*Digital Applications (formerly keyboarding)  
C6617 O - .5  
C6611 O - 1

### HS Level 2
*Principles of Business and Marketing  
C6115 O - 1

### HS Level 3
Business Management  
C6135 O, H, D, I - 1
*Office Specialist I  
C6740 O - 1
*Computer Information Systems  
C6612 O, H, D - 1

### HS Level 4
Business Law  
C6131 O - 1  
Office Specialist II  
C6741 O - 1  
Advanced Computer Information Systems  
C6613 O D, H - 1

### HS Level 5
*Education for Employment  
C9084 O - .5  
C9085 O - 1  
Information Technology in a Global Society (IB)  
CIB6613 I - 1

### HS Level 6
*Leadership Development  
C9097 O, H - 1

* = Entry Point
C6613O ADVANCED COMPUTER INFORMATION SYSTEMS  
C6613H ADVANCED COMPUTER INFORMATION SYSTEMS  
C6613D ADVANCED COMPUTER INFORMATION SYSTEMS  
Full year  
One credit  
Students apply problem-solving skills to real-life situations through advanced integrated software applications, including printed, electronic, and web publications. Students work individually and in groups to explore advanced computer maintenance activities, website development, programming, networking, emerging technology, and employability skills. Students enhance computer information technology skills through the use of advanced integrated applications to create documents, publications, and websites including complex graphs, customized reports, and multimedia presentations. In addition to implementing programming and executing network activities, students also will practice the maintenance, management, and troubleshooting of systems; legal and ethical issues are explored; preparation is given for industry certifications; and employability skills are developed. (Prerequisite: C6612)

C6131O BUSINESS LAW  
C6131H BUSINESS LAW  
Full year  
One credit  
Students examine the foundations of the American legal system and learn the rights and responsibilities of citizens. Students gain practical knowledge and life skills by exploring economic and social concepts related to laws governing business and individuals. Focus areas include contracts, consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and careers in the legal profession. Students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year. (Prerequisite: C6135)

C6135O BUSINESS MANAGEMENT  
C6135H BUSINESS MANAGEMENT  
C6135D BUSINESS MANAGEMENT  
Full year  
One credit  
Students study basic management concepts and leadership styles as they explore business ownership, planning, operations, marketing, finance, economics, communications, the global marketplace, and human relations. Quality concepts, project management, problem solving, and ethical decision making are an integral part of the course. Students may enhance leadership skills by participation in school-based or virtual enterprises, job shadowing, internships, apprenticeships, cooperative education, and/or the Future Business Leaders of America (FBLA).

C6612O COMPUTER INFORMATION SYSTEMS  
C6612H COMPUTER INFORMATION SYSTEMS  
C6612D COMPUTER INFORMATION SYSTEMS  
Full year  
One credit  
Students apply problem-solving skills to real-life situations through word processing, spreadsheets, databases, multimedia presentations, and integrated software activities. Students work individually and in groups to explore computer concepts, operating systems, networks, telecommunications, and emerging technologies.
C6617O DIGITAL APPLICATIONS
Semester
Half credit
This course is designed for secondary school students to develop real-life, outcome-driven approach skills for digital citizenship, basic computer operations, keyboarding, application software (word processing, spreadsheets, multimedia applications, databases), and career exploration. This course promotes skills that can be applied across the curriculum and offers preparation relevant to 21st century skills and postsecondary education. Students who successfully complete this course may be eligible for a rigorous and relevant industry certification examination. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

C6611O DIGITAL APPLICATIONS
Full year
One credit
This course is designed for secondary school students to develop real-life, outcome-driven approach skills for digital citizenship, basic computer operations, keyboarding, application software (word processing, spreadsheets, multimedia applications, databases), and career exploration. This course promotes skills that can be applied across the curriculum and offers preparation relevant to 21st century skills and postsecondary education. Students who successfully complete this course may be eligible for a rigorous and relevant industry certification examination. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

C9084O EDUCATION FOR EMPLOYMENT
Semester
Half Credit
C9085O EDUCATION FOR EMPLOYMENT
Full year
One credit
This course teaches students to make informed career and continuing education choices as they transition from school, gain technical skills, and adapt to the workplace. Students are taught ethical behaviors and career-research, job-acquisition, workplace-communication, self-awareness, self-advocacy, customer-service, and life skills. This course offers students integrated labor market needs through an applied employment education format.

CIB6613I INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY (IB)
Full year
One credit
This is a recognized International Baccalaureate course designed to promote an understanding and appreciation of the social significance of information technology and networking as students analyze and evaluate in a critical manner the impact and ethical considerations arising from the widespread use of information technology and networking. The course focuses on how information systems and networks are used to process and exchange information for control, analysis, and communications.
C9097O LEADERSHIP DEVELOPMENT
C9097H LEADERSHIP DEVELOPMENT
Full year
One credit
Students will develop competencies in identifying individual aptitudes in relation to effective leadership skills, understanding organizational behavior, using effective communication in the workplace, handling human resources and organizational problems, supervising and training employees, resolving conflict, and planning for the future. Continuing education in leadership is emphasized as well as practical leadership experiences in cooperation with school and community leaders.

C6740O OFFICE SPECIALIST I
Full year
One credit
Students complete the Office Specialist sequence identified locally or progress in the sequence until prepared to transfer into other business courses. Students develop skills in areas including keyboarding, word processing, office procedures, and records management. If a fourth year is needed, the teacher should use simulated activities in the following areas: word processing, spreadsheets, databases, telecommunications, graphic design, and records management.

C6741O OFFICE SPECIALIST II
Full year
One credit
Students complete the Office Specialist sequence identified locally or progress in the sequence until prepared to transfer into other business courses. Students develop skills in areas including keyboarding, word processing, office procedures, and records management. If a fourth year is needed, the teacher should use simulated activities in the following areas: word processing, spreadsheets, databases, telecommunications, graphic design, and records management. (Prerequisite: C6740)

C6115O PRINCIPLES OF BUSINESS AND MARKETING
Full year
One credit
Students discover the roles of business and marketing in the free enterprise system and the global economy. Students examine basic financial concepts of banking, insurance, credit, taxation, and investments to provide a strong background for making sound decisions as consumers, wage earners, and citizens. The real-world effects of technology, effective communication, and interpersonal skills are evident throughout the course. This course also supports career-development skills and explores career options.
### Career Cluster: Education & Training

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Teaching/Training Pathway</th>
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<tbody>
<tr>
<td>Career Focus</td>
<td>Early Childhood</td>
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<td>Career Outlook</td>
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<td>HS Level 1</td>
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<td>C8233 - O - .5</td>
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<td>*Early Childhood Education I</td>
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C8285O EARLY CHILDHOOD EDUCATION I
Full Year
Two Credits
Students prepare to be primary providers of home-, family-, or institution-based childcare services by focusing on the planning, organizing, and conducting of meaningful play and learning activities; child monitoring and supervision; recordkeeping and referral procedures; and work-based learning experiences in on-site labs, local daycare centers, elementary schools, and other institutions under the supervision of the instructor. Students also prepare for continuing education leading to careers in early childhood fields (e.g., medical, social services, education).

C8286O EARLY CHILDHOOD EDUCATION II
Full Year
Two Credits
Students focus on occupational skills needed by personnel employed in early childhood-related careers, such as education, medical/health care, social services, counseling, psychology, and entrepreneurship. Work-based learning experiences in on-site labs, early childhood development centers, elementary schools, and other institutions under the supervision of the instructor are required. (Prerequisite: C8285)

C8233O INTRODUCTION TO EARLY CHILDHOOD EDUCATION
Semester
Half Credit
Students are introduced to early childhood education career opportunities and explore topics such as child development, safe and healthy environments for children, and developmentally appropriate practice that supports child development. Leadership opportunities are available through the co-curricular student organization.

C8234O INTRODUCTION TO EARLY CHILDHOOD EDUCATION
Full year
One credit
Students are introduced to early childhood education career opportunities and explore topics such as child development, safe and healthy environments for children, and developmentally appropriate practice that supports child development. Leadership opportunities are available through the co-curricular student organization.

C9060O INTRODUCTION TO TEACHERS FOR TOMORROW
Semester
Half Credit
This exploratory course fosters student interest, understanding, and appreciation of the teaching profession and allows middle school students an introduction to careers in education. Students are taught to develop self-awareness, collaborate and communicate with peers, build positive learning environments, and discover learning differences of others. The curriculum is designed to help students set attainable goals in the Education and Training Career Cluster. This course introduces students to the high school Virginia Teachers for Tomorrow (VTfT) program. Additional educational leadership opportunities are offered through the student organization, Educators Rising.
C9061O INTRODUCTION TO TEACHERS FOR TOMORROW
Full year
One credit
This exploratory course fosters student interest, understanding, and appreciation of the teaching profession and allows students an introduction to careers in education. Students are taught to develop self-awareness, collaborate and communicate with peers, build positive learning environments, and discover learning differences of others. The curriculum is designed to help students set attainable goals in the Education and Training Career Cluster. This course introduces students to the high school Virginia Teachers for Tomorrow (VTfT) program. Additional educational leadership opportunities are offered through the student organization, Educators Rising.

C9062O TEACHERS FOR TOMORROW I - ELEMENTARY
FULL YEAR
One credit
Virginia Teachers for Tomorrow (VTfT) fosters student interest, understanding, and appreciation of the teaching profession and allows secondary students to explore careers in education. Students build a foundation for teaching; learn the history, structure and governance of teaching; apply professional teaching techniques in the VTfT classroom and field experience; and reflect on their teaching experiences. Additional educational leadership opportunities are offered through the student organization, Educators Rising.

C9062C TEACHERS FOR TOMORROW I - SECONDARY
Full year
One credit
Virginia Teachers for Tomorrow (VTfT) fosters student interest, understanding, and appreciation of the teaching profession and allows secondary students to explore careers in education. Students build a foundation for teaching; learn the history, structure and governance of teaching; apply professional teaching techniques in the VTfT classroom and field experience; and reflect on their teaching experiences. Additional educational leadership opportunities are offered through the student organization, Educators Rising.
<table>
<thead>
<tr>
<th>Career Cluster: Finance</th>
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<tbody>
<tr>
<td><strong>Pathway</strong></td>
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<tr>
<td>Career Focus</td>
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<tr>
<td>Career Outlook</td>
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<tr>
<td>Growth by 2026</td>
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<td>Mean Wage &amp; Salary</td>
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<tr>
<td>Regional Opening</td>
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<thead>
<tr>
<th>HS Level 1</th>
<th>*Principles of Business and Marketing</th>
<th>*Economics and Personal Finance</th>
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<td>C9094 O, H - 1</td>
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* = Entry Point
C6320O ACCOUNTING
C6320H ACCOUNTING
C6320D ACCOUNTING
Full year
One credit
Accounting students study the basic principles, concepts, and practices of the accounting cycle for a service business and a merchandising business. Topics covered include analyzing transactions, journalizing and posting entries, preparing payroll records and financial statements, and managing cash control systems. Business ethics and professional conduct are emphasized. Students learn fundamental accounting procedures, using both manual and electronic systems.

C6321O ADVANCED ACCOUNTING
C6321H ADVANCED ACCOUNTING
C6321D ADVANCED ACCOUNTING
Full year
One credit
Advanced Accounting students gain knowledge of advanced accounting principles, procedures, and techniques used to solve business problems and make financial decisions. Students work in a technology-integrated environment, using accounting and spreadsheet software to analyze, synthesize, evaluate, and interpret business financial data related to inventory, fixed assets, notes/accounts payable and receivable, implementation of a partnership and a corporation, and other specialized accounting systems. Using authentic workplace scenarios that reflect current industry trends and standards, students analyze financial data and acquire knowledge of business ethics. (Prerequisite: C6320)

C6131O BUSINESS LAW
C6131H BUSINESS LAW
Full year
One credit
Students examine the foundations of the American legal system and learn the rights and responsibilities of citizens. Students gain practical knowledge and life skills by exploring economic and social concepts related to laws governing business and individuals. Focus areas include contracts, consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and careers in the legal profession. Students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year. (Prerequisite: C6135)

C6120O ECONOMICS AND PERSONAL FINANCE
C6120H ECONOMICS AND PERSONAL FINANCE
C6120E ECONOMICS AND PERSONAL FINANCE
C6120P ECONOMICS AND PERSONAL FINANCE
Full year
One credit
Students learn how economies and markets operate and how the United States economy is interconnected with the global economy. Additionally, they learn how to navigate the financial decisions they must face and to make informed decisions relating to career exploration, budgeting, banking, credit, insurance, spending, financing postsecondary education, taxes, saving and investing, buying/leasing a vehicle, and living independently. They also learn the importance of investing in themselves in order to gain the knowledge and skills valued in the marketplace. Development of financial literacy skills and an understanding of economic principles will provide the basis for responsible citizenship, more effective participation in the workforce, and career success. The course incorporates all economics and financial literacy objectives included in the Code of Virginia §22.1-200-03B.
C6115O PRINCIPLES OF BUSINESS AND MARKETING
Full year
One credit
Students discover the roles of business and marketing in the free enterprise system and the global economy. Students examine basic financial concepts of banking, insurance, credit, taxation, and investments to provide a strong background for making sound decisions as consumers, wage earners, and citizens. The real-world effects of technology, effective communication, and interpersonal skills are evident throughout the course. This course also supports career-development skills and explores career options.

C9093O ENTREPRENEURSHIP EDUCATION
C9093H ENTREPRENEURSHIP EDUCATION
Full year
One credit
This course introduces students to the exciting world of creating, owning, and launching their own business. Students will learn concepts and techniques for planning an entrepreneurial venture, using design thinking and business model development. Students will learn about financial statements, marketing principles, sales and customer service, and basic economic principles for successful operation.

C9094O ADVANCED ENTREPRENEURSHIP EDUCATION
C9094H ADVANCED ENTREPRENEURSHIP EDUCATION
Full year
One credit
This course is designed for students who wish to concentrate on advanced strategies for entrepreneurship, building upon concepts introduced in Entrepreneurship (9093). The focus of the course is on development of a business plan and business management. Students will establish, market, and maintain a business. (Prerequisite: C9093)
# Career Cluster: Government & Public Administration – Leadership

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Army JROTC</th>
<th>Navy JROTC</th>
</tr>
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<tbody>
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<td><strong>Career Focus</strong></td>
<td><strong>Leadership</strong></td>
<td><strong>Leadership</strong></td>
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<tr>
<td><strong>HS Level 1</strong></td>
<td><em>Army JROTC I</em>&lt;br&gt;CAR13&lt;br&gt;O – 1</td>
<td><em>Navy JROTC I</em>&lt;br&gt;CNA13&lt;br&gt;O – 1</td>
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<td><strong>HS Level 2</strong></td>
<td>Army JROTC II&lt;br&gt;CAR16&lt;br&gt;O, H – 1</td>
<td>Navy JROTC II&lt;br&gt;CNA16&lt;br&gt;O, H – 1</td>
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<td><strong>HS Level 3</strong></td>
<td>Army JROTC III&lt;br&gt;CAR18&lt;br&gt;O,H – 1</td>
<td>Navy JROTC III&lt;br&gt;CNA18&lt;br&gt;O, H – 1</td>
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<td>Army JROTC IV&lt;br&gt;CAR19&lt;br&gt;O, H – 1</td>
<td>Navy JROTC IV&lt;br&gt;CNA19&lt;br&gt;O, H – 1</td>
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* = Entry Point
CAR13O ARMY JROTC I
Full year
One credit
This course introduces students to the foundations of the Army JROTC program, the rights and responsibilities of U.S. citizenship, the principle components of leadership, and the foundational elements needed for academic and career success. Additionally, students receive instruction in U.S. and military history, discipline, personal wellness, physical fitness, career education, and workplace readiness skills. Military customs and courtesies, proper uniform wear and personal appearance guidelines are established and reinforced in the classroom, drill, and military ceremonies.

CAR16O ARMY JROTC II
CAR16H ARMY JROTC II
Full year
One credit
This course continues to provide students instruction in the Army JROTC program and the rights and responsibilities of U.S. citizenship. Students continue to learn leadership skills, U.S. and military history, the origins and development of the U.S. government, discipline, personal wellness, physical fitness, first aid, map skills, career education, and workplace readiness skills. Military customs and courtesies, proper uniform wear, and personal appearance guidelines are emphasized within the leadership lab, drill, and military ceremonies. (Prerequisite: CAR13)

CAR18O ARMY JROTC III
CAR18H ARMY JROTC III
Full year
One credit
Students are instructed in the Army JROTC curriculum, where U.S. citizenship rights and responsibilities are reinforced. This course continues to provide students instruction in the Army JROTC program, reinforcing U.S. citizenship rights and responsibilities. Students continue instruction in leadership, military history, discipline, physical fitness, career education, financial planning, personal development, and workplace readiness skills. Military customs and courtesies, proper uniform wear, and personal appearance guidelines are required in the leadership lab, drill, and military ceremonies. (Prerequisite: CAR16)

CAR19O ARMY JROTC IV
CAR19H ARMY JROTC IV
Full year
One credit
Students continue instruction in the Army JROTC program, consisting of U.S. citizenship rights and responsibilities, leadership, military history, discipline, citizenship, physical fitness, career education, and workplace readiness skills. Students receive additional instruction in military customs and courtesies, proper uniform wear, and personal appearance guidelines. Adherence to the guidelines is required in leadership lab, drill, and military ceremonies. (Prerequisite: CAR18)
CNA13O NAVY JROTC I
Full year
One credit
This course introduces students to the Navy Junior Reserve Officer Training Corps program, the importance of citizenship, the elements of leadership, the U.S. government, and the value of scholarship in attaining life goals. Additional instruction includes: the principles of health and first aid, geography, orienteering, map reading skills, survival skills, financial skills, and overview of the U.S. Navy, naval ships and aircraft. The importance and promotion of a healthy lifestyle including physical fitness, proper diet, controlling stress, and drug awareness are pursued at the fundamental level.

CNA16O NAVY JROTC II
CNA16H NAVY JROTC II
Full year
One credit
This course builds on the general introduction provided in Navy JROTC I, to further develop the traits of citizenship and leadership, introduce cadets to the technical areas of naval science, the role of the U.S. Navy in maritime history, and the vital importance of the world’s oceans to the national security of the United States.
An introduction to maritime history including the American Revolution and Civil War, and the rise of the United States to world power status, World Wars I and II, the Cold War era, the 1990s, and conflict in the new millennium is provided. Additional instruction in the nautical sciences will include an introduction to maritime geography, oceanography, meteorology, astronomy, and the physical sciences. (Prerequisite: CNA13)

CNA18O NAVY JROTC III
CNA18H NAVY JROTC III
Full year
One credit
This course broadens a student’s understanding of the principles of military leadership, citizenship, discipline, the concept and significance of teamwork, the intrinsic value of good order and discipline in the accomplishment of objectives, and the importance of sea power and national security. Students gain a more in-depth knowledge of naval ships, aircraft, and an introduction to marine navigation and seamanship. It includes instruction in sea power and national security, naval operations and support functions, military law, and international law and the sea. It provides an introduction to ship construction and damage control, shipboard organization and watch standing, and naval weaponry. (Prerequisite: CNA16)
CNA19O NAVY JROTC IV
CNA19H NAVY JROTC IV

Full year
One credit

This course provides instruction in theoretical and applied aspects of leadership, individual training, and evaluation of individual and team performance. The course focuses primarily on practical leadership techniques and implementation. The intent is to assist seniors in understanding the importance of leadership; improving their leadership skills by placing them in positions of leadership, under supervision; and assisting them in analyzing the reasons for their varying degrees of success throughout the year. Classroom activities include seminars, reading assignments, classroom presentations, and practical work with junior cadets. Seniors are mentored/guided in their preparation for postsecondary opportunities to include college preparation, completing scholarship applications, and the job/career choices that are available to them. Students will be instructed in the techniques used to create motivation, develop goals and activities for a group/team, and the appropriate attitudes and behaviors required to set a positive leadership example. Students are provided access to ACT/SAT prep courses, guidance in selecting a college and pursuing available scholarships, and mentoring in establishing long-term life-goals. (Prerequisite: CNA18)
## Career Cluster: Health Science

<table>
<thead>
<tr>
<th>Career Focus</th>
<th>Nurse Aide</th>
<th>Medical Assisting</th>
<th>PT/OT</th>
<th>Dental</th>
<th>Pharmacy Technician</th>
<th>Sports Medicine</th>
<th>Dietetics</th>
<th>Medical Office Management</th>
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<tr>
<td>Career Outlook</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Growth by 2026</td>
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<td>25%</td>
<td>30%</td>
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### HS Level 1

<table>
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<tr>
<th>HS Level 1</th>
<th>*Introduction to Health and Medical Sciences C8302 O, H – 1</th>
<th>*Health Assisting Careers C8331 O, H – 1</th>
<th>*Medical Terminology C8383 O, H – 1</th>
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### HS Level 2

|------------|-------------------------------------------------------------|------------------------------------------|-------------------------------------------|--------------------------------|---------------------------------|------------------------------------------|---------------------------------|--------------------------------|

### HS Level 3

|------------|-------------------------------------------------------------|------------------------------------------|-------------------------------------------|--------------------------------|---------------------------------|------------------------------------------|---------------------------------|--------------------------------|

### HS Level 4

<table>
<thead>
<tr>
<th>HS Level 4</th>
<th>Medical Coding &amp; Billing II C8389 O – .5</th>
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</table>

* = Entry Point
C8328O DENTAL CAREERS I
Full Year
Two Credits
Students are introduced to the careers in dentistry, including dentist (general and specialists), hygienist, dental assistant, dental laboratory technician, and dental receptionist. Students practice and learn about many of the skills utilized in these professions while attaining all the skills necessary to become entry-level dental assistants. Study includes infection control and OSHA standards; anatomy and physiology; tooth morphology; oral histology; preventive dentistry; applied psychology; effective communication; office administration and management; use of dental software; operative dentistry techniques; and dental materials/laboratory skills.

C8329O DENTAL CAREERS II
Full Year
Two Credits
Units of study include medical emergencies, coronal polishing, oral pathology, dental roentgenology, nutrition, schedule IV drugs and pharmacology, and advanced laboratory techniques. In addition to attending classes for part of the week, students have the opportunity to participate in internships at local private dental offices and public health dental facilities, where they participate in all phases of dental care delivery. During the program, students are eligible to take a national certification. Students who pass are qualified to work in entry-level dental assistant and dental receptionist positions. Many graduates choose to continue their dental education at community colleges and universities. (Prerequisite: C8328)

C8239O FOOD SCIENCE AND DIETETICS
C8239H FOOD SCIENCE AND DIETETICS
Full year
One credit
Through laboratory and other practical experiences, students will develop a deeper appreciation for the food system and the impact of science on the food and nutrition industries. Students will explore the food sources; the science and technology of food production and processing; and implications for individual and global health and wellness. Career opportunities are broad and include health care; dietetics; and food research, development, and manufacturing. (Prerequisite: C8390)

C8331O HEALTH ASSISTING CAREERS
C8331H HEALTH ASSISTING CAREERS
Full year
One credit
Students explore opportunities in the health care field by developing basic skills common to several assisting careers. They study body structure and function, principles of health and disease, and an overview of the health and patient care system. Supervised work-based learning may be part of the course in health-care settings and is managed by the health and medical sciences education teacher.
C8302O INTRODUCTION TO HEALTH AND MEDICAL SCIENCES  
C8302H INTRODUCTION TO HEALTH AND MEDICAL SCIENCES  
Full year  
One credit  
This course introduces the student to a variety of healthcare careers and develops basic skills required in all health and medical sciences. It is designed to help students understand the key elements of the U.S. healthcare system and to learn basic health-care terminology, anatomy and physiology for each body system, pathologies, diagnostic and clinical procedures, therapeutic interventions, and the fundamentals of traumatic and medical emergency care. Throughout the course, instruction emphasizes safety, cleanliness, asepsis, professionalism, accountability, and efficiency within the healthcare environment. Students also begin gaining job-seeking skills for entry into the health and medical sciences field. In addition, instruction may include the basics of medical laboratory procedures, pharmacology fundamentals, biotechnology concepts, and communication skills essential for providing quality patient care.

C8390O INTRODUCTION TO NUTRITION FOR HEALTH AND MEDICAL SCIENCES  
C8390H INTRODUCTION TO NUTRITION FOR HEALTH AND MEDICAL SCIENCES  
Semester  
Half credit  
This course is designed to provide an opportunity for students to gain a basic understanding of nutrition. The course will enable students to identify common food sources of nutrients and the purposes of these nutrients in childhood, adolescence, and adulthood. Students will learn to apply principles of nutrition, including current dietary guidelines to his/her lifestyle and future careers.

C6730O MEDICAL ADMINISTRATION  
Full year  
One credit  
Students wishing to gain employment in the health care field may take this course to learn how to use medical terminology and apply administrative procedures necessary to be productive employees in a health care environment. Students will learn how to manage office activities, enhance communication skills, identify legal and ethical issues in health care practices, manage financial functions, and enhance employability skills.

C8345O MEDICAL ASSISTANT I  
Full year  
Two credits  
Students gain foundational knowledge in basic anatomy and physiology, medical ethics, medical asepsis, terminology, medical mathematics, and legal responsibilities. Students also develop basic skills and techniques to assist the healthcare provider and/or other medical professionals in patient examinations, basic emergency care, simple laboratory tests, and administrative duties. Additionally, students explore medical assisting career pathways through Health Occupations Student Association (HOSA) and potential on-the-job clinical instruction and/or observation in a healthcare facility.
C8346O MEDICAL ASSISTANT II
Full Year
Two Credits
Students apply and implement medical-assisting skills and techniques learned in Medical Assistant I. They also learn management of health records; cardiopulmonary resuscitation; care and use of equipment; collection and analysis of laboratory specimens; special diagnostic testing related to basic diseases and disorders, treatment, and medication; and job preparedness skills. Advanced on-the-job clinical experience in a healthcare facility is a part of the course. Successful completion of the program may lead to employment in a healthcare setting and an industry credential. (Prerequisite: C8345)

C8388O MEDICAL CODING AND BILLING I
Semester
Half credit
Students will be introduced to healthcare systems, how to manage an office, and the electronic medical record as it pertains to the field of medical coding and billing. Students will be exposed to the medical terminology used to describe human anatomy and physiology. Students will also be introduced to the field of health informatics.

C8389O MEDICAL CODING AND BILLING II
Semester
Half credit
Students will become familiar with the health insurance industry and legal and regulatory issues. Students will learn the principles of medical coding and billing related to reimbursement, claim submission, and payment regarding ICD, CPT, and HCPCS coding systems. Students will consider the impact of fraud and importance of biomedical ethics. (Prerequisite: C8388)

C8383O MEDICAL TERMINOLOGY
C8383H MEDICAL TERMINOLOGY
Full year
One credit
This course is designed to help students learn common medical terms essential for safe patient care. Topics are presented in logical order, beginning with each body system’s anatomy and physiology and progressing through pathology, laboratory tests and clinical procedures, therapeutic interventions, and pharmacology. Students learn concepts, terms, and abbreviations for each topic.

C8360O NURSE AIDE I
Full year
Two credits
Nurse Aide I, offered as an occupational preparation course beginning at the 11th-grade level, emphasizes the study of nursing occupations as related to the health care system. Students study normal growth and development, simple body structure and function, and medical terminology and are introduced to microbes and disease. They receive elementary skill training in patient-nursing assistant relationships; taking and recording of vital signs; cardiopulmonary resuscitation; and bathing, feeding, dressing, and transporting of patients in hospitals and nursing homes. Limited on-the-job instruction in nursing homes and hospitals is part of the course. This course can be used as an introduction to practical nursing or to prepare the student for Nurse Aide 2 so that all competencies for a certified nursing assistant are met.
C8362O NURSE AIDE II
Full Year
Two Credits
Nurse Aide II is an occupational preparation course, emphasizing advanced skill training in areas such as catheter care, range of motion, bowel and bladder training, care of the dying, selected procedures for maternal and infant care, and admission and discharge procedures. Students learn diseases and body systems as related to advanced clinical care of the acute medical-surgical patient, the chronically ill, and the elderly. On-the-job instruction in a licensed nursing home is part of the course. Upon completion of the nurse aide program, the student is eligible to take the nurse aide certification exam that leads to employment as a certified nurse aide in hospitals and nursing homes. (Prerequisite: C8360)

C8305O PHARMACY TECHNICIAN I
Full year
One credit
This certificate program is designed to provide students with the basic skills and knowledge to begin work as a pharmacy technician. The coursework will fulfill the requirements of the Board of Pharmacy and prepare students to take either the state examination or the national examination administered by the Pharmacy Technician Certification Board. Trained, experienced pharmacy technicians who can demonstrate the right skills and knowledge should be able to pursue many exciting and respected career options or postsecondary study in the pharmacy field.

C8306O PHARMACY TECHNICIAN II
Full year
Two credits
This certificate program is designed to provide students with the basic skills and knowledge to begin work as a pharmacy technician. The coursework will fulfill the requirements of the Board of Pharmacy and prepare students to take either the state examination or the national examination administered by the Pharmacy Technician Certification Board. Trained, experienced pharmacy technicians who can demonstrate the right skills and knowledge should be able to pursue many exciting and respected career options or postsecondary study in the pharmacy field. (Prerequisite: C8305)

C8365O PHYSICAL THERAPY OCCUPATIONAL THERAPY I
C8365D PHYSICAL THERAPY OCCUPATIONAL THERAPY I
Full year
Two credits
The course is designed to provide an introduction to the professions of physical and occupational therapy. Students explore the principles and practices of therapists in the health care industry and participate in clinical observation under the direct supervision of a licensed physical and/or occupational therapist. Clinical skills in the areas of physical therapy and occupational therapy enable students to gain understanding of rehabilitative care, which is practiced throughout the continuum of care and across the life span of individuals. After successful completion of this course, students may seek higher education for specific degrees/licensure in a variety of fields such as physical therapy, occupational therapy, speech therapy, sports medicine, athletic training, chiropractic medicine, biology, or exercise science.
C8366O PHYSICAL THERAPY OCCUPATIONAL THERAPY II
C8366D PHYSICAL THERAPY OCCUPATIONAL THERAPY II
Full year
Two credits
This course is designed to provide a fundamental understanding of kinesiology and anatomy from a clinical perspective, to include the anatomical basis of common pathological conditions seen by physical/occupational therapists. Instruction is reinforced with hands-on activity labs and practical experiences. Students continue to explore principles and practices of therapists learned in the P/OT I class and participate in clinical observation under the direct supervision of a licensed physical and/or occupational therapist. Clinical skills in the areas of physical therapy and occupational therapy enable students to gain understanding of rehabilitative care, which is practiced throughout the continuum of care and across the life span of individuals. After successful completion of this course, students may seek higher education for specific degrees/licensure in a variety of fields such as physical therapy, occupational therapy, speech therapy, sports medicine, athletic training, chiropractic medicine, biology, or exercise science. (Prerequisite: C8365)

C8316O SPORTS MEDICINE I
C8316H SPORTS MEDICINE I
Full year
One credit
In this course, students earn a certification in First Aid/CPR/AED. The course introduces students to topics such as human anatomy and physiology, nutrition, biomechanics, medical terminology, injuries and illnesses, and legal and ethical issues in sports medicine. Students also examine prospective careers in the sports medicine field. Upon successful completion of this course, students are eligible to take Sports Medicine 2 and pursue certification as a personal trainer.

C7660O SPORTS MEDICINE I
C7660H SPORTS MEDICINE I
Full year
Two credits
Upon successful completion of this course, students will be eligible to take the National Academy of Sports Medicine-Certified Personal Trainer (NASM-CPT) exam. This course builds upon basic knowledge acquired in Sports Medicine 1 (140 Hours) on topics such as exercise physiology, biomechanics, exercise program design, and injury prevention, assessment, treatment, and management. Students prepare for a career in sports medicine, including completing an internship.
C8317O SPORTS MEDICINE II
C8317H SPORTS MEDICINE II
Full year
One credit
Upon successful completion of this course, students will be eligible to take the National Academy of Sports Medicine-Certified Personal Trainer (NASM-CPT) exam. This course builds upon basic knowledge acquired in Sports Medicine 1 (140 Hours) on topics such as exercise physiology, biomechanics, exercise program design, and injury prevention, assessment, treatment, and management. Students prepare for a career in sports medicine, including completing an internship. (Prerequisite: C8316)

C7662O SPORTS MEDICINE II
C7662H SPORTS MEDICINE II
Full year
Two credits
Upon successful completion of this course, students will be eligible to take the National Academy of Sports Medicine-Certified Personal Trainer (NASM-CPT) exam. This course builds upon basic knowledge acquired in Sports Medicine I on topics such as exercise physiology, biomechanics, exercise program design, and injury prevention, assessment, treatment, and management. Students prepare for a career in sports medicine, including completing an internship. (Prerequisite: C7660)
<table>
<thead>
<tr>
<th>Pathway</th>
<th>Restaurants &amp; Food/Beverage Services Pathway</th>
<th>Travel &amp; Tourism Pathway</th>
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<tbody>
<tr>
<td>Career Focus</td>
<td>Culinary Arts</td>
<td>Hospitality &amp; Tourism</td>
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<tr>
<td>Career Outlook</td>
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<td>Growth by 2026</td>
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<td>HS Level 1</td>
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<td>*Principles of Business and Marketing C6115 O - 1</td>
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<td>HS Level 2</td>
<td>*Introduction to Culinary Arts C8249 - O - .5 C8250 - O - 1</td>
<td>*Travel &amp; Tourism Marketing &amp; Sales C8169 O - 1</td>
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<td>*Culinary Arts I - Baking C8275 C - 2</td>
<td>*Culinary Arts I - Restaurant C8275 O - 2</td>
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<td>HS Level 4</td>
<td>Culinary Arts II - Baking C8276 C - 2</td>
<td>Culinary Arts II - Restaurant C8276 O - 2</td>
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<td>HS Level 5</td>
<td>Culinary Arts Specialization C8279 O, D -1</td>
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</table>

* = Entry Point
C8275C CULINARY ARTS I - BAKING
Full Year
Two Credits
This course provides students with a foundational understanding of the food service industry and opportunities to build technical skills in food preparation and service. Students examine basic rules of kitchen safety and sanitation, of purchasing and receiving, and of fundamental nutrition. The curriculum incorporates math and science in culinary applications.

C8275O CULINARY ARTS I - RESTAURANT
Full Year
Two Credits
This course provides students with a foundational understanding of the food service industry and opportunities to build technical skills in food preparation and service. Students examine basic rules of kitchen safety and sanitation, of purchasing and receiving, and of fundamental nutrition. The curriculum incorporates math and science in culinary applications.

C8276C CULINARY ARTS II – BAKING
Full Year
Two Credits
This course allows students to continue to acquire a comprehensive knowledge of the food service industry while refining their technical skills. Students apply kitchen safety and sanitation, nutritional principles, and advanced food-preparation techniques. Students complete work-based learning in venues such as the a la carte kitchen, the dining room, and catered functions. (Prerequisite: C8275)

C8276O CULINARY ARTS II – RESTAURANT
Full Year
Two Credits
Students continue to acquire a comprehensive knowledge of the food service industry while refining their technical skills. Students apply kitchen safety and sanitation, nutritional principles, and advanced food-preparation techniques. Students complete work-based learning in venues such as the a la carte kitchen, the dining room, and catered functions. (Prerequisite: C8275)

C8279O CULINARY ARTS SPECIALIZATION
C8279D CULINARY ARTS SPECIALIZATION
Full year
One credit
This course provides students with skills and knowledge to pursue careers in the food service industry. In a hands-on environment, students apply nutritional principles, plan menus, use business and mathematics skills, select and maintain food service equipment, and adhere to safety and sanitation standards. Students specialize in one of the following four areas: Baking and pastry food preparation techniques, catering/banquet food preparation techniques, restaurant operation techniques, and quantity food-preparation techniques. (Prerequisite: C8276)
C8249O INTRODUCTION TO CULINARY ARTS
Semester
Half Credit
Students investigate food safety and sanitation, culinary preparation foundations, basic culinary skills, diverse cuisines, service styles, nutrition and menu development, and the economics of food. Students also explore postsecondary education options and career opportunities within the food service industry.

C8250O INTRODUCTION TO CULINARY ARTS
Full year
One credit
Students investigate food safety and sanitation, culinary preparation foundations, basic culinary skills, diverse cuisines, service styles, nutrition and menu development, and the economics of food. Students also explore postsecondary education options and career opportunities within the food service industry.

C8259O INTRODUCTION TO HOSPITALITY, TOURISM AND RECREATION
Full year
One credit
Students focus on developing professional skills and using emerging technologies to prepare for employment in this global industry, rich in diverse career opportunities. The program includes instruction in the industries of lodging, food and beverage, travel and tourism, and recreation and fitness.

C8202O HOSPITALITY, TOURISM, AND RECREATION I
Full year
Two credits
Students begin preparation for employment in hospitality industries by focusing on principles of operations in food services, recreation, hospitality planning, and business relations. Special attention is paid to the development of culinary skills (food sanitation, food preparation, and serving) and customer service skills.

C8203O HOSPITALITY, TOURISM, AND RECREATION II
Full Year
Two Credits
Students continue preparation for employment in hospitality industries by focusing on principles of operations in travel and tourism, lodging, food services, hospitality planning, and business relations. Special attention is paid to the development of skills used in the lodging industry (rooms, sales and marketing, front office, and housekeeping divisions) and customer-service skills. (Prerequisite: C8202)

C8159O HOTEL MANAGEMENT AND OPERATIONS
Full year
One credit
Students with an interest in hotel marketing and hospitality develop specialized skills in the areas of human resources and supervision, marketing and public relations, sales, front-office functions, guest relations, communication, financial functions, food and beverage service, housekeeping operations, security, and engineering. In addition, students obtain a thorough understanding of the hotel industry and the career options available. Computer/technology applications and DECA activities enhance the course. DECA, the co-curricular student organization, offers opportunities in leadership, community, and competitive events. (Prerequisite: C8169)
C8228O NUTRITION AND WELLNESS
Semester
Half credit
Students focus on understanding wellness, investigating principles of nutrition, using science and technology in food management, ensuring food safety, planning menus and preparing food, and exploring careers in the field of nutrition and wellness. Critical thinking and practical problem solving are emphasized.

C8229O NUTRITION AND WELLNESS
Full year
One credit
Students focus on understanding wellness, investigating principles of nutrition, using science and technology in food management, ensuring food safety, planning menus and preparing food, and exploring careers in the field of nutrition and wellness. Critical thinking and practical problem solving are emphasized.

C8139O OPPORTUNITIES IN HOSPITALITY AND TOURISM
Full year
One credit
This course examines the components of the hospitality and tourism industry, including attractions, lodging, transportation, and food and beverage. Other topics include the history, political, social, and cultural impacts hospitality and tourism have had on local, state, and global environments. Students will develop competencies in the areas of communication, customer service, marketing, industry technology, economics, and management functions, and will be provided with opportunities for hands-on, real-world applications. Applying academic skills from other disciplines (e.g., mathematics, science, English, history/social science) is also a part of this course. (Prerequisite: C8159)

C6115O PRINCIPLES OF BUSINESS AND MARKETING
Full year
One credit
Students discover the roles of business and marketing in the free enterprise system and the global economy. Students examine basic financial concepts of banking, insurance, credit, taxation, and investments to provide a strong background for making sound decisions as consumers, wage earners, and citizens. The real-world effects of technology, effective communication, and interpersonal skills are evident throughout the course. This course also supports career-development skills and explores career options.

C8169O TRAVEL AND TOURISM MARKETING AND SALES
Full year
One credit
This course is designed to provide students with an in-depth look into marketing and sales in the travel and tourism field. Students learn about issues related to business and resource management, tourism’s effect on the world economy, the political impact of tourism, and how the sales process affects the tourism industry. They develop advanced competencies in the areas of communication; human relations; finance; health, safety, and environmental issues; sales and marketing; industry technology; promotional planning; and marketing research. In addition, students gain an understanding of career trends and opportunities. Academic skills (e.g., mathematics, science, English, history, social science) related to the content are also a part of this course.
<table>
<thead>
<tr>
<th>Pathway</th>
<th>Early Childhood Development &amp; Services Pathway</th>
<th>Personal Care Services Pathway</th>
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<tbody>
<tr>
<td>Career Focus</td>
<td>Living &amp; Parenting</td>
<td>Barbering</td>
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<tr>
<td>Career Outlook</td>
<td>Growth by 2026</td>
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<tr>
<td>Mean Wage &amp; Salary</td>
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<td>Regional Opening</td>
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<tr>
<td>HS Level 1</td>
<td>*Independent Living C8219 O - 1</td>
<td>Master Barber I C8743 O - 3</td>
</tr>
<tr>
<td>HS Level 2</td>
<td>Child Development and Parenting C8231 (.5) C8232 (1) O - 1</td>
<td>Master Barber II C8744 O - 3</td>
</tr>
<tr>
<td>HS Level 3</td>
<td>Life Planning C8227 O - 1</td>
<td></td>
</tr>
</tbody>
</table>

* = Entry Point
C8231O CHILD DEVELOPMENT AND PARENTING
Semester
Half credit
Students enrolled in this course focus on balancing work and family; analyzing parenting roles and responsibilities; ensuring a healthy start for mother and child; evaluating support systems that provide services for parents; and evaluating parenting practices that maximize human growth and development.

C8232O CHILD DEVELOPMENT AND PARENTING
Full year
One credit
Students enrolled in this course focus on balancing work and family; analyzing parenting roles and responsibilities; ensuring a healthy start for mother and child; evaluating support systems that provide services for parents; and evaluating parenting practices that maximize human growth and development.

C8745O COSMETOLOGY I
Full year
Three credits
In this introductory course, students study hair, skin, and nails and their related care. Students are grounded in theory as they prepare to practice procedures in a clinical lab setting or classroom, using manikins for manipulative skill practice. The first-year course emphasizes personal safety, professionalism, and sanitation and disinfection of equipment and facilities. Students develop skills in shampooing and conditioning hair, as well as styling and cutting hair. They are introduced to chemical texture services and develop skills in manicure and pedicure procedures.

C8746O COSMETOLOGY II
Full year
Three credits
In this continuing course, students build on their theoretical foundation of general sciences and practices in cosmetology to increase proficiency in hair cutting and styling on live models, with attention to professionalism, client consultation, safety, and infection control. Students are trained in safe chemical processes related to permanent waves, relaxers, lightening, and coloring hair. In addition, students learn to care for skin, hands, and feet, developing experience in providing facials, manicures, pedicures, and nail enhancements. Students will be introduced to a business management unit with a focus on managing the salon. (Prerequisite: C8745O)

C8219O INDEPENDENT LIVING
Full year
One credit
Students build life skills focusing on establishing positive relationships, balancing work and family life, investigating careers, making responsible consumer choices, applying nutrition and wellness knowledge, and studying child development and parenting.

C8227O LIFE PLANNING
Full Year
One Credit
Life Planning equips students with life skills. Creating and maintaining healthy relationships, practicing personal nutrition, health, and wellness, and developing a life-management plan are emphasized through relevant life applications.
C8743O MASTER BARBER I
Full year
Three credits
Barbering is the study of hair, scalp, and skin. Students study and prepare in a clinical lab setting, using mannequins and live models for manipulative practice. The program emphasizes safety and sanitation, communication, and management skills. Related areas of study include psychology, ethics, and professional image. Competency completions prepare the students to work or apprentice in a local barbershop or beauty salon.

C8744O MASTER BARBER II
Full year
Three credits
Barbering is the study of hair, scalp, and skin. Students study and prepare in a clinical lab setting, using mannequins and live models for manipulative practice. The program emphasizes safety and sanitation, communication, and management skills. Related areas of study include psychology, ethics, and professional image. Competency completions prepare the students to work or apprentice in a local barbershop or beauty salon. (Prerequisite: C8743)

C8692O NAILS I
Full year
One credit
Students learn to manicure, pedicure, install, and maintain artificial nails, and apply concepts associated with bacteriology, sanitation, nail disorders, anatomy and physiology, and safety. Completion prepares students for the Virginia Board for Barbers and Cosmetology state licensing exam in Nail Technician. (Co-requisite: C8693)

C8693O NAILS II
Full year
One credit
Students learn to perform spa manicures and pedicures, install and maintain artificial and gel nails, and apply concepts associated with nail disorders and physiology while adhering to safety guidelines. Students also explore the necessary components of salon ownership. Program completion prepares students for the Virginia Board for Barbers and Cosmetology Nail Technician licensing exam. (Co-requisite: C8692)
## Career Cluster: Information Technology

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Web &amp; Digital Communications Pathway</th>
<th>Network Systems Pathway</th>
<th>Information Support &amp; Services Pathway</th>
<th>Programming &amp; Software Development Pathway</th>
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</thead>
<tbody>
<tr>
<td>Career Focus</td>
<td>Web Development</td>
<td>Cyber Security</td>
<td>Computer Networking</td>
<td>Computer Software/Hardware</td>
</tr>
<tr>
<td>Career Outlook</td>
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<tr>
<td>Growth by 2026</td>
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<td></td>
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<tr>
<td>Mean Wage &amp; Salary</td>
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### HS Level 1

- "Digital Applications C6617 - O - .5 ~ C6611 - O - 1

### HS Level 2

- "Design, Multimedia, and Web Technologies C6630 O, H, D - 1
- "Cybersecurity Fundamentals C6302 O - 1
- "Computer Networking Hardware Operations I C8542 O, D, H - .5
- "Computer Systems Technology I C8622 O, D - 1
- "Computer Programming C6640 O, H - 1
- "Database Design and Management (Oracle) C6660 O, D, H - 1
- "Information Technology Fundamentals C6670 O - 1

### HS Level 3

- Advanced Design, Multimedia, and Web Technologies C6631 O, D, H - 1
- Cybersecurity Software Operations C6304 O - 1
- Cybersecurity Systems Technology C8628 O - 1
- Computer Networking Hardware Operations II C8543 O, D, H - .5
- Computer Systems Technology II C8623 O, D - 2
- Advanced Programming C6641 O, H - 1
- Java Programming (Oracle) C6661 O, H, D - 1
- "Programming C6640 O, H - 1

### HS Level 4

- Advanced Cybersecurity Software Operations C6306 O - 1
- Cybersecurity Systems Technology, Advanced C8629 O - 2
- Computer Networking Hardware Operations III C8544 O, D, H - .5
- Database Design and Management with PL/SQL (Oracle) C6662 O, H, D - 1
- "AP Computer Science Principles C10160 H - 1

### HS Level 5

- Computer Networking Hardware Operations IV C8545 O, D, H - .5
- "AP Computer Science A C3185 H - 1

* = Entry Point
C6306O ADVANCED CYBERSECURITY SOFTWARE OPERATIONS
Full year
One credit
Cybersecurity Software Operations, Advanced continues to teach aspects of network administration, focusing on the management and support of network users and systems. The topics covered include understanding the responsibilities of computer professionals, training end users, evaluating new technology, developing system policies, troubleshooting workstations, managing network services and protocols, and effectively using email and business communications. Students learn communication protocols, troubleshooting techniques for systems and client-server networks, website management, and other advanced networking topics. Techniques that are used to install operating systems, set up and manage accounts, load software, and create and implement security plans are taught. This course may provide instruction about software-based network operating systems, such as Windows Server or Linux. Instruction will emphasize preparation for industry certification. (Prerequisite: C6304)

C6631O ADVANCED DESIGN, MULTIMEDIA, AND WEB TECHNOLOGIES
C6631H ADVANCED DESIGN, MULTIMEDIA, AND WEB TECHNOLOGIES
C6631D ADVANCED DESIGN, MULTIMEDIA, AND WEB TECHNOLOGIES
Full year
One credit
Students develop advanced skills for creating desktop-published, interactive multimedia, and Web-site projects. Students work with sophisticated hardware and software, applying skills to real-world projects. (Prerequisite: C6630)

C3185H AP COMPUTER SCIENCE A
Full year
One credit
Students design, implement and interpret computer-based solutions to problems in several application areas, becoming knowledgeable about programming concepts, algorithm designs, and documentation of the computer solution. The course instructional materials are based on concepts outlined by the College Board and prepares students to take the AP Computer Science examination.

C10160H AP COMPUTER SCIENCE PRINCIPLES
Full year
One credit
Students design, implement and interpret computer-based solutions to problems in several application areas, becoming knowledgeable about programming concepts, algorithm designs, and documentation of the computer solution. The course instructional materials are based on concepts outlined by the College Board and prepares students to take the AP Computer Science examination.

C6641O ADVANCED PROGRAMMING
C6641H ADVANCED PROGRAMMING
Full year
One credit
Building on their foundation of programming skills, students use object-oriented programming to develop database applications, interactive multimedia applications including game applications, mobile applications, and web applications. Students continue to develop their employability skills as they research pathways for continuing education and careers in the information technology industry and engage in various career-building activities. (Prerequisite: C6640)
This course prepares students for entry-level careers in the Network Systems pathway. Students develop skills needed to become network technicians, PC support specialist, information systems operators, and network security analyst. It provides a hands-on introduction to networking using tools and hardware commonly found in residential and commercial environments. Instructors are encouraged to facilitate field trips and outside-the-classroom learning experiences. Labs include PC installation, Internet connectivity, wireless connectivity, file and print sharing, and the installation of game consoles, scanners, and cameras.

This course prepares students for jobs as network technicians and helps them develop additional skills required for computer technicians and help desk technicians. It provides a basic overview of routing and remote access, addressing, and security. It also familiarizes students with servers that provide e-mail services, web space, and authenticated access. Students learn about the soft skills required for help desk and customer service positions, and the final chapter helps them prepare for the CCENT certification exam. Network monitoring and basic troubleshooting skills are taught in context. (Prerequisite: C8542)

This course familiarizes students with the equipment applications and protocols installed in enterprise networks, with a focus on switched networks, IP Telephony requirements, and security. It also introduces advanced routing protocols such as Enhanced Interior Gateway Routing Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol. Hands-on exercises, including configuration, installation, and troubleshooting, reinforce student learning. (Prerequisite: C8543)

This course introduces students to network design processes using two examples: a large stadium enterprise network and a medium-sized film company network. Students follow a standard design process to expand and upgrade each network, which includes requirements gathering, proof-of-concept, and project management. Lifecycle services, including upgrades, competitive analyses, and system integration, are presented in the context of pre-sale support. In addition to the Packet Tracer and lab exercises found in the previous courses, there are many pen-and-paper and role-playing exercises that students complete while developing their network upgrade proposals. Prerequisite: C8544
C8622O COMPUTER SYSTEMS TECHNOLOGY I
C8622D COMPUTER SYSTEMS TECHNOLOGY I
Full year
One credit
Students enter the world of computer technology and gain practical experience in assembling a computer system. Students will install, configure, and secure various operating systems. Students will troubleshoot computers and peripherals and use system tools and diagnostic software. They develop skills in computer networking and resource sharing. In addition, students explore the relationships between internal and external computer components. Upon successful completion of the course, students may qualify to take the CompTIA A+ certification exam.

C8623O COMPUTER SYSTEMS TECHNOLOGY II
C8623D COMPUTER SYSTEMS TECHNOLOGY II
Full Year
Two Credits
This advanced course provides students with training in procedures for optimizing and troubleshooting concepts for computer systems, subsystems, and networks. Students explore these: Basic network design and connectivity, network documentation, network limitations and weaknesses, network security, standards and protocols. Students will gain a basic understanding of emerging technologies including unified communications, mobile, cloud, and virtualization technologies. The course prepares students for postsecondary education and training and a successful career in information technology. Upon successful completion of the course, students may qualify to take CompTIA’s A+ certification exams. (Prerequisite: C8622)

C6302O CYBERSECURITY FUNDAMENTALS
Full year
One credit
Cybersecurity affects every individual, organization, and nation. This course focuses on the evolving and all-pervasive technological environment with an emphasis on securing personal, organizational, and national information. Students will be introduced to the principles of cybersecurity, explore emerging technologies, examine threats and protective measures, and investigate the diverse high-skill, high-wage, and high-demand career opportunities in the field of cybersecurity.

C6304O CYBERSECURITY SOFTWARE OPERATIONS
Full year
One credit
This course is designed to teach many aspects of computer support and network administration. Students learn networking concepts, from usage to components, and create peer-to-peer network systems and client server networks. Students learn how to install and configure network cards and connect them to networks; to install the operating systems; to create, set up, and manage accounts; to load software; and to establish, implement, and maintain network integrity security plans. This course may cover software-based network operating systems, such as Windows Server or Linux, to prepare students with a foundation in computer network administration. (Prerequisite: C6302)
C8628O CYBERSECURITY SYSTEMS TECHNOLOGY
Full year
One credit
Students enter the world of computer technology and gain practical experience in assembling a computer system. Students will install, configure, and secure various operating systems. Students will troubleshoot computers and peripherals and use system tools and diagnostic software. They develop skills in computer networking and resource sharing. In addition, students explore the relationships between internal and external computer components. Upon successful completion of the course, students may qualify to take the CompTIA A+ certification exam. (Prerequisite: C6302)

C8629O CYBERSECURITY SYSTEMS TECHNOLOGY, ADVANCED
Full Year
Two Credits
This advanced course provides students with training in procedures for optimizing and troubleshooting concepts for computer systems, subsystems, and networks. Students explore the following: Basic network design and connectivity, Network documentation, Network limitations and weaknesses, Network security, standards and protocols. (Prerequisite: C8628)

C6660O DATABASE DESIGN AND MANAGEMENT (ORACLE)
C6660H DATABASE DESIGN AND MANAGEMENT (ORACLE)
C6660D DATABASE DESIGN AND MANAGEMENT (ORACLE)
Full year
One credit
Students study Java, perhaps the most widely used object-oriented, class-based, general-purpose programming language, to create and manipulate database objects and applications. Instruction will emphasize preparation for industry certification.

C6662O DATABASE DESIGN AND MANAGEMENT WITH PL/SQL (ORACLE)
C6662H DATABASE DESIGN AND MANAGEMENT WITH PL/SQL (ORACLE)
C6662D DATABASE DESIGN AND MANAGEMENT WITH PL/SQL (ORACLE)
Full year
One credit
Web-based technologies used throughout industry, including interactive websites, accounting programs, research tools, search engines, e-learning environments, e-mail managers, and numerous other applications, depend upon relational databases. PL/SQL, an extension of the SQL programming language, provides additional database functionality through variables, conditional statements, iterative controls, and packaging. Students enhance their relational database design and algorithm design skills by learning to write PL/SQL code that includes anonymous blocks, sub programs, procedures, functions, control structures, packages, and triggers, all within a browser-based programming environment. The cooperative education method is available for this course. Students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the year. (Prerequisite: C6661)
Students develop proficiency in designing and creating desktop-published projects, multimedia presentations/projects, and Web sites, using industry-standard application software. Students apply principles of layout and design in completing projects. Students create portfolios that include a résumé and a variety of desktop-published, multimedia, and web site projects produced in the course.

This course is designed for secondary school students to develop real-life, outcome-driven approach skills for digital citizenship, basic computer operations, keyboarding, application software (word processing, spreadsheets, multimedia applications, databases), and career exploration. This course promotes skills that can be applied across the curriculum and offers preparation relevant to 21st century skills and postsecondary education. Students who successfully complete this course may be eligible for a rigorous and relevant industry certification examination. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

This course introduces the essential technical and professional skills required for students to pursue programs leading to professional careers and information technology certifications. The course introduces skills related to digital technology, digital applications, maintenance/upgrading/troubleshooting, and networking fundamentals. Students also explore ethical issues related to computers and Internet technology and examine web page and game design.
C6661O JAVA PROGRAMMING (ORACLE)
C6661H JAVA PROGRAMMING (ORACLE)
C6661D JAVA PROGRAMMING (ORACLE)
Full year
One credit
Students study Java, perhaps the most widely used object-oriented, class-based, general-purpose programming language, to create and manipulate database objects and applications. Instruction will emphasize preparation for industry certification. (Prerequisite: C6660)

C6640O PROGRAMMING
C6640H PROGRAMMING
Full year
One credit
Students in the Programming course explore programming concepts, use algorithmic procedures, implement programming procedures with one or more standard languages, and master programming fundamentals. Coding is used throughout the course. Graphical user interfaces may be used as students design and develop interactive multimedia applications, including game programs. In addition, students employ HTML or JavaScript to create Web pages. Students develop their employability skills through a variety of activities.
# Career Cluster: Law, Public Safety, Corrections & Security

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Law Enforcement Services Pathway</th>
<th>Emergency &amp; Fire Management Services Pathway</th>
<th>Legal Services Pathway</th>
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<tbody>
<tr>
<td>Career Focus</td>
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<tr>
<td>Career Outlook</td>
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<td>HS Level 1</td>
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<td>*Emergency Medical Technician I C8333 H, D - 1</td>
<td>*Business Law C6131 O, H - 1</td>
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<tr>
<td>HS Level 2</td>
<td>Criminal Justice II C8703 H, D - 2</td>
<td>Emergency Medical Technician II C8334 H, D - 1</td>
<td>Legal Administration C6735 O - 1</td>
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<tr>
<td>HS Level 3</td>
<td>Forensic Technology C8409 O - 1</td>
<td>Emergency Medical Technician III C8335 H, D - 1</td>
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</table>

* = Entry Point
C6131O BUSINESS LAW
C6131H BUSINESS LAW
Full year
One credit
Students examine the foundations of the American legal system and learn the rights and responsibilities of citizens. Students gain practical knowledge and life skills by exploring economic and social concepts related to laws governing business and individuals. Focus areas include contracts, consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and careers in the legal profession. Students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year. (Prerequisite: C6135)

C8702H CRIMINAL JUSTICE I
C8702D CRIMINAL JUSTICE I
Full year
One credit
Students are introduced to law, public safety, corrections, and security practices. Students examine contemporary issues in the criminal justice system and explore crime scene investigation, criminal investigation, court procedures, policing, and juvenile justice. This course provides a foundation for careers as lawyers, as forensics specialists, and as law enforcement and corrections officers.

C8703H CRIMINAL JUSTICE II
C8703D CRIMINAL JUSTICE II
Full year
Two credits
Students apply knowledge learned in Criminal Justice I through practical scenarios involving crime scene investigation, criminal investigation, and crisis intervention. Students explore trends in correctional standards and in identifying and preventing terror threats. This course prepares students for careers as lawyers, forensics specialists, and law enforcement and corrections officers. (Prerequisite: C8702)

C8333H EMERGENCY MEDICAL TECHNICIAN I
C8333D EMERGENCY MEDICAL TECHNICIAN I
Full year
One credit
The tasks for this course represent the National and Virginia Emergency Medical Services (EMS) Educational Standards. Students explore and apply the fundamentals of EMS, anatomy, physiology, and medical terminology while demonstrating skills in assessing and managing patient care, including assessing the scene and understanding shock, resuscitation, and trauma. Successful completion of this course and instructor endorsement qualifies students to enroll in EMT 2 to complete the program sequence. Students must complete a minimum of 85 percent of the didactic and lab aspects of the course, per 12VAC5-31-1501 in the Code of Virginia. Successful completion of all course requirements and instructor endorsement may lead to eligibility to take the Virginia State Psychomotor Exam and the National Registry of Emergency Medical Technicians (NREMT) cognitive exam. Students must meet the requirements of the Functional Position Description for the Basic Life Support Provider (refer to EMS.TR.14B and 12VAC5-31-1501 in the Code of Virginia).
C8334H EMERGENCY MEDICAL TECHNICIAN II  
C8334D EMERGENCY MEDICAL TECHNICIAN II  
Full year  
One credit  
The tasks for this course represent the National and Virginia Emergency Medical Services (EMS)  
Educational Standards. Students build on their knowledge and skills for providing basic life  
support by focusing on the areas of EMS operations, medical emergencies, and management of  
special patient populations. Supervised field experience that includes at least 10 patient contacts  
outside of school hours is required. Successful completion of this second course in the sequence  
will earn the student CTE completer status. Successful completion of all course requirements and  
instructor endorsement may lead to eligibility to take the Virginia State Psychomotor Exam and  
the National Registry of Emergency Medical Technicians (NREMT) cognitive exam. Students must  
meet the requirements of the Functional Position Description for the Basic Life Support Provider  
(refer to EMS.TR.14B and 12VAC5-31-1501 in the Code of Virginia). Students must complete a  
minimum of 85 percent of the didactic and lab aspects of the course, per 12VAC5-31-1501 in the  
Code of Virginia. (Prerequisite: C8333)

C8335H EMERGENCY MEDICAL TECHNICIAN III  
C8335D EMERGENCY MEDICAL TECHNICIAN III  
Full year  
One credit  
This course is intended for students who have completed Emergency Medical Technician  
(EMT) 1 and 2, obtained instructor approval, and who may have obtained EMT certification  
from the Virginia Office of Emergency Medical Services (OEMS). Students will strengthen the  
skills mastered in the basic courses as they acquire skills to assist advanced life support (ALS)  
providers, build on the foundations of emergency medical services (EMS) education, and meet  
education requirements for certification or recertification. Students also learn to coordinate with  
other public health and safety services, such as fire control, law enforcement, and emergency  
management. The course includes mentored as well as instructional experiences. Students must  
complete a minimum of 85 percent of the didactic and lab aspects of the course. (Prerequisite:  
C8334)

C8409H FORENSIC TECHNOLOGY  
Full year  
One credit  
Forensic science plays a crucial role in today’s civil and criminal cases by collecting, documenting,  
testing and analyzing crime scene evidence using state-of-the-art technologies and techniques.  
This course provides an introduction to students who might be interested in forensic science  
careers in toxicology, serology, controlled substances, latent fingerprints, firearm/tool mark, DNA  
and document analysis, among others.

C6735O LEGAL ADMINISTRATION  
Full year  
One credit  
Students explore various areas of law (e.g., civil, criminal, family, real estate, estate, and probate)  
while preparing for employment in the legal field. Students gain knowledge and skills in legal  
document preparation, office communications, legal terminology, client services, records  
management, financial records, and business ethics. Successful completion of this course may  
lead to an entry-level position in a law office, court office, law enforcement agency, corporate  
legal department, or to postsecondary education.
### Career Cluster: Manufacturing

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Manufacturing Production Process Development Pathway</th>
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</thead>
<tbody>
<tr>
<td>Career Focus</td>
<td>Precision Machining Technology (PMT)</td>
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<td>Career Outlook</td>
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<tr>
<td>Growth by 2026</td>
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<td>Mean Wage &amp; Salary</td>
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<td>HS Level 1</td>
<td>Precision Machining Technology I C8539 D - 3</td>
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<tr>
<td>HS Level 2</td>
<td>Precision Machining Technology II C8540 D - 3</td>
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<tr>
<td>HS Level 4</td>
<td>Electronics/Industrial Robotics Technology C8547 O, H – 1</td>
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* = Entry Point
C8442O COMPUTER INTEGRATED MANUFACTURING (PLTW)
Full year
One credit
In this specialization course in Project Lead the Way (PLTW), students are taught concepts of robotics and automated manufacturing by creating 3-D designs with computer modeling software and producing computer-controlled models of their designs. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.) (Prerequisite: C8439)

C8431O CONSTRUCTION TECHNOLOGY
Full year
One credit
Students build structures and engage in problem-based learning that exposes them to commercial, industrial, residential, public works and institutional technologies to help them understand the jobs of construction careers. They learn proper safety procedures for tools and machinery, vocabulary and terms associated with construction, blueprint reading and symbols associated with architecture, and math concepts and principles used in construction.

C8547O ELECTRONICS/INDUSTRIAL ROBOTICS TECHNOLOGY
C8547H ELECTRONICS/INDUSTRIAL ROBOTICS TECHNOLOGY
Full year
One credit
Our ability to function and progress in the modern age is dependent on electronics and robotics technologies. This course provides a depth and breadth of the basic skills required in today’s automated manufacturing environment. Students will explore careers, build circuits, and use principles of physics to analyze basic electronic and robotic components. (Prerequisite: C8556, C8433)

C8439O INTRODUCTION TO ENGINEERING DESIGN (PLTW)
Full year
One credit
In this foundation course in Project Lead the Way (PLTW), students use 3-D computer modeling software as they learn the engineering-design process and solve design problems for which they develop, analyze, and create product models. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)

C8425O MANUFACTURING SYSTEMS I
C8425H MANUFACTURING SYSTEMS I
Full year
One credit
This course provides an orientation to careers in various fields of manufacturing. Emphasis will be placed on manufacturing systems, safety, materials, production, business concepts, and the manufacturing process. Students participate in individual and team activities to create products that demonstrate critical elements of manufacturing.
C8427O MANUFACTURING SYSTEMS II
C8427H MANUFACTURING SYSTEMS II
Full year
One credit
Students develop an in-depth understanding of automation and its applications in manufacturing. Activities center on flexible manufacturing processes and computer integrated manufacturing (CIM). Students work in teams to solve complex interdisciplinary problems that stem from the major systems in automated manufacturing. (Prerequisite: C8425)

C8433O MATERIALS AND PROCESSES
C8433H MATERIALS AND PROCESSES
Full year
One credit
Students focus on physical materials and processes as they fabricate usable products and conduct experiments. Learning experiences include career analysis as well as the use of tools and equipment related to analysis, testing, and processing of metals, plastics, woods, ceramics, and composite materials. This single-period lab course is recommended for students interested in technical careers and others wishing to improve their technological literacy.

C8554O MECHATRONICS I
C8554H MECHATRONICS I
C8554D MECHATRONICS I
Full year
One credit
Students will learn about mechatronic systems in this introductory course. These systems are comprised of mechanical, electrical, and software systems. Mechatronic systems form the foundation of robotics, automation, and advanced manufacturing (such as 3-D printing). The rapidly evolving area of mechatronics offers a variety of career options across many technological fields. Career options may include mechatronics technician/engineer, mechanical technician/engineer, electrical technician/engineer, process control technician/engineer, instrumentation technician/engineer, machine operators, and maintenance technicians.

C8555O MECHATRONICS II
C8555H MECHATRONICS II
C8555D MECHATRONICS II
Full year
One credit
Students will build on their knowledge of mechatronic systems in this second-year course. Mechatronic systems, comprised of mechanical, electrical, and software systems, form the foundation of robotics, automation, and advanced manufacturing (such as 3-D printing). Students will explore mechanical, electrical, and pneumatic/hydraulic systems related to mechatronics, as well as relevant computer technologies. Upon successful completion, students may qualify for industry certification. (Prerequisite: C8554)
C8556O MECHATRONICS III
C8556H MECHATRONICS III
C8556D MECHATRONICS III
Full year
One credit
Students will build on their knowledge of mechatronic systems in this advanced course. Mechatronic systems are comprised of mechanical, electrical, and software systems, and form the foundation of robotics, automation, and advanced manufacturing (such as 3D printing). Students will apply principles related to pneumatic, electro pneumatic, and hydraulic control circuits as well as basic digital logic and programmable logic controllers (PLCs) in a complex mechatronic system. Students will troubleshoot and resolve malfunctioning pneumatic and hydraulic components and circuits. Upon successful completion, students may qualify for industry certification. (Prerequisite: C8555)

C8539D PRECISION MACHINING TECHNOLOGY I
Full year
Three credits
The demand for precision machinists is growing along with the resurgence of the U.S. manufacturing industry. Machinists are highly skilled, creative problem solvers who are task-oriented and self-directed individuals. In this first course, students are taught safety awareness and the foundations of machining, including how to accurately apply measurements, use engineering drawings and sketches, and apply metalworking theory in order to efficiently plan, manage, and perform general machine maintenance and machining jobs.

C8540D PRECISION MACHINING TECHNOLOGY II
Full year
Three credits
The demand for precision machinists is growing along with the resurgence of the U.S. manufacturing industry. Machinists are highly skilled, creative problem solvers who are task-oriented and self-directed individuals. In this advanced course, CNC machining operations are emphasized. Students have the opportunity to increase their skills in applying precise measurements, using engineering drawings and sketches, and applying metalworking theory in order to safely and efficiently plan, manage, and perform general machine maintenance and machining jobs. (Prerequisite: C8539)
## Career Cluster: Marketing

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<th>Marketing Management Pathway</th>
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### HS Level 1

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<td>*Opportunities in Global Trade</td>
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<td>*Marketing</td>
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### HS Level

| *Entrepreneurship Education | C9093 | O, H – 1 |

### HS Level

| Advanced Entrepreneurship Education | C9094 | O, H – 1 |

* = Entry Point
C8127O ADVANCED CYBERSECURITY IN MARKETING
Full year
One credit
Cybersecurity in Marketing, Advanced focuses on cybersecurity fundamentals, threats and vulnerabilities, and data security and ethics. Students will investigate cybersecurity concerns pertaining to promotion, engagement of customers, customer service, brand building, and sales through the use of websites, social media, digital messaging, streaming video, digital display advertising, and app marketing. The integrity of strategic marketing plans and marketing campaign hijacking will also be examined. (Prerequisite: C8126)

C9094O ADVANCED ENTREPRENEURSHIP EDUCATION
C9094H ADVANCED ENTREPRENEURSHIP EDUCATION
Full year
One credit
This course is designed for students who wish to concentrate on advanced strategies for entrepreneurship, building upon concepts introduced in Entrepreneurship (9093). The focus of the course is on development of a business plan and business management. Students will establish, market, and maintain a business. (Prerequisite: C9093)

C9093O ENTREPRENEURSHIP EDUCATION
C9093H ENTREPRENEURSHIP EDUCATION
Full year
One credit
This course introduces students to the exciting world of creating, owning, and launching their own business. Students will learn concepts and techniques for planning an entrepreneurial venture, using design thinking and business model development. Students will learn about financial statements, marketing principles, sales and customer service, and basic economic principles for successful operation.

C8145O ADVANCED FASHION MARKETING
Full year
One credit
Students with an interest in apparel and accessories marketing gain in-depth knowledge of the apparel and accessories industry and skills utilized in various apparel businesses. They develop advanced skills unique to fashion marketing and advanced general marketing skills applied to the apparel and accessories industry. Professional selling, sales promotion, buying, merchandising, marketing research, economics, hiring and retaining employees, product/service technology, and supervision as well as academic skills (mathematics, science, English, and history/social science) related to the content are part of this course. Computer/technology applications supporting this course are studied. (Prerequisite: C8140)

C8130O ADVANCED MARKETING
C8130H ADVANCED MARKETING
Full year
One credit
Students build on knowledge gained in a prior marketing course. Students participate in supervisory and management activities focusing on the marketing mix, purchasing, financing, human resources, global marketing, pricing, and emerging technologies. Students will prepare for advancement in marketing careers and postsecondary education. Computer/technology applications and DECA activities enhance the course. DECA, the co-curricular student organization, offers opportunities in leadership, community, and competitive events. (Prerequisite: C8120)
C8136O ADVANCED OPPORTUNITIES IN GLOBAL TRADE
C8136H ADVANCED OPPORTUNITIES IN GLOBAL TRADE
Full year
One credit
A specialized course for students with a career interest in international trade. The class, builds upon concepts learned in Opportunities in Global Trade (C8135). Economic and international trade concepts are reviewed, and the world environment of international trade is further explored. Students expand their knowledge about the impact of culture on international trade and continue their study of the legal and political aspects of international marketing. Global product strategies are examined. Concepts detailing entry into international markets, pricing strategies, international promotion, and marketing research are studied. Computer/technology applications supporting international marketing are explored. A review of skills and preparation required for careers in international marketing complete this course. Internships that provide “hands-on” opportunities in the international area may be available to students. (Prerequisite: C8135)

C8126O CYBERSECURITY IN MARKETING
Full year
One credit
This course focuses on cybersecurity fundamentals, threats and vulnerabilities, and data security and ethics. Students will be introduced to issues such as risk management, privacy assurance, and data analytics, while also exploring brand protection and marketing breaches. Career opportunities in the field of cybersecurity in marketing are also investigated.

C8125O DIGITAL AND SOCIAL MEDIA MARKETING
C8125H DIGITAL AND SOCIAL MEDIA MARKETING
Full year
One credit
This course introduces students to digital and social media marketing. Students explore principles, strategies, tools, and tactics related to consumers, branding, advertising, and promotions. Students explore how success is measured in a digital and social media marketing campaign. This course emphasizes ethics, laws, and security. Students also investigate business and marketing plans as well as careers in digital and social media marketing.

C8140O FASHION MARKETING
Full year
One credit
In this specialized course, students gain basic knowledge of the apparel and accessories industry and skills necessary for successful employment in apparel businesses. Students develop general marketing skills necessary for successful employment in fashion marketing, general marketing skills applicable to the apparel and accessories industry, and specialized skills unique to fashion marketing. Personal selling, sales promotion, purchasing, physical distribution, market planning, and product/service technology as well as academic skills (mathematics, science, English, and history/social science) related to the content are part of this course. Computer/technology applications supporting this course are studied.
C8120O MARKETING
C8120H MARKETING
Full year
One credit
Students examine activities in marketing and business important for success in marketing employment and postsecondary education. Students will learn how products are developed, branded, and sold to businesses and consumers. Students will analyze industry trends and gain hands-on experience in the marketing of goods, services, and ideas. Topics will include professionalism in the workplace, product planning and positioning, promotion, pricing, selling, economic issues, and the impact of technology on the marketplace. Computer/technology applications and DECA activities enhance the course. DECA, the co-curricular student organization, offers opportunities in leadership, community, and competitive events.

C8132O MARKETING MANAGEMENT
C8132H MARKETING MANAGEMENT
Full year
One credit
This course is designed for high school seniors who plan to attend college with a concentration in marketing, business, or management and/or who have plans to manage or own a business. Students will be exposed to all aspects of marketing and management. These skills will translate to small and large businesses, nonprofit organizations, service industries, and government agencies. This course will prepare students for the CLEP examination to earn potential college credit at many accredited colleges and universities across the country. (Prerequisite: C8130)

C8135O OPPORTUNITIES IN GLOBAL TRADE
C8135H OPPORTUNITIES IN GLOBAL TRADE
Full year
One credit
This is a specialized course for students with a career interest in the field of international trade. Students gain an understanding of the various careers in global trade, finance, shipping, and marketing and consider fundamental concepts, principles, and theories of marketing in an international setting. Course content blends macroeconomic and microeconomic theory with international culture, politics, legal issues, concepts, practices, and applications. Internships may be available to provide students with additional opportunities for “hands-on” experiences in international marketing. Academic knowledge and skills (mathematics, science, English, and history/social science) related to the content are a part of this course. Computer/technology applications supporting this course are studied.

C8175O SPORTS AND ENTERTAINMENT MARKETING
C8175H SPORTS AND ENTERTAINMENT MARKETING
Full year
One credit
This introductory course helps students develop a thorough understanding of fundamental marketing concepts and theories as they relate to the sports and entertainment industries. Students will investigate the components of customer service skills, branding, product development, pricing and distribution strategies, business structures, sales processes, social media, sponsorships and endorsements, as well as promotion plans needed for sports and entertainment events. The course also supports career development skills and explores career options.
C8177O SPORTS AND ENTERTAINMENT MANAGEMENT
C8177H SPORTS AND ENTERTAINMENT MANAGEMENT
Full year
One credit
Students will build on prior knowledge of sports, entertainment, and recreation marketing. This course focuses on the principles of management and planning supported by research, financial, economic, ethical, and legal concepts. Students will be able to plan and execute an event, establish a sports, entertainment, or recreation marketing product/business, and develop a career plan. (Prerequisite: C8175)
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<td>Career Outlook</td>
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* = Entry Point
C8428O AEROSPACE ENGINEERING (PLTW)  
C8428H AEROSPACE ENGINEERING (PLTW)  
Full year  
One credit  
In this specialized course for Project Lead the Way (PLTW), students are taught about aerodynamics, astronautics, space-life sciences, and systems engineering through hands-on engineering problems and projects. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.) (Prerequisite: C8439)

C8428O AEROSPACE TECHNOLOGY I  
C8428H AEROSPACE TECHNOLOGY I  
Full year  
One credit  
This course offers an introduction to the aerospace industry through a hands-on approach and exploration of topics such as flight, space, and supporting technologies. Students explore the aviation and space industries by examining the history of aviation, aerodynamics and aircraft components, flight conditions, airport and flight operations, space systems, rocketry, and living and working in space.

C8428O AEROSPACE TECHNOLOGY II  
C8428H AEROSPACE TECHNOLOGY II  
Full year  
One credit  
This course provides an advanced exploration of flight, space travel, and supporting technologies through a practical approach centered around problem solving. Students explore concepts in aircraft operations; aircraft design, flight safety, and maintenance; airport infrastructure; and all unmanned aircraft systems (UAS). (Prerequisite: C8487)

C8438O ADVANCED DRAWING AND DESIGN  
C8438H ADVANCED DRAWING AND DESIGN  
C8438D ADVANCED DRAWING AND DESIGN  
Full year  
One credit  
Students use a graphic language for product design and technical illustration. They increase their understanding of drawing techniques learned in the prerequisite courses. They research design-related fields while identifying the role of advanced drawing and design in manufacturing and construction industry processes. They apply the design process, analyze design solutions, reverse engineer products, create 3-D solid models using CADD, construct physical models, and create multimedia presentations of finished designs. They complete a work portfolio based on a chosen graphic project. (Prerequisites: C8437, C8436)

C8442O COMPUTER INTEGRATED MANUFACTURING (PLTW)  
Full year  
One credit  
In this specialization course in Project Lead the Way (PLTW), students are taught concepts of robotics and automated manufacturing by creating 3-D designs with computer modeling software and producing computer-controlled models of their designs. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.) (Prerequisite: C8439)
C8440O DIGITAL ELECTRONICS (PLTW)
C8440H DIGITAL ELECTRONICS (PLTW)
Full year
One credit
Students use computer simulations to learn about the logic of electronics as they design, test, and actually construct circuits and devices. They apply control system programming and explore sequential logic and digital circuitry fundamentals. Topics in computer circuitry are also presented. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.) (Prerequisite: C8439)

C8451O ENGINEERING ANALYSIS AND APPLICATIONS
C8451H ENGINEERING ANALYSIS AND APPLICATIONS
Full year
One credit
Engineering Analysis and Applications II is the second of a possible four-course sequence that will allow students to apply the engineering design process to areas of the designed world, explore ethics in a technological world, and examine engineering systems. Students will participate in STEM-based, hands-on projects as they communicate information through team-based presentations, proposals, and technical reports. (Prerequisite: C8450)

C8452O ENGINEERING CONCEPTS AND PROCESSES
C8452H ENGINEERING CONCEPTS AND PROCESSES
C8452D ENGINEERING CONCEPTS AND PROCESSES
Full year
One credit
Engineering Concepts and Processes III is the third course of a four-course sequence that will enable students to solve real-world problems. This course focuses on building an engineering team, working with case studies, managing projects, delivering formal proposals and presentations, and examining product and process trends. In addition, students continue to apply their engineering skills to determine what postsecondary education engineering pathway they want to follow. Students will participate in STEM-based, hands-on projects as they communicate information through team-based presentations, proposals, and technical reports. (Prerequisite: C8451)

C8443O ENGINEERING DESIGN AND DEVELOPMENT (PLTW)
C8443H ENGINEERING DESIGN AND DEVELOPMENT (PLTW)
Full year
One credit
In this Project Lead the Way (PLTW) course, students explore the engineering profession and the fundamental aspects of engineering problem solving. Students study the historical and current impacts of engineering on society, including ethical implications. Mathematical and scientific concepts will be applied to fundamental engineering topics, including mechanics and electrical-circuit theory. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.) (Prerequisite: C8439)
C8436O ENGINEERING DRAWING AND DESIGN  
C8436H ENGINEERING DRAWING AND DESIGN  
C8436D ENGINEERING DRAWING AND DESIGN  
Full year  
One credit  
Students use a graphic language for product design, technical illustration, evaluation of designs, and engineering drawings. They increase their understanding of drawing techniques learned in the prerequisite course. Students use computers, calculators, and descriptive geometry and adhere to established standards to solve design problems. They work in teams to design solutions for an identified need. (Prerequisite: C8435)

C8450O ENGINEERING EXPLORATIONS  
C8450H ENGINEERING EXPLORATIONS  
Full year  
One credit  
Students examine technology and engineering fundamentals in relation to solving real-world problems. Students investigate engineering history, including major engineering achievements, and they examine the principle engineering specialty fields and their related careers. Students practice engineering fundamentals, using mathematical and scientific concepts, and they apply the engineering design process through participation in hands-on engineering projects. Students communicate project-related information through team-based presentations, proposals, and technical reports.

C8439O INTRODUCTION TO ENGINEERING DESIGN (PLTW)  
Full year  
One credit  
In this foundation course in Project Lead the Way (PLTW), students use 3-D computer modeling software as they learn the engineering-design process and solve design problems for which they develop, analyze, and create product models. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)

C8441O PRINCIPLES OF ENGINEERING (PLTW)  
C8441H PRINCIPLES OF ENGINEERING (PLTW)  
Full year  
One credit  
In this Project Lead the Way (PLTW) course, students explore the engineering profession and the fundamental aspects of engineering problem solving. Students study the historical and current impacts of engineering on society, including ethical implications. Mathematical and scientific concepts will be applied to fundamental engineering topics, including mechanics and electrical-circuit theory. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.) (Prerequisite: C8439)

C8435O TECHNICAL DRAWING AND DESIGN  
C8435H TECHNICAL DRAWING AND DESIGN  
C8435D TECHNICAL DRAWING AND DESIGN  
Full year  
One credit  
In this foundation course, students learn the basic language of technical drawing and design, and they design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.
### Career Cluster: Transportation, Distribution & Logistics

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* = Entry Point
C8428O AEROSPACE ENGINEERING (PLTW)
C8428H AEROSPACE ENGINEERING (PLTW)
Full year
One credit
In this specialized course for Project Lead the Way (PLTW), students are taught about aerodynamics, astronautics, space-life sciences, and systems engineering through hands-on engineering problems and projects. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.) (Prerequisite: C8439)

C8734H AIR TRAFFIC CONTROL
Full Year
Two credits
Students will be introduced to the skills necessary to ensure the safe, orderly, and expeditious flow of manned and unmanned air traffic. They will explore the role of air traffic controllers within the National Airspace System (NAS), as well as training and career opportunities in this field. Instruction will include the function and history of air traffic control (ATC), responsibilities and priority of duties, meteorology, emergency situations, and related topics. This course will provide an introduction for students interested in careers in air traffic control and related jobs. (Prerequisite: C8730)

C8731H AIRCRAFT PILOT TRAINING 1
Full year
One credit
Students participate in flight training, ground school, and simulator instruction to support the flight syllabus while studying meteorology, aerodynamics, navigation, physiology, airfield and flight environments, aircraft maneuvers, and aircraft weight and balance.

C8732H AIRCRAFT PILOT TRAINING II
Full Year
Two credits
Students continue to participate in flight training, ground school, and simulator instruction to support the flight syllabus while studying meteorology, aerodynamics, navigation, physiology, airfield and flight environments, aircraft maneuvers, and aircraft weight and balance. (Prerequisite: C8731)

C8506O AUTOMOTIVE TECHNOLOGY I
Full year
One credit
In this course, students explore, handle, and perform basic functions in engine repair, automatic transmission and transaxle, manual drive train and axles, suspension and steering systems, and brakes. Students who successfully complete the Automotive Technology program may be eligible to take the Automotive Service Excellence (ASE) Student Certification examination. The ASE Student Certification is the first step in building a career as a service professional in the automotive industry. Automotive Technology I and II are closely aligned with the 2017 ASE Education Foundation automobile program standards for Maintenance and Light Repair (MLR).
C8507O AUTOMOTIVE TECHNOLOGY II
Full year
Two credits
In this course, students build upon their basic knowledge of automotive technology, exploring more advanced tasks in engine repair, automatic transmission and transaxle, manual drive train and axles, suspension and steering systems, and brakes. They also learn about electrical, electronic, and HVAC systems in automobiles. Upon successful completion of the course, students may be eligible to take the Automotive Service Excellence (ASE) Student Certification examination. Automotive Technology I and II are closely aligned with the 2017 ASE Education Foundation automobile program standards for Maintenance and Light Repair (MLR). (Prerequisite: C8506)

C8508O AUTOMOTIVE TECHNOLOGY III
Full year
Three credits
This course prepares students to perform automotive diagnosis and repairs in the following areas: engine repair, cooling systems, transmission and transaxle, manual drive trains and axles, suspension and steering, wheel and tire, brakes, electrical/electronic systems, HVAC, and engine performance. Students are provided with more advanced instruction in all systems as they prepare for the Automotive Service Excellence (ASE) certification examinations. The Automotive Technology program provides the fundamental skills necessary to succeed in an ever-changing and challenging industry as an automotive technician. This course is closely aligned with the ASE Education Foundation (formerly NATEF)'s 2017 standard for Automobile Service Technology (AST). (Prerequisite: C8507)

C8676O AUTO BODY TECHNOLOGY I
Full year
One credit
In the global automobile collision repair industry, there is a growing demand for qualified auto body technicians. In this course, students are taught damage analysis, estimating, customer service, non-structural analysis, damage repair, and welding. Students work with a variety of materials, using metal finishing and body filling techniques to prepare surfaces and repair panels. Students who successfully complete this program sequence may be eligible to take the Automotive Service Excellence (ASE) Student Certification examinations. Auto Body Technology I is closely aligned with the 2016 ASE Education Foundation collision repair and refinish program standards.

C8677O AUTO BODY TECHNOLOGY II
Full year
Two credits
In the global automobile collision repair industry, there is a growing demand for qualified auto body technicians. In this course, students explore painting and refinishing techniques that include surface preparation, spray gun and related equipment operation, paint mixing, matching, and applying, and final vehicle detailing. Students who successfully complete this program sequence may be eligible to take the Automotive Service Excellence (ASE) Student Certification examinations. Auto Body Technology II is closely aligned with the 2016 ASE Education Foundation collision repair and refinish program standards. (Perquisite: C8676)
C8678O AUTO BODY TECHNOLOGY III
Full Year
Three credits
This course allows students to apply knowledge and skills learned in Auto Body Technology 1 and 2. This course may also be used as a capstone course in which students may perfect their auto body skills and move toward employment in the industry. Students who successfully complete this program will be prepared to take an industry recognized certification examination and will be prepared for postsecondary education opportunities. (Prerequisite: C8677)

C8730H AVIATION OPERATIONS MANAGEMENT
Full year
Two credits
Students explore the aviation industry, acquiring skills in airport operations, air traffic control, and addressing airport-specific concerns. Operators handle time, tasks, and resources effectively while striving for increased safety, efficiency, and profitability. With special emphasis placed on real-world scenarios and problem solving, students are taught to inspect airfields, handle airport emergencies, design an airport, and control the airport environment in the same way these issues are being addressed in the industry today.

C8451O ENGINEERING ANALYSIS AND APPLICATIONS
C8451H ENGINEERING ANALYSIS AND APPLICATIONS
Full year
One credit
Engineering Analysis and Applications II is the second of a possible four-course sequence that will allow students to apply the engineering design process to areas of the designed world, explore ethics in a technological world, and examine engineering systems. Students will participate in STEM-based, hands-on projects as they communicate information through team-based presentations, proposals, and technical reports. (Prerequisite: C8450)

C8450O ENGINEERING EXPLORATIONS
C8450H ENGINEERING EXPLORATIONS
Full year
One credit
Students examine technology and engineering fundamentals in relation to solving real-world problems. Students investigate engineering history, including major engineering achievements, and they examine the principle engineering specialty fields and their related careers. Students practice engineering fundamentals, using mathematical and scientific concepts, and they apply the engineering design process through participation in hands-on engineering projects. Students communicate project-related information through team-based presentations, proposals, and technical reports.

C8439O INTRODUCTION TO ENGINEERING DESIGN (PLTW)
Full year
One credit
In this foundation course in Project Lead the Way (PLTW), students use 3-D computer modeling software as they learn the engineering-design process and solve design problems for which they develop, analyze, and create product models. (Only Project Lead the Way (PLTW) member schools with approved PLTW agreements are eligible to offer this course.)
SPECIALTY CENTERS
The core programs of the comprehensive high schools provide the strong basic skills essential in today's culture: communication, computation, scientific discovery, and historical and geographic understanding. However, the increasing needs of our rapidly changing and complex society challenge educational institutions to broaden programs and related experiences.

We are committed to meeting the challenge by expanding programs and making unique opportunities available to students. Students entering ninth grade are offered the opportunity to participate in “specialty centers,” optional academic programs that emphasize academic rigor and higher-level thinking, which giving students an early look at future career possibilities.

<table>
<thead>
<tr>
<th>Location</th>
<th>Center</th>
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<tbody>
<tr>
<td>Lloyd C. Bird High</td>
<td>Governor’s Academy for Engineering Studies</td>
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<tr>
<td>Clover Hill High</td>
<td>Mathematics and Science</td>
</tr>
<tr>
<td>Cosby High</td>
<td>Health Science</td>
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<tr>
<td>CTC @ Courthouse</td>
<td>Career and Technical Center @ Courthouse</td>
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<tr>
<td>CTC @ Hull</td>
<td>Career and Technical Center @ Hull</td>
</tr>
<tr>
<td>Thomas Dale High</td>
<td>Center for the Arts</td>
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<tr>
<td>James River High</td>
<td>Leadership and International Relations</td>
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<tr>
<td>Manchester High</td>
<td>Mass Communications</td>
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<td></td>
<td>Spanish Immersion</td>
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<tr>
<td>Matoaca High</td>
<td>Information Technology</td>
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<tr>
<td>Meadowbrook High</td>
<td>Academy for Developing Entrepreneurs International Baccalaureate Program</td>
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<tr>
<td>Midlothian High</td>
<td>International Baccalaureate Program</td>
</tr>
<tr>
<td>Monacan High</td>
<td>Health Professions and Therapies Humanities</td>
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</tbody>
</table>
BIRD HIGH
GOVERNOR’S ACADEMY
FOR ENGINEERING STUDIES
L.C. BIRD HIGH
THE GOVERNOR’S ACADEMY FOR ENGINEERING STUDIES
The Governor’s Academy for Engineering Studies at Lloyd C. Bird High School provides students with a rigorous high school curriculum that teaches engineering concepts through core math and science classes as well as specialized engineering electives. The Governor’s Academy curriculum prepares students for college as well as the workforce by focusing on workplace readiness and 21st Century Skills of critical thinking, creativity, communication and collaboration.

The Governor’s Academy for Engineering Studies provides and promotes:

• A unified study of fundamental concepts basic to all engineering fields.
• Extensive use of technology within the classroom including computer-assisted drawing and other software used in the university setting
• A focus on hands-on projects with emphasis on project-management, problem-solving, critical-thinking, and collaboration
• Enhanced communication skills through written and oral reports.
• A comprehensive high school curriculum with access to advanced levels of all courses, including dual enrollment and Advanced Placement.

Engineering Courses - Required
• Engineering Explorations
• Engineering Analysis and Applications
• Junior Engineering Seminar
• Senior Engineering Seminar
• Engineering Geometry
• Engineering Algebra II
• Engineering Physics
• Engineering Biology
• Engineering Chemistry

Engineering Electives - at least one required
• Technical Drawing and Design
• Architectural Drawing and Design
• Advanced Drawing and Design
• Programming
• AP Computer Science Principles
• AP Computer Science A
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<tr>
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<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td>English 9</td>
<td>English 10</td>
<td>English 11 or DE English or AP English</td>
<td>English 12 or DE English or AP English</td>
</tr>
<tr>
<td><strong>Social Studies</strong></td>
<td>World History I or AP Human Geography</td>
<td>World History II or AP World History</td>
<td>US &amp; Virginia History or DE US History or AP US History</td>
<td>US &amp; Virginia Government or AP Government</td>
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<tr>
<td><strong>Mathematics</strong></td>
<td>Engineering Geometry</td>
<td>Engineering Algebra 2 &amp; Trig</td>
<td>Math / Trig Analysis or DE Pre-Calculus</td>
<td>AP Calculus or HS Calculus</td>
</tr>
<tr>
<td><strong>Laboratory Science</strong></td>
<td>Engineering Physics</td>
<td>Engineering Biology</td>
<td>Engineering Chemistry</td>
<td>AP or DE Biology AP or DE Chemistry AP Physics C</td>
</tr>
<tr>
<td><strong>Health &amp; Physical Education</strong></td>
<td>Health &amp; PE 9* (may be taken online)</td>
<td>Health &amp; PE 10* (may be taken online)</td>
<td></td>
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<tr>
<td><strong>Economics and Finance</strong></td>
<td>Economics and Personal Finance Course by graduation (may be taken online)</td>
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<tr>
<td><strong>World Language</strong></td>
<td>World Language **</td>
<td>World Language **</td>
<td>Student-choice elective if World Language requirement met</td>
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</tr>
<tr>
<td><strong>Required Engineering Design Pathway Course</strong></td>
<td>Engineering Explorations</td>
<td>Engineering Analysis &amp; Applications</td>
<td>Junior Seminar</td>
<td>Senior Seminar</td>
</tr>
<tr>
<td><strong>Second Pathway Elective Course(s)</strong></td>
<td>• Architecture Design/Pre-Construction Pathway: Tech Drawing and Design, Architectural Drawing, Advance Drawing and Design</td>
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<tr>
<td><strong>Student Choice</strong>*</td>
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<tr>
<td><strong>Elective</strong></td>
<td>Open Elective *</td>
<td>Open Elective *</td>
<td>Open Elective(s)</td>
<td>Open Elective(s)</td>
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**Note:** Successful completion of Algebra 1 required prior to enrolling in the Center.

Student schedule has 7 courses; online Health & PE not required but does provide room for electives during 9th and 10th grade year if desired.

* Elective may be taken if Health & PE is taken online.
** 3 years of language required for advanced diploma.
*** Students must take at least one course from second pathway of their choice; students will earn may 2nd Pathway Concentration for completion of 2 courses within a second pathway.
ENGINEERING COURSES

C8450H ENGINEERING EXPLORATIONS
One credit
Introduction to the fundamentals of engineering and the various fields of engineering. Emphasis on the design process through hands-on, real-world projects.

C8451H ENGINEERING ANALYSIS AND APPLICATIONS
One credit
Application of engineering design concepts through hands-on projects that incorporate math and physics applications. Project-based class that emphasizes creativity, critical thinking, collaboration, and communication. (Prerequisite: C8450H Engineering Explorations)

PE071H JUNIOR ENGINEERING SEMINAR
One credit
Application of engineering design process in real-world, project-based learning. (Prerequisite: Engineering Analysis and Applications)

PE072H SENIOR ENGINEERING SEMINAR
One credit
Introduction to advanced engineering concepts with calculus applications. Focus on electric circuit theory, statics, and dynamics. Students complete a culminating project during the fourth grading period. (Prerequisite: Junior Engineering Seminar)

PE450H ENGINEERING PHYSICS
One Credit
College preparatory course with emphasis on application of physics science concepts within the context of engineering and problem-solving. Course centers on active inquiry and experimentation. (Prerequisite: Algebra 1)

PE430H ENGINEERING BIOLOGY
One credit
Laboratory-based course with a focus on research design concepts within the context of biotech engineering. (Prerequisite: Algebra 1)

PE440H ENGINEERING CHEMISTRY
One credit
Inquiry-based, laboratory survey course of inorganic and physical chemistry. Emphasis on problem-solving within the context of chemical engineering where possible. (Prerequisite: Algebra 2)

PE330H ENGINEERING GEOMETRY
One credit
This course illustrates the role of the engineer and how geometry is utilized in the problem-solving process. Units of study are enhanced with a problem-solving format that allows for the use of engineering issues to explain these geometric concepts. (Prerequisite: Algebra 1)
PE340H ENGINEERING ALGEBRA II  
One credit  
Extends the concepts students have encountered in previous coursework and provides a thorough treatment of advanced algebraic concepts. Emphasis will be placed on practical applications, logic of procedures, and interpretation of results. (Prerequisite: Engineering Geometry)

ENGINEERING ELECTIVES
C8435 TECHNICAL DRAWING AND DESIGN  
One credit  
Introductory class focusing on the basic language of drawing and design, including technical drawings, models and/or prototypes of real design problems.

C8437 ARCHITECTURAL DRAWING AND DESIGN  
Focuses on the principles of architecture and increasing understanding of working drawings and construction techniques; experiences include residential and commercial building designs, rendering, model development, and structural details. (Prerequisite: Technical Drawing and Design)

C8438 ADVANCED DRAWING AND DESIGN  
One credit  
Provides opportunities to increase understanding of drawing techniques learned in the prerequisite courses and apply the design process, analyze design solutions, reverse engineer products, create 3-D solid models using CADD, construct physical models, and create multimedia presentations of finished designs. Students complete a work portfolio based on a chosen graphic project. (Prerequisite: Architectural Drawing and Design)

C6640H PROGRAMMING  
One credit  
Exploration of programming concepts, use of algorithmic procedures, and implementation of programming procedures with one or more standard languages, and master programming fundamentals.

C10160H AP COMPUTER SCIENCE PRINCIPLES  
One credit  
A multidisciplinary approach to teaching the underlying principles of computation. The course introduces the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. Instructional materials are based on the College Board concepts and prepare students to take the AP Computer Science Principles exam. (Prerequisite: Programming)

C3185H AP COMPUTER SCIENCE A  
One credit  
The course introduces design, implementation and interpretation of computer-based solutions to problems in several application areas to deepen knowledge of programming concepts, algorithm designs, and documentation of the computer solution. Instructional materials are based on the College Board concepts and prepare students to take the AP Computer Science Principles exam. (Prerequisite: Programming)
At the Math and Science High School at Clover Hill High School, students learn to think and problem solve in a liberal arts program. It is the relevant and dynamic instruction that students and colleges are looking for. Whether a student loves English, math, science or history, they will find challenging and exciting classes at the Math and Science High School.

Center Objectives
- Develop thinking skills required for success in college and beyond
- Learn with teachers who focus on student involvement
- Enjoy engaging classes focused on real world applications
- Develop skills in self-directed learning, problem solving and critical thinking
- Career pathways
- Pursue your goals in any field (medicine, law, journalism, engineering, etc.). Universities and employers are looking for students with experience in original research, a focus on the knowledge economy, interdisciplinary critical thinking and problem solving skills, diverse and broad perspectives, global thinkers, collaboration and teamwork in solving complex problems, and working with others who think differently.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
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</thead>
<tbody>
<tr>
<td>English</td>
<td>M/S English 9</td>
<td>M/S English 10</td>
<td>M/S AP Literature</td>
<td>M/S English 12, AP Eng Lang, DE Composition, DE British Literature</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Integrated PreCalc1 or Adv Integrated PreCalc 1</td>
<td>Integrated PreCalc2 or Adv Integrated PreCalc 2 &amp; Math Modeling</td>
<td>Integrated PreCalc3 &amp; Math Modeling, AP AB Calculus or AP BC Calculus</td>
<td>AP BC Calculus, Linear Algebra w/Multivariate Calculus, or AP Statistics</td>
</tr>
<tr>
<td>Science</td>
<td>M/S Biology (w/Research Project)</td>
<td>M/S Chemistry (w/ completion of Research Project from 9th grade)</td>
<td>M/S AP Physics I</td>
<td>M/S AP Physics C, M/S Organic Chemistry, AP Science, or DE Biology</td>
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<tr>
<td>World Language/</td>
<td>Student Choice</td>
<td>Student Choice</td>
<td>Student Choice or Elective</td>
<td>Student Choice or Elective</td>
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<td>Electives</td>
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<tr>
<td>Electives</td>
<td>Student Choice or Health/PE 9</td>
<td>Student Choice or Health/PE 10</td>
<td>Research: Historical Research (either 11th or 12th grade year)</td>
<td>Advanced Research Sequence: AP Research</td>
</tr>
<tr>
<td>Electives</td>
<td>Student Choice</td>
<td>Student Choice</td>
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<td>Student Choice</td>
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*Electives may be taken if Health & PE9 is taken online during summer or during the school year

**Econ/Personal Finance can be completed as an elective, online during the summer or school year.

*** 3 years of one world language, or 2 years of two different world languages required for advanced diploma

****Students can attend the Tech Center Junior and Senior Year if it does not conflict with program requirements.
**COURSES**

**MS109 MATH/SCIENCE ENGLISH 9**  
One credit  
This course is designed to teach critical reading, analytical and expository writing, conventions of scholarly writing, MLA style documentation, and vocabulary-building skills. The curriculum starts students on the path of collegiate analysis of texts, and introduces the notion of writing as a craft. Students read and examine texts from a variety of genres, ranging from historical masterpieces to compelling contemporary works. In addition to annotations of specific portions of the work building critical writing, students also engage in periodic creative writing, group projects, and presentations. Finally, there are an extensive array of activities in conjunction with Math/Science World History 1 to underscore the interdisciplinary focus of this course.

**MS 110 MATH/SCIENCE ENGLISH 10**  
One credit  
This course builds upon M/S English 9 with a writing sequence honed in a thorough and structured essay style that will form the basis of developed scholarly voice for collegiate writing. It explores foundational works of literature with a focus on works from the classical world, the Renaissance, the Age of Reason, and the Romantic Revolution along with contemporary poetry and short fiction/non-fiction. With a systematic analysis of literary works and their influences on English language and thought, students improve the precision and weight of their vocabulary. Students also learn the conventions of in-class essay writing in preparation for the AP writing of their junior year. The texts are aligned to complement the study of M/S AP European History.

**MS025 HISTORICAL RESEARCH**  
One credit  
This course combines the humanities with the STEM based practices of M/S Biology, M/S Chemistry, and M/S Physics. Students conduct original and authentic research in areas of interest. Through this course, students develop an understanding of the theories of history and historiography through the active research and preservation of historical artifacts. The emphasis on producing high-quality research products in the field of historical analysis and preservation is the primary focus of this course. Finally, this course is also a lab-based course using 3-D scanners and 3-D printers to preserve and create models of artifacts in Clover Hill's museum.

**MS027 ADVANCED HISTORICAL RESEARCH**  
One credit  
This course is the second year course for Historical Research. Students continue to develop a variety of research options and methods for acquiring data. Incorporating a variety of technological means for presenting the outcome of their research, students complete a semester long independent research project or senior thesis. (Pre-requisite: MS025)

**MS316, MS317, MS318**  
Integrated Precalculus 1, 2, & 3  
One credit  
These three courses comprise a five-semester sequence and are followed by enrollment in MSM 328 Mathematical Modeling. Using an integrated approach, these courses explore major topics in geometry, Algebra II, trigonometry, and mathematical analysis. (Pre-requisite: Algebra 1 Honors)
MS322 AND MS323
Advanced Integrated Precalculus 1 & 2
One credit
These courses, which comprise a three-semester sequence of courses and are followed by MSM 328 Mathematical Modeling, include advanced function analysis; parametric and polar graphing; matrices, sequences and series; probability and statistics; limits; and derivatives. Students explore, discover, and analyze in order to solve real-world problems. Pre-requisites: Geometry Honors

MS328H MATHEMATICAL MODELING
Semester
Half credit
This course has two goals: to use mathematics to model a wide variety of real-world phenomena and to establish a firm foundation for calculus and future work in other fields of study. Some of the topics used for modeling are: function analysis, data analysis, matrices, and linear programming. Students are required to display, describe, interpret, transform, and model numerical data obtained from classroom calculator-based laboratory (CBL) experiments or from other research. (Pre-requisites: MS318 OR MS32)

MS113 MATH/SCIENCE AP ENGLISH LITERATURE
One credit
This class introduces formal first person to student writing as well as mastering the analytical thesis statement. With American literature from Mark Twain to modern day texts comprising the core readings, students learn the basic elements of major literary movements as they are linked to cultural and historical contexts. Extensive practice of the critical reading and analytical writing requirements, students work on developing their personal narrative in order to support the college application process. Through the critical and rhetorical analysis skill development, students will also stand in the place of the critic and level evaluative criticism on a variety of historical themed texts aligned to the US History course, including poetry, short fiction, and nonfiction with an emphasis on effective writing and analytical reading skills.

MS112 MATH/SCIENCE ENGLISH 12
One credit
This course is designed as a post-AP English Course. It is a survey of world literature along with a comparative study of universal themes in literature and the history of language. Analyzing novels, plays, poetry, essays, and short fiction, students read broadly both for philosophical concerns, stylistic and formal issues. M/S English 12 also includes studying effective communication in all forms of expression and practical skills for the working or the academic world through engaging in several forms of language study – rhetorical analysis, style evaluation, literary criticism, vocabulary and grammar studies.
MS481 BIOETHICS AND APPLIED ETHICAL ANALYSIS
Semester
Half credit
This course will emphasize analyzing the thinking and decision-making of all parties and stress show ethical reasoning forms the basis for all human decision-making. Bioethics will provide students with opportunities to apply ethical and moral thinking in real-world situations by examining, specifically, the ethics of medical research and medical practice, scientific studies on humans and animals, and the role of society and government to protect and govern the actions of its citizens.

MS482 PHILOSOPHY AND ETHICAL REASONING
Semester
Half credit
Students will be introduced to diverse ways of examining human problems by reading and discussing major philosophic works from human history. Students will share, analyze and evaluate ideas and ethical reasoning perspectives and viewpoints, and be able to analyze problems and develop rational and ethical solutions considering multiple viewpoints.

MS600 PARADIGMS OF SCIENCE, SOCIETY AND LITERATURE
One credit
This intercurricular course is an introduction to humanistic studies as they relate to science, literature, language, history, culture and mathematics from classical Greek through contemporary society. The class will focus on the skills needed for critical thinking and scientific research, discussion techniques, and research techniques. (Prerequisites: Biology, Chemistry, English 9 and 10, World History 1)

MS368 LINEAR ALGEBRA AND MULTIVARIATE CALCULUS
One credit
Specific topics include set operation, equivalence relations, math induction, and the Fundamental Theorem of Arithmetic. This course also presents vector-valued functions, partial derivatives, multiple integrals, matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, Eigen values, and Eigen vectors. (Prerequisite: AP Calculus BC)

MS945 MATHEMATICS OF THE ARTS
One credit
This course will give students the opportunity to extend and strengthen skills learned in Algebra and Geometry courses through applications in the arts. Students will have opportunities to observe how mathematics are integrally related to music and the performing arts, visual arts including architecture, ceramics, drawing, photography, printmaking, and sculpture.
MS209 MATH/SCIENCE WORLD HISTORY/GEOGRAPHY TO 1500
One credit
Math/Science World History I chronologically and thematically organizes the study of world history and geography. Students study the world from ancient times to 1500 CE. The course highlights the relationship between the geography and history of Europe, Africa, Asia, and Latin America. Students examine the relationship among social, economic and geopolitical developments across time and place. They use the processes of conceptual and critical thinking to analyze historical and contemporary issues. In this course, students are encouraged to think independently while developing group process skills. Students will critique analytical essays and continue the research writing process begun in M/S Biology and M/S English 9.

MS210 MATH/SCIENCE WORLD HISTORY/GEOGRAPHY 1500 TO THE PRESENT
One credit
Special emphasis will be given to the five themes of geography as they relate to regional conflicts, humanity’s relationships with the environment, and the foundation of democratic principles, such as citizenship. Students will critique analytical essays and continue to learn the research writing process.

MS220 MATH/SCIENCE AP EUROPEAN HISTORY
One credit
This course comprises an in depth study of the history and culture of Europe. Students are expected to demonstrate a knowledge of this basic chronology and of major events and trends in the intellectual cultural, political-diplomatic, and social-economic history of modern Europe. In addition, students are expected to demonstrate an ability to analyze historical evidence and to express that understanding and analysis in writing. Incorporating a depth and complexity model of instruction, analysis of primary sources including literature paired with M/S English 10 students will further develop communication skills, both written and verbal. A variety of activities including response writing, debate and discussion, and historical research components will tie their historical study to the historical interpretations of different historical perspectives.

MS920 ART EXPLORATION: AESTHETICS AND HISTORY (PREHISTORY TO MIDDLE AGES)
Meant for both art and non-art students this course will provide the opportunity to study and experience a select number of major periods of art and the history and aesthetics associated with them. Students will be engaged in Socratic discussion, studio work and the analysis of cultural expression.

MS921 ART EXPLORATION: ART EXPLORATION: AESTHETICS AND HISTORY (RENAISSANCE TO MODERN)
One credit
Students will gain an appreciation of art and the histories and cultures that create it. Students will learn how to discuss major issues in art and aesthetics. Students will gain insight of innovations and techniques through the studio experience.
MS430 MATH/SCIENCE BIOLOGY
One credit
In this molecular-based introductory course, there is an emphasis on chemistry for biology students, cell biology, bioenergetics, DNA science, genetics, evolution, ecology, and an additional emphasis on preparing students for AP or DE Biology. Students develop an understanding of the principal biological theories with an emphasis on critical thinking, science processing skills, and an ability to apply research skills to complex real-world problems. This course links distinctive disciplines so that scientific concepts, language arts, and humanities are interlinked together in a way that is relevant to students. Students will complete a year-long research project that culminates in writing a publishable paper for submission to various organizations/scientific symposia, giving students the opportunity to present to authentic audiences.

MS440 MATH/SCIENCE CHEMISTRY
One credit
This course is a comprehensive survey of inorganic and physical chemistry with an emphasis on problem solving, critical inquiry, and research. Students will spend the majority of their time on applying their knowledge analyzing and evaluating chemistry data. This is emphasized through class dialogue, activities, and laboratory experiments in which students observe and analyze chemical systems in order to bolster conceptual understanding. Students in this course will continue to learn and practice the skills of experimental design from M/S Biology. In conjunction with research projects that are completed by small teams of students involving the use of inferential statistics as part of data analysis, students will complete an independent science research project begun in M/S Biology that is submitted to state and national science fairs. (Prerequisite: MS430)

MS555 MATH/SCIENCE AP PHYSICS 1
One credit
This course is intended to be equivalent to a first-semester college course in algebra-based physics. Topics covered range from Newtonian mechanics, work, energy, and power; mechanical waves, sound, oscillations and basic circuits. In addition, M/S AP Physics 1 prioritizes a solid background in the conceptual basis of physics, as well as strong critical thinking and problem solving skills, and making connections across and within STEM topics through problem-based learning opportunities. This class teaches inquiry-based strategies and the ability to reason about physical phenomena, fostering skills such as explaining causal relationships, applying and justifying the use of mathematical routines, designing experiments, and analyzing data and making connections across multiple topics within the course and in other science disciplines. (Prerequisite: MS440)

MS469 MATH/SCIENCE AP PHYSICS C
One credit
This course surveys the topics in mechanics, electricity and magnetism with approximately equal emphasis on these two areas along with a strong emphasis on solving a variety of challenging problems, requiring calculus. Physics C serves as the foundation in physics for students who wish to pursue physical science or engineering degrees so it is designed for students who have completed a core science curriculum and are now ready to pursue more advanced and specialized studies in mechanics, electricity, and magnetism. (Prerequisite: MS555)
MS476, MS477
Organic Chemistry 1 and 2
Semester each
Half credit each
This course provides students with an opportunity to learn about a selected area of chemistry in greater depth. Students learn about all the major families of organic compounds and their reactions. Students also spend time studying polymer chemistry. (Prerequisite: MS440)

MS026 SCIENTIFIC RESEARCH
One credit
Students will conduct an independent research project and present it at a research competition. Students will also plan and execute a research symposium at the high school and document their experiences on a web page for the school.

TR920H AP SEMINAR
Full Year
1 Credit
AP Seminar is a foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational literary and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in research based written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments.

TR921H AP RESEARCH-1
AP Research, the second course in the AP Capstone experience, allows students to explore an academic topic, problem, issue, or idea of interest. Students design, plan, and implement a yearlong investigation to address a research question. Through this inquiry, they further the skills they acquired in AP Seminar and the MathSci Program (Advanced Research sequence) by expanding research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information.
GOVERNOR’S ACADEMY FOR HEALTH SCIENCE
The Governor’s Academy for Health Science at Cosby High School provides students with a background to the healthcare fields, particularly allied health.

Center Objectives
• Students who participate in the center will be able to make health career decisions suited to their needs, aptitudes, abilities and career objectives.
• In order to meet the rapidly increasing career demands of the 21st century health-care industry, students will develop a foundation of knowledge and skills in:
  o Science and mathematics
  o Teamwork and communication
  o Critical thinking and problem solving
  o Professionalism and ethics

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COURSES

HS109H HEALTH SCIENCE ENGLISH 9
One credit
This course is a study of genres with a specific focus on the health sciences as part of their coursework. Students will look at a variety of literature to learn how to analyze texts, determine relationships between form and content, and go beyond an emotional reaction to an intellectual response. Students will learn to read critically, ask pertinent questions about what they have read, recognize assumptions and implications, and evaluate ideas. The prose students will read include fictional short stories and non-fictional selections as well as medical articles. This course also concentrates on expository writing, literary analysis, and oral communication skills, so students can learn to draw conclusions, appraise, and speculate about the elements of literature.
HS110H HEALTH SCIENCE ENGLISH 10
One credit
This course focuses on literary and scientific inquiry, research, writing and discussion. In addition to the standard English curriculum, students will read medical ethics-themed novels, research and debate issues in modern medicine, and develop their research-based writing skills in preparation for advanced-level coursework in high school and beyond. (Prerequisite: HS109 Health Science English 9)

HS090H HEALTH SCIENCE EXPLORATIONS 1
One credit
This course is an overview course for all health science students. This course will provide an overview of health-care careers and serve as an exposure course for health-care domains such as professionalism, medical privacy practices (HIPAA), medical jargon, health-care safety procedures, medical math (dosage conversions), ethics, and general knowledge for health care (first aid, for example). A general overview of human physiology will also be explored.

HS010H HEALTH SCIENCE EXPLORATIONS 2
One credit
This year long course will be a secondary, deeper delve into the field of the Allied Health Industry and in depth study of all of its careers. Students will analyze themselves as they research prospective health-care careers. Students will have the opportunity to have presentations and experiential learning by VCU faculty, staff, and mentors. Students will have a wide variety of learning methods and opportunities not offered to any other student in Chesterfield County. (Prerequisite: Health Science Explorations 1)

HS430H HEALTH SCIENCE BIOLOGY
One credit
The study of biology is designed to provide the student with an understanding of all living systems. Emphasis is placed on developing skills that allow the student to examine scientific explanations, conduct controlled experiments, analyze data, communicate information and use scientific literature. A specific emphasis is placed on health-related experimentation and inquiry. (Prerequisite: Algebra 1)

HS440H HEALTH SCIENCE CHEMISTRY
One credit
This is an inquiry-based laboratory course that surveys the major topics in inorganic chemistry. It is designed to provide a thorough foundation for the college-bound student and emphasizes the quantitative treatment of data, the development of critical thinking skills, abstract reasoning, and application of concepts. The student will become more aware of and knowledgeable about the role chemistry plays in the health science field. Through laboratory experience, they will develop the critical thinking skills that are needed to succeed in everyday living. (Prerequisite: Health Science Biology)
HS480O MEDICAL LAW AND ETHICS
One credit
This course investigates the relationship of medical personnel and patients, contractual agreements, professional liability, malpractice, medical practice acts, informed consent and bioethical issues. Emphasis is placed on legal terms, professional attitudes, and the principles and basic concepts of ethics and laws involved in providing medical services.

HS921O ANATOMY AND DRAWING
One credit
This class is designed to help you improve your artistic abilities and to learn more about human anatomy and how it impacts what students draw. Students will see a positive improvement as the year goes by and skills develop.

HS540O MEDICAL SPANISH
One credit
Students will learn communication skills that will allow them to feel confident in basic conversations in Spanish, with particular focus on medical terminology and health-related expressions. Students will also explore the cultural differences that could impact physical assessments, patient treatment, and the health-care industry.

HS025H HEALTH SCIENCE RESEARCH
One credit
This class will investigate: Elements of historical research, interviews, primary and secondary sources, Big 6 research procedures, census records and databases, genealogy, school and community history, and culminate with research projects.

HS460H FORENSIC CHEMISTRY
One credit
This course is designed to extend the student's knowledge of chemistry and apply it to forensic science. Some possible topics include crime scene evidence, how crime scenes are evaluated, fingerprinting, drug analysis, toxicology, blood and DNA analysis, and forensic anthropology. (Prerequisite: Chemistry)

HS464H GENETICS AND CELL BIOLOGY
One credit
The student will investigate and understand the cell as the fundamental unit of life and the effects pathogens have on living organisms. This course includes lectures, research, and laboratory assignments. (Prerequisites: Biology and Chemistry)
The Center for the Arts at Thomas Dale High School provides students with opportunities to explore and expand their creative potential while honing their academic skills in a variety of Honors, Advanced Placement, and Dual Enrollment courses.

**DANCE**

**Career Pathways**
Choreographer, dance therapist, dancer, educator, arts manager, sound designer/engineer

**Center Objectives**
- Exposure to various dance techniques and genres
- Understanding of anatomy and somatic practice
- Develop interpersonal and intrapersonal skills
- Develop creative and choreographic skills
- Expand knowledge of dance history and culture
- Explore dance professions and higher education possibilities

**Center for the Arts Dance Courses**
- Dance Major 1, 2, 3, 4 Honors
- Dance Repertory Ensemble 1, 2, 3, 4 Honors
- AR English 9, 10 Honors

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AR201H DANCE MAJOR 1
One credit
Dancers work in the styles of ballet, modern and jazz to explore technique, anatomy and physiology, and dance history. Dancers develop creative skills through studies of improvisation, basic composition, and the choreographic process. Dancers explore options for the arts in higher education and the professional world, and also become familiar with the basics of dance production and administration.

AR202H DANCE MAJOR 2
One credit
Dancers further refine ballet, modern and jazz technique as well as somatic practices that emphasize dancer health, strength and movement efficiency. Dancers explore more complex methods of movement invention, improvisation, composition, and choreographic processes. Dancers continue in a study of dance history and culture, and investigate the lineages of the ballet, modern and jazz/tap dance pioneers.

AR403H DANCE MAJOR 3
One credit
Dancers begin an advanced exploration of dance technique and the pursuit of creative expression in ballet, modern, jazz, theater styles and tap. Dancers work comprehensively in the choreographic process, explore advanced improvisational techniques, delve deeper into artistic intent, create for non-traditional dance spaces and mediums, and analyze personal aesthetic choice. Dancers study current trends and examine the influences that inform our present dance landscape, further develop a knowledge and ability to work in dance production, and explore in basic pedagogy.

AR404H DANCE MAJOR 4
One credit
Dancers continue in an advanced exploration of dance technique and the pursuit of creative expression in ballet, modern, jazz, theater styles and tap. Dancers work comprehensively in personal and collaborative choreographic processes, explore advanced improvisational techniques, define personal artistic and aesthetic intent, and create for non-traditional dance spaces and mediums. Dancers work to deepen their involvement in the creative processes of lighting, costuming and staging, and work towards the creation of personalized goals for their dance educations and careers.

AR203H DANCE REPERTORY ENSEMBLE 1, 2, 3, 4
(Includes Senior Capstone)
One credit
Dancers engage in project based learning to work collaboratively as project members and project leaders in creative work of particular relevance for their interests in dance. All dancers work in a company rehearsal structure to learn and perfect student, faculty, and guest choreography. Senior students use the course to produce their Capstone Project.
AR236H SPECIALTY CENTER DANCE ENSEMBLE
One credit
Select student dancers work in a company rehearsal structure to learn and perfect elite-level
student, faculty, and guest choreography for performance and tour.

AR109H HONORS ENGLISH IN THE ARTS 9
One credit
The course advances the study of written and spoken communication skills. Literature study
emphasizes genre and the understanding of literary terms and vocabulary. Students will connect
and integrate the visual and performing arts into their assignments and projects whenever
possible.

AR110H HONORS ENGLISH IN THE ARTS 10
One credit
This English course stresses refinement of skills with emphasis on effective written and oral
communications. Literature emphasizes character motivation and human relations through the
study of American literature. Students will connect and integrate the visual and performing arts
into their assignments and projects whenever possible.
MUSIC

Career Pathways
Arranger, Church Musician, Composer, Conductor, Educator, Electronic Musician (Composer, Performer), Manager, Music Librarian, Music Therapist, Performer (Instrumentalist, Singer), Recording Engineer

Center Objectives
Develop music literacy: analysis, theory, composition, and ear training
Develop interpersonal and intrapersonal skills through collaboration in music ensembles
Develop musicianship and artistic creativity
Expand knowledge of music history, style, and culture
Hone performance skills: stage etiquette and presence
Explore music professions and higher education possibilities

Center for the Arts Music Courses
Musician's Studio 1,2 Honors
College Music Appreciation / Musicianship Honors
College Music Theory Honors
AR English 9,10 Honors

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AR301H MUSICIAN’S STUDIO 1
One credit
Students will develop their ability to read music, aural perception skills and gain knowledge of
music terminology, history, analysis, theory and composition. Students will work with artists and
teachers to develop maximum interpretive and technical proficiency. Students will participate in
the CCPS Fine Arts Festival and TDHS Musical Theatre productions.

AR302H MUSICIAN’S STUDIO 2
One credit
Students will continue to improve their individual performances, sight singing and dictation,
history and theory skills. Additionally, the course is designed to expose students to the piano
keyboard and the basic performance skills that provide a fundamental understanding of harmonic
and melodic structures. Students will further develop small group performance skills, and explore
careers in music (e.g.: music, education, trips). Students will participate in the CCPS Fine Arts
Festival and TDHS Musical Theatre productions. (Prerequisite: Musician’s Studio 1)

DE303D COLLEGE MUSIC APPRECIATION AND MUSICIANSHP
One credit
Students gain a new understanding of music history, basic music theory, with cultural and
historical connections. This course increases the variety and depth of the student’s interest,
knowledge, and involvement in music and related cultural activities. Acquaints the student
with traditional and twentieth century music literature, emphasizing the relationship music has
as an art form with man and society. Increases the student’s awareness of the composers and
performers of all eras through listening and concert experiences. (Prerequisite: Musician’s Studio
1) (Aligns to John Tyler Community College MUS101 and MUS121 – six credits)

DE653D COLLEGE MUSIC THEORY HONORS
One credit
In this college level music theory course, students develop an ability to recognize, understand,
and describe the fundamental processes of musical composition by an integrated approach
to develop aural skills, sight-singing, written skills, compositional skills, and analytical skills.
Introduction of the analysis of the Bach chorale style facilitates harmonic dictation and enables
the student to use these techniques at the keyboard. (Prerequisites: Musician’s Studio 2 for
Theory 1; Theory 1 for Theory 2) (Aligns to John Tyler Community College’s MUS111 and MUS112
– six credits)

AR109H HONORS ENGLISH IN THE ARTS 9
One credit
The course advances the study of written and spoken communication skills. Literature study
emphasizes genre and the understanding of literary terms and vocabulary. Students will connect
and integrate the visual and performing arts into their assignments and projects whenever
possible.
AR110H HONORS ENGLISH IN THE ARTS 10

One credit
This English course stresses refinement of skills with emphasis on effective written and oral communications. Literature emphasizes character motivation and human relations through the study of American literature. Students will connect and integrate the visual and performing arts into their assignments and projects whenever possible.

MUSIC ENSEMBLES

One credit
Exact course descriptions can be found in Performing Arts section of CCPS Course Offerings 2019-2020

Band
• PA315H Advanced Jazz Band Honors
• PA316H Instrumental Ensemble Honors
• PA319H Wind Ensemble Honors

Choral
• PA413H Advanced Mixed Chorus Honors
• PA414H Jazz Show Choir Mixed Honors
• PA415H Jazz Show Choir Boys Honors
• PA416H Jazz Show Choir Girls Honors
• PA418H Vocal Ensemble Honors

Orchestra
• PA318H Honors String Ensemble
• PA612H Concert Orchestra Honors
THEATRE

Career Pathways
Cinematographer, coach, costume designer, director, educator, film/video editor, lighting designer, makeup artist, playwright, production manager (digital, video, stage), scenic/set designer, screen editor, screenwriter, script writer, sound designer/engineer

Center Objectives
- Gain a working knowledge of theatre performance (acting), design, and technology
- Develop interpersonal and intrapersonal skills through collaboration in plays, musicals, and small group activities.
- Hone leadership skills as student directors, designers, stage managers, and technicians
- Develop artistic creativity as playwrights and producers
- Expand knowledge of theatre history, forms, and genres
- Hone performance skills: stage etiquette and presence
- Explore theatre professions and higher education possibilities

Center for the Arts Theatre Courses
- Actor's Studio 1, 2, 3, 4
- Theatre Production 1, 2, 3, 4
- Outreach Theatre
- AP English 9, 10

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AR131H ACTOR’S STUDIO 1 HONORS
One credit
This is a theory and performance course that provides practical application of acting concepts and techniques through reading, oral/written presentation, lecture and exploration are incorporated. Pantomime, voice and diction, scene study, improvisation, creativity, and the study of characterization are studied. Students learn to use the body to shape character and/or presence and will study the emotional/physical connection. Physical theatre, dance theatre and concept performance, including visualization and movement improvisation, will be employed. Students will participate in the CCPS Fine Arts Festival, and TDHS stage productions.

AR132H ACTOR’S STUDIO 2 HONORS
One credit
The emphasis of study shifts from the development of basic skills to that of skills necessary to the character actor. Concentration is on period plays from ancient Greece to the twentieth century; the emphasis is on characterization, acting styles, presentational and representational theatre. The Stanislavski acting technique is introduced. Through exercise and discussion, a range of techniques and strategies essential to a number of diverse performance forms will be explored. Students will participate in the CCPS Fine Arts Festival and TDHS stage productions. (Prerequisite: Actor’s Studio 1)

AR133H ACTOR’S STUDIO 3 HONORS
One credit
This course implements an interdisciplinary framework that integrates Theatre Arts with English and History and Social Science. Students will become aware of theatre as it relates to historical and cultural development. The application of additional acting methods such as Miesner and Strasburg techniques are introduced. This course also includes an introduction to directing and playwriting. Students will participate in the CCPS Fine Arts Festival and TDHS stage productions. (Prerequisite: Actor’s Studio 2)

AR134H ACTOR’S STUDIO 4 HONORS
Includes Capstone Project
One credit
This studio course prepares the student for professional development, including acting for the camera, audition techniques, one-man performance, multi-media, the “business” of acting, including finding an agent, commercial work, playwriting and directing. Acting technique development continues with an emphasis on an individual way of working that makes the actor self-sufficient. Students develop audition material and resumes and practice audition and rehearsal techniques." As part of this course students will be required to produce a senior capstone project (i.e. Technical Theatre, Directing, Performance, Children's Production, Playwright, etc.) (Prerequisite: Actor’s Studio 3)
AR101H THEATRE PRODUCTION 1 HONORS
One credit
This course is an introduction to the basics of technical production and state management, safety, set, video, costume, lighting, and sound design. Plays, readings and related writings are utilized in this area of study.

AR102H THEATRE PRODUCTION 2 HONORS
One credit
This course is a continuation of subjects explored in Theatre Production 1 with an emphasis on Stage Craft and Costume History, theory and practicum, house management, box-office, specialized lighting, and sound effects. Multi-media, such as video, film and CAD programs will be utilized and highlighted at this level. (Prerequisite: Theatre Production 1)

AR103H THEATRE PRODUCTION 3 HONORS
One credit
This course is a culmination of Theatre Production 1 and 2 with an emphasis on set, lighting, and costume design. Scenic painting, including faux finishing for the stage as well as specialized props will also be explored. Students of this course will design or assist in the design of main-stage, black box, concerts or other productions. (Prerequisite: Theatre Production 2)

AR104H THEATRE PRODUCTION 4 HONORS
One credit
The content is designed for students who want to pursue further study in theatre production. The course will include specific projects that meet the requirements for the particular student. This course differs from other theatre production courses in that the study and projects will be specific to theatre design and production management skills. A significant honors project is required. (Prerequisite: Theatre Production 3)

AR182H OUTREACH PERFORMANCE
One credit
This seminar course of auditioned students will perform traveling theatre in area high schools, middle schools, elementary schools and/or civic and social organizations. Subject matter will vary from year to year and will emphasize and/or reinforce core values, social values, children's theatre and/or thematic units. Entry to this course by audition only.

AR109H HONORS ENGLISH IN THE ARTS 9
One credit
The course advances the study of written and spoken communication skills. Literature study emphasizes genre and the understanding of literary terms and vocabulary. Students will connect and integrate the visual and performing arts into their assignments and projects whenever possible.
AR110H HONORS ENGLISH IN THE ARTS 10

One credit

This course stresses refinement skills with emphasis on effective written and oral communications. Literature emphasizes character motivation and human relations through the study of American literature. Students will connect and integrate the visual and performing arts into their assignments and projects whenever possible.
VISUAL ARTS

Career Pathways
Advertiser, critic, artist, cartoonist, caricaturist, cinematographer, commercial printer, curator/gallery manager, designer, e-commerce specialist, educator, fashion designer/illustrator, game designer, graphic designer, illustrator, jeweler, makeup designer, management, media marketer, performance artist, photographer, print maker, set designer, stylist, textile designer, videographer, web designer

Center Objectives
• Develop skills, concepts, and techniques needed to create quality art work
• Gain intellectual, emotional, and sociological tools necessary to set goals and to find purpose and achieve success
• Develop creative skills in problem solving, communication, time management, and art production
• Hone artistic skills, aesthetics, and vocabulary through constant observation, creation and discussion
• Expand knowledge of art history, forms, and genres
• Explore art creation in an array of media from computer graphics to the basic crayon.
• Explore art professions and higher education possibilities

Center for the Arts Visual Arts Courses
• Visual Arts Foundations Honors
• Art History/World Cultures Honors
• 2-D/3-D Exploration Honors
• Digital Media and Graphic Design
• Printmaking and Ceramics
• AP Studio Art
• AP Art History

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<td>Algebra II or higher</td>
<td>Algebra III/ Trig or higher</td>
<td>Math</td>
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<td>Science</td>
<td>Biology</td>
<td>Chemistry</td>
<td>Physics</td>
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<tr>
<td>Social Studies</td>
<td>World History I</td>
<td>World History I or AP World</td>
<td>US/VA History</td>
<td>US/VA Government</td>
</tr>
<tr>
<td>Health</td>
<td>Health 9</td>
<td>Health 10</td>
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<td>Physical Education</td>
<td>Physical Education 9</td>
<td>Physical Education 10</td>
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<td>World Languages</td>
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<td>Visual Arts Foundations</td>
<td>Art History and World Cultures</td>
<td>2-Dimensional and 3-Dimensional Exploration</td>
<td>A.P. Studio Art</td>
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<td>Digital Media and Graphic Design 1</td>
<td>Student Choice</td>
<td>Printmaking and Ceramics</td>
<td>A.P. Art History</td>
</tr>
</tbody>
</table>

“§” means the requirement could be completed in any of those years. “-” means not applicable.
COURSES

AR501H VISUAL ARTS FOUNDATIONS HONORS
One credit
The fundamentals that govern art and its impact on humanity will be explored in this foundations course. Students will develop the ability to understand and manipulate the structures and functions of art. Basic design rules and media exploration will give students tools for making and evaluating visual decisions. An introduction to the history and philosophy of art and culture will broaden student’s understanding of the importance of art throughout time.

AR505H ART HISTORY AND WORLD CULTURES
Semester
Half credit
The history and culture of world societies, both past and present, will be taught through art, which is the most visible record of the global community past and present. The primary focus of the class is to expose students to the past and present cosmology of various cultures throughout the world. (Prerequisite: Visual Arts Foundations)

AR507H TWO-DIMENSIONAL EXPLORATION HONORS
Semester
Half credit
The development of perceptual and graphic skills in seeing and accurately depicting form, direction, and proportion, movement, and volume from direct observation will be emphasized. Students will broaden their visual arts and descriptive vocabularies as they pertain to fine arts aesthetics, methods, techniques, principles, and history. Both traditional and contemporary theory and practice will be explored. (Prerequisite: Art History and World Cultures)

AR509H THREE-DIMENSIONAL EXPLORATION HONORS
Semester
Half credit
Practical, technical, and historical foundations in the making of three-dimensional media will be explored in depth in this semester class. Students will have the opportunity to select a media for personal exploration in addition to those selected for experimentation. Students will broaden their visual arts and descriptive vocabularies as they pertain to fine arts, aesthetics, methods, techniques, principles, and history. Both traditional and contemporary theory and practice will be explored. 
(Prerequisite: Two-Dimensional Exploration Honors)

AR960H PRINTMAKING 1
Semester
Half credit
Printmaking introduces the student to the full range of printmaking techniques. Includes woodcut, silkscreen, etching and lithography. Provides historical perspective on printmaking.
AR961H CERAMICS 1
Semester
Half credit
This course teaches basic hand processes of pottery as applicable to tableware, decorative, functional and nonfunctional form. Includes throwing, coiling, slab building and press molding. Generates a fundamental understanding of the craft through physical manipulation of materials. (Prerequisite: Printmaking 1)

AR109H HONORS ENGLISH IN THE ARTS 9
One credit
The course advances the study of written and spoken communication skills. Literature study emphasizes genre and the understanding of literary terms and vocabulary. Students will connect and integrate the visual and performing arts into their assignments and projects whenever possible.

AR110H HONORS ENGLISH IN THE ARTS 10
One credit
This course stresses refinement of skills with emphasis on effective written and oral communications. Literature emphasizes character motivation and human relations through the study of American literature. Students will connect and integrate the visual and performing arts into their assignments and projects whenever possible.
JAMES RIVER HIGH

LEADERSHIP AND INTERNATIONAL RELATIONS
LEADERSHIP AND INTERNATIONAL RELATIONS

The Leadership and International Relations Specialty Center at James River High School provides students with academically challenging courses of study to develop knowledgeable citizens who will accept leadership roles in service learning and impact and have gained perspective of our global community.

Center Objectives

- Create opportunities for students to develop leadership skills and participate in authentic leadership activities
- Build a strong appreciation of global affairs and influences
- Develop the following skills: critical and creative thinking, problem solving, decision making, group process and team-building, and conflict resolution
- Impact issues in the community through action and service
- Provide unique real-world experience through planning and implementing a service learning Capstone Project and participating in an internship
- Leadership and International Relations can be applied to all careers: law, education, health sciences, business, architecture, government, etc.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
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<tbody>
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<td>Leadership English 9</td>
<td>Leadership English 10</td>
<td>Leadership English 11</td>
<td>Leadership AP Literature</td>
</tr>
<tr>
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<td>Leadership AP World History</td>
<td>Leadership AP US History</td>
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<td>Communications for Leadership</td>
<td>Leadership Innovation Lab: Ethics &amp; Decision</td>
<td>Leadership in Action: Capstone</td>
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<td>Relations Perspectives</td>
<td>and International Relations</td>
<td>Making</td>
<td>Project &amp; Internship</td>
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<td>50 hours</td>
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</tbody>
</table>

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"-" means not applicable
COURSES

LS109 ENGLISH 9
One Credit
The English 9 study of literature will challenge students to examine themes throughout multiple literary genres in order to understand literary terms and vocabulary and to analyze and acquire the skills necessary for effective leadership.

LS110 ENGLISH 10
One Credit
World Literature Cultural Encounters will provide Leadership students the opportunity to read literary texts dealing with the issues of cultural encounters so that they may attain a global perspective on issues such as racism, class and caste systems, and acculturation.

LS111 ENGLISH 11
One Credit
This course will provide Center for Leadership and International Relations students with a study of American literature and literary works will be used as the foundation for literary, expository, and creative writing.

LS113 AP ENGLISH LITERATURE
One Credit
The Leadership AP English Literature and Composition course engages a cohort of Center students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students work collaboratively to deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers.

LS209 AP HUMAN GEOGRAPHY
One Credit
Students in the program will be introduced to the systematic study of patterns and processes that have shaped human understanding and interaction, demographic change, environmental effects, and economic impacts on the world while analyzing international issues as global citizens.

LS216 AP WORLD HISTORY
One Credit
This course provides students with a comprehensive study of western and non-western history from 12,000 BC to the present. An in-depth look at cultural, economic, political, and social developments that have shaped rich global history will allow students to continue their understanding of international relations.
LS214 AP UNITED STATES HISTORY
One Credit
The AP U.S. History course focuses on the development of historical thinking skills and an understanding of identity and America in the world. Students not only learn about the history of the United States, but take a thematic approach to the causes and effects of historical happenings.

LS213 AP US GOVERNMENT
One Credit
The AP course in US Government and Politics will give students an analytical perspective on government and politics in the United States. This course allows Center students to work together and discuss how leaders at the various levels of government display leadership skills.

REQUIRED ELECTIVES

LS015H LEADERSHIP AND INTERNATIONAL RELATIONS PERSPECTIVES
One credit
This course evaluates the historical and philosophical background to leadership, modern theories, and followership. Current events are presented and explored within a global context.

LS171H COMMUNICATIONS FOR LEADERSHIP AND INTERNATIONAL RELATIONS
One credit
This course develops a variety of personal and professional communication skills that promote effective leadership and positive international relations. Individual and group activities enhance verbal, nonverbal, digital, and visual communication skills through projects, speeches, debates.

LS035H LEADERSHIP INNOVATION LAB: ETHICS AND DECISION MAKING
One credit
Students will examine their values and ethics through a variety of case studies in the areas of science, technology, and society; develop their own questioning skills and ability to make evidence-based decisions; and design creative solutions to real-world problems in their school, community, and beyond.

LS012H LEADERSHIP IN ACTION: CAPSTONE PROJECT & INTERNSHIP
One credit
This course requires students to synthesize the leadership information they acquired during their first three years in the center. Students review leadership principles, identify skill sets that contribute to individual career paths, execute their knowledge through an internship, and research, create and implement a service learning Capstone Project.
MANCHESTER HIGH
MASS COMMUNICATIONS
SPANISH IMMERSION
MANCHESTER HIGH

MASS COMMUNICATIONS
The Center for Mass Communications at Manchester High School provides instruction in journalism, graphic design, video production, advertising and public relations. Courses are project based, hands-on and student centered.

Center Objectives
• Improves communication skills in speech and in writing
• Fosters collaboration and teamwork
• Provides real world opportunities for learning
• Promotes creativity and critical thinking
• Utilizes technology

Career Pathways
• Journalist, video production, graphic designer, advertising professional, photographer, public relations specialist, news anchor, reporter

Mass Communication program
• Technology Connections
• Writing and Production 1
• Writing and Production 2
• Research

<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
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<tbody>
<tr>
<td>English</td>
<td>MC English 9</td>
<td>MC English 10</td>
<td>MC English 11 Or AP English</td>
<td>MC English 12 AP or Dual Enrollment</td>
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<td>Geometry or higher</td>
<td>Algebra II or higher</td>
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<td>Science</td>
<td>Biology</td>
<td>Chemistry</td>
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<td>Health Physical Education</td>
<td>Health 9 Physical Education 9</td>
<td>Health 10 Physical Education 10</td>
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<td>World Languages</td>
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<td>MC Technology Connections</td>
<td>MC Writing and Production 1</td>
<td>MC Writing and Production 2-</td>
<td>MC Research and Production-</td>
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<tr>
<td>Electives</td>
<td>Student Choice</td>
<td>Student Choice</td>
<td>Student Choice</td>
<td>Student Choice</td>
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<tr>
<td>Career Investigations</td>
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</tbody>
</table>

Students take Mass Comm. English, Social Studies and an elective within the Specialty Center. Options for English and history placement begin in grade 11. Electives must be related to mass communications.
MC009O TECHNOLOGY CONNECTIONS 9
MC009H HONORS TECHNOLOGY CONNECTIONS 9
One credit
This course teaches the different facets of the mass communications industry. Students will be introduced to the worlds of journalism, advertising and public relations. Students will begin to write and think as journalists, creatives and strategic communicators. In addition to a heavy emphasis on writing, students will learn Adobe InDesign and Photoshop for hands-on projects and real world experiences.

MC010O WRITING AND PRODUCTION 1
MC010H HONORS WRITING AND PRODUCTION 1
One credit
Students will learn how to write and design for print and web journalism and advertising using in Adobe Photoshop, Illustrator and InDesign skills. Students will learn how to write and create visually appealing layouts and ads.

MC011O WRITING AND PRODUCTION 2
MC011H HONORS WRITING AND PRODUCTION 2
One credit
Students will learn how to write, shoot, voice and edit video using Final Cut Pro. They will produce news videos, public service announcements and a short documentary.

MC011O MASS COMMUNICATIONS RESEARCH AND PRODUCTION
MC011H HONORS MASS COMMUNICATIONS RESEARCH AND PRODUCTION
One credit
In this capstone course, students will practice the skills learned in MC 9-11 for the production of a student produced weekly news show. Students will also use your writing and design talents to produce marketing materials for community based nonprofits.

MC109C/H, MC110C/H, MC111C/H, MC112C/H
Mass Communications English 9-10-11-12
One credit
Students take English 9-12 within the specialty center. These courses follow the prescribed curriculum, but provide opportunities for students to use the technologies learned in Mass Communications technology classes to complete projects for these classes. (Students in grades 11 and 12 have the option to take AP English or Dual Enrollment English for MC credit.)

MC209C/H, MC210C/H
Mass Communications World History 9-10
One credit
Students take World History 1 and 2 within the specialty center. These courses follow the prescribed curriculum, but provide opportunities for students to use the technologies learned in Mass Communications Writing and Production 1 to complete projects for these classes.
The Center for Spanish Immersion at Manchester High School provides students with the opportunity to participate in an intensive program of study where selected core and elective classes are taught in Spanish. After earning at least 12 credits in the program, students achieve a level of proficiency in the Spanish language that allows them to communicate in a bilingual society.

Students gain valuable practical experience by translating at local community events, interacting with Spanish-speaking members of our community and developing their language skills in study abroad programs. In addition to language proficiency, our program provides students opportunities to learn about Hispanic culture and explore bilingual career opportunities.

Center Objectives
- Develop proficiency in the Spanish language
- Provide ample opportunities for students to practice communicating in Spanish both in the classroom and in the community
- Cultivate a sense of understanding of the Hispanic culture
- Create global citizens that are ready to interact with people from diverse backgrounds
- Foster valuable interpersonal skills by serving as classroom aides at local elementary schools or translating at community events
- Discover career opportunities through our courses such as Spanish for Professionals or Field Experience

<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade 9</th>
<th>Grade 10</th>
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<th>Grade 12</th>
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</thead>
<tbody>
<tr>
<td>English</td>
<td>English 9</td>
<td>English 10</td>
<td>English 11 or AP</td>
<td>English 12 or AP</td>
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<td></td>
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<td>English Language</td>
<td>English Literature or</td>
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<td>Immersion Geometry</td>
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<td>Algebra III/Trig or higher</td>
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<td>Science</td>
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<td>Chemistry</td>
<td>Physics</td>
<td>AP Science</td>
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<td>Social Studies</td>
<td>World History I or AP Human Geography</td>
<td>World History I or AP World</td>
<td>US/VA AP History</td>
<td>US/VA/AP Government</td>
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<td>-</td>
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<td>Immersion 2</td>
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<tr>
<td>Electives</td>
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<td>Student Choice</td>
<td>Spanish for Professionals</td>
<td>Spanish Culture through Film</td>
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<td>Community Service &amp; Cultural Experience Hours</td>
<td>15 Related Hours</td>
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<td>20 Related Hours</td>
<td>20 Related Hours</td>
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</table>

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COURSES

SI542 SPANISH IMMERSION 1
One credit
Students will continue to develop the linguistic skills by integrating new and previously learned material to communicate original thoughts and expression. Through a variety of communicative exercises, students will continue to develop proficiency and the ability to express themselves. This course will be taught entirely in Spanish.

SI543 SPANISH IMMERSION 2
One credit
Students will continue to improve their linguistic skills at an accelerated pace. They will practice expressing opinions and preferences, giving advice, negotiating, and persuading. Individual interests and talents are encouraged through increased opportunities for peer- and self-assessment and by simulating real-life situations in Spanish. This course will be taught entirely in Spanish. (Prerequisite: SI 542)

SI 544 SPANISH IMMERSION 3/AP SPANISH LANGUAGE
One credit
This course is part of a four-year program that provides students an opportunity to significantly increase the breadth and depth of their second language acquisition. This course will prepare students to take the AP Language exam. This course is taught entirely in Spanish. (Prerequisite: SI 544)

SI709 IMMERSION HEALTH AND PE 9
One credit
This course is designed for students to apply current health information towards making healthy decisions. The content focuses on nutrition, health fitness, prevention of drug abuse, caring for self and others, and family life education. In physical education emphasis is placed on students becoming confident and competent in performing lifetime physical activities and in participating regularly in physical activity. This course will be taught entirely in Spanish.

SI710 IMMERSION HEALTH AND PE 10
One credit
Students will develop the ability to understand and anticipate how physical activity interests and abilities change across a lifetime. Students demonstrate comprehensive health and wellness knowledge and skills in Spanish. The goal of driver education is to transfer traffic safety knowledge and skills into injury prevention behaviors. (Prerequisite: SI 709)

SI050 SPANISH FOR PROFESSIONALS
One credit
This course teaches students the Spanish vocabulary, grammar and cultural components necessary for being a successful bilingual employee in various career paths. Students will learn useful vocabulary to be proficient in the medical field, the business world, and various public service-based careers (i.e. education, law enforcement, translating, social work, etc.). This class will be conducted entirely in Spanish. (Prerequisite: SI 543)
SI330 IMMERSION GEOMETRY
One credit
This course is a unified study of plane, solid, and coordinate geometry. The curriculum includes the study of lines, planes, congruence, geometric inequalities, perpendicularity of lines and planes in space, parallel lines and planes, polygons, polyhedral, area, volume, similarity, coordinate and transformational geometry, circles, and spheres. This course will be taught entirely in Spanish. (Prerequisite: Algebra 1)

SI340 IMMERSION ALGEBRA 2
One credit
This course extends the concepts that students have encountered in previous coursework and provides a thorough treatment of advanced algebraic concepts. Students will be expected to communicate and practice mathematical ideas appropriately. This course is taught entirely in Spanish. (Prerequisite: SI 330)

SI545 SPANISH IMMERSION 4/AP SPANISH LITERATURE
One credit
Students will read and analyze a variety of genres in preparation for the AP Spanish Literature course. This class is the equivalent of a third year college Intro to literature course, and covers works from the literature of Spain and Latin America. This course will be taught entirely in Spanish. (Prerequisite: SI 544)

SI045 SPANISH IMMERSION FIELD EXPERIENCE
One credit
This course is designed for Immersion students who are participating in additional study of community-based experiences. Experiences may include proved international immersion study, pre-approved domestic immersion study, internships in one of the County’s work-study programs. (Prerequisite: SI 544)

ES0280 ESL TUTORS
One credit
This course is to be taken by students not actively participating in the ESL program. It is a course offered to regular education students who desire to tutor ESL students. Tutors help ESL students to communicate in English, complete assignments and understand North American culture.

SI169 SPANISH CULTURE AND LANGUAGE THROUGH FILM
One credit
This is an Immersion elective that will expand the student’s knowledge and appreciation of the language and culture while studying the films of various Spanish-speaking countries. Multiple genres are presented, and the themes of the movies vary greatly to cover information such as current issues in the Hispanic world, significant historical events, and the lives of famous Hispanics. This class will be conducted entirely in Spanish. (Prerequisite: SI 543)
SI250 SPANISH HUMANITIES 1
One credit
This course integrates areas of human endeavors and achievement in history, literature, philosophy, science, math and the fine arts from medieval times through the 18th century. The class will focus on the skills needed for critical thinking, reading, evaluating discussion techniques, and research techniques. This class will be taught entirely in Spanish. (Prerequisite: SI 543)

SI251 SPANISH HUMANITIES 2
One credit
This course focuses on Latin America and Spain during the nineteenth, twentieth and twenty-first centuries. Focus will be on various themes including: the role of family, the role of urbanization and the role of ethnicity, literature, art, music, philosophy and history of the Western Hemisphere. This course is taught entirely in Spanish. (Prerequisite: SI 543)
The Center for Information Technology at Matoaca High School provides students with an exciting, IT enriched learning environment with the most IT course offerings in a comprehensive high school setting.

Center Objectives
- Provide hands-on learning environments and experiences
- Develop project management skills in a project-based learning environment and the opportunity to complete a senior capstone project
- Acquire skills and certifications along the student-selected IT or technical career pathway
- Engage in the school and local community
- Envision IT. Make IT Happen.

Career Pathways
Visual arts, business information management, administrative support, teaching/training, accounting, web and digital communications, network systems, programming and software development, information support and services, marketing communications, marketing management, engineering and technology, design/pre-construction

Center for IT courses
- Technology Service Learning /Project Management
- TL AP Computer Science Principles
- TL English 9, 10 and 11
- TL Earth Science
- TL Biology
- TL World History I and II
- TL Geometry
- TL Algebra II
<table>
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<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
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<td>Career Investigations</td>
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<tr>
<td>Community Service Hours</td>
<td>10 Hours</td>
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</tr>
</tbody>
</table>

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“TL” denotes courses for Specialty Center students only

**COURSES**

**C8125O DIGITAL AND SOCIAL MEDIA MARKETING**

One credit

The Internet is a dynamic marketplace, constantly changing with the current technologies and marketing trends. This course will give students a foundation of marketing concepts, while immersing them in the world of social media marketing through the utilization of various social media platforms. Students will learn and have hands-on experience with the concepts of personal branding and social media advertising, analytics, planning and auditing.

**TL221H HONORS TECHNOLOGY SERVICE LEARNING (CAPSTONE PM)**

One credit

The role of leadership has been vital to the development of our state and nation and will be critical in meeting emerging and future challenges. Project management is the application of knowledge, skills and techniques to execute projects effectively and efficiently. By the end of the course, students will have completed and/or planned a service project of their own, provide all deliverables, create an e-portfolio, and present their project to their school and community. Students will also be prepared in all 10 Knowledge Areas per PMI and will be eligible to sit for the CAPM exam post-graduation. (Prerequisites: specialty center, application and teacher recommendation)
C6630H HONORS DESIGN, MULTIMEDIA AND WEB TECHNOLOGY (WARRIOR BROADCAST NEWS-WBN)
One credit
This course presents a broad overview of mass media and digital techniques within the context of electronic communication. Using a variety of electronic tools the student will develop projects to communicate within the school, community, workplace, and around the world. Students will be responsible for news stories and the daily broadcast of the announcements for the school. This class requires collaboration and cooperation.

C6631H HONORS ADVANCED DESIGN, MULTIMEDIA & WEB TECHNOLOGY (WARRIOR BROADCAST NEWS-WBN)
One credit
This course is a continuation of the overview of mass media and digital techniques within the context of electronic communication. Students in Year 2 are leaders in the class mentoring and guiding the Year 1 students. Project development continues in Year 2 and students are still responsible for the delivery of announcements and broadcast stories. Leadership development is a key outcome in the class. (Prerequisites: C6630H and teacher recommendation)

C6660H HONORS DATABASE DESIGN & MANAGEMENT-ORACLE
C6660D DUAL ENROLLMENT DATABASE DESIGN & MANAGEMENT-ORACLE
One credit
Oracle is the leading relational database company in the world and careers in database management are in high demand. Students will have the opportunity to learn how to design, create, and query databases using Structured Query Language. (Prerequisites: C6610O or C6670O or MA384H) (Six credits for John Tyler Community College)

C6640H HONORS PROGRAMMING (ROBOTICS AND GAMING)
One credit
This is an Honors-level Introduction to Programming, Robotics and Gaming class that will explore basic programming concepts, logic procedures, as well as implement programming procedures using several different programming languages such as Python, JavaScript, Mindstorms, and GameMaker. (Prerequisites: C6610O or C6670O or MA384H)

MA384H AP COMPUTER SCIENCE PRINCIPLES
One credit
This course introduces students to the central ideas of computing and computer science by engaging students in activities that show how computing and computer science change the world. Students will be creating programs and using simulations to explore questions that interest them. Students will be designing and implementing solutions to everyday problems. Students will discover that programming is a tool that can be used to explore concepts and create exciting and personally relevant artifacts and programs. Students will explore computer science’s relevance and impact on the world today. Students will investigate the innovations in other fields that computing and computer science have made possible. Students will perform activities that develop their communication and collaboration skills that will be used to work individually and collaboratively to solve problems. The Principles of Computer Science will prepare students to take the AP Computer Science A course. (Required ninth-grade elective for specialty center students)
C3185H AP COMPUTER SCIENCE A
One credit
This course emphasizes object-oriented programming methodology with a concentration on problem solving and algorithm development and is meant to be the equivalent of a first-semester college-level course in computer science. It also includes the study of data structures, design, and abstraction. Students will learn how to design and implement solutions to problems by writing, running, and debugging computer programs. Students will be able to code fluently in an object-oriented paradigm using the programming language Java. Students will be able to read and understand a description of the design and development process leading to such a program. This course will prepare students to take the AP Computer Science A exam that can earn college credit. (Prerequisites: MA384H and/or math PSAT score)

C8622H HONORS COMPUTER SYSTEMS TECHNOLOGY 1
One credit
In this course, students will learn the fundamentals of computer technology, networking, security, and computer programming. Students will acquire the skills and information needed to install, upgrade, repair, configure, troubleshoot, optimize, and perform preventative maintenance of basic personal computer hardware and operating systems with in-class hands-on labs. Students will learn basic computer networking and computer security. Students will learn the elements of customer service and communication skills necessary to work with clients. The class will prepare students for the CompTIA® A+® Certification exams. (Prerequisites: C6610O or C6670O or MA384H)

C6302H HONORS CYBERSECURITY FUNDAMENTALS
One credit
Cybersecurity affects every individual, organization, and nation. This course focuses on the evolving and all-pervasive technological environment with an emphasis on securing personal, organizational, and national information. Students will gain insight into the importance of cybersecurity and the integral role of cybersecurity professionals. Students will be introduced to the principles of cybersecurity, explore emerging technologies, examine threats and protective measures, and investigate the diverse high-skill, high-wage, and high-demand career opportunities in the field of cybersecurity. Students will explore foundational cybersecurity principles, security architecture, risk management, attacks, incidents, and emerging IT and IS technologies. Students will practice cybersecurity skills through White Hat hacking methods and participate in Capture the Flag competitions. (Prerequisites: C6610O or C6670O or MA384H)

C6304H HONORS ADVANCED CYBERSECURITY SOFTWARE OPERATIONS
One credit
This course prepares students with knowledge and skills for a career in the rapidly growing area of cybersecurity operations, working in or with a security operations center (SOC) in an entry-level job role. Introduces the core security concepts and emphasizes the practical application of skills needed to monitor, detect, analyze and respond to cybercrime, cyberespionage, insider threats, advanced persistent threats, regulatory requirements, and other cybersecurity issues facing organizations. The course includes interactive content, quizzes, chapter exams, computer Labs, and hands-on labs using virtual machine environment, Cisco® Packet Tracer activities, Certification practice exams, practice final, final exam, and skills-based assessment. The course prepares students to take the CCNA Cybersecurity Fundamentals industry certification. (Prerequisite: C6301H)
C8126H HONORS CYBERSECURITY IN MARKETING
One credit
This course focuses on cybersecurity fundamentals, threats and vulnerabilities, and data security and ethics. Students will be introduced to issues such as risk management, privacy assurance, and data analytics, while also exploring brand protection and marketing breaches. Career opportunities in the field of cybersecurity in marketing are also investigated. (Prerequisite: C302H)

C8542H/C8543H HONORS COMPUTER NETWORKING AND HARDWARE OPERATIONS (CISCO 1 & 2)
C8542D/C8543D DUAL ENROLLMENT COMPUTER NETWORKING AND HARDWARE OPERATIONS (CISCO 1 & 2)

**Semester 1: Intro to Networks:** Begin preparing for a networking career with this introduction to how networks operate. This first course in the CCNA series introduces architectures, models, protocols, and networking elements—functions needed to support the operations and priorities of Fortune 500 companies to small innovative retailers. Students will even get the chance to build simple local area networks (LANs). Students will have a working knowledge of IP addressing schemes, foundational network security, and be able to perform basic configurations for routers and switches.

**Semester 2:** Switching, Routing, and Wireless Essentials: Delve further into the world of networking with the second CCNA course. This course focuses on switching technologies and router operations that support small-to-medium business networks, including wireless local area networks (WLAN) and security concepts. Students will perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN.

C8544H HONORS COMPUTER NETWORKING & HARDWARE OPERATIONS 2 (CISCO 3)
C8544D DUAL ENROLLMENT COMPUTER NETWORKING & HARDWARE OPERATIONS 2 (CISCO 3)
One credit
This second year CCNA computer networking course describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. It covers wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access along with the introduction of software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Recommended preparation: CCNAv7: Switching, Routing, and Wireless Essentials or possessing equivalent knowledge. (Prerequisite: C8544)
MEADOWBROOK HIGH

INTERNATIONAL BACCALAUREATE PROGRAM

ACADEMY FOR DEVELOPING ENTREPRENEURS
INTERNATIONAL BACCALAUREATE PROGRAM
The International Baccalaureate Program (IB) at Meadowbrook High School is an academically challenging program that prepares students for university and future life experiences. Students receive a holistic learning experience as they study six courses at higher or standard levels, providing them with breadth as well as depth, and completing the three core requirements: the Extended Essay, Theory of Knowledge and Creativity, Activity and Service.

Center Objectives
- Develop inquiring, knowledgeable and caring young people
- Develop life-long learners, and encourage intellectual curiosity
- Cultivate critical-thinking skills
- Develop and master verbal and written communication skills
- Develop strong awareness of the power of collaboration and teamwork
- Garner an appreciation for global perspectives
- Promote community awareness and involvement
- Explore the Theory of Knowledge, and discuss how we make meaning of the world around us
- Learn research skills through authentic and student-centered inquiry

International Baccalaureate Program
- IB Math 1 and 2
- IB History of the Americas
- IB Government
- IB English 11 and 12
- IB Biology 1 and 2
- IB Spanish and French
- Theory of Knowledge 1 and 2
- IB Psychology
<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Pre DP English 9</td>
<td>Pre DP English 10</td>
<td>IB English 11</td>
<td>IB English 12</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Honors Geometry or higher</td>
<td>Honors Algebra II or higher</td>
<td>IB Math 1</td>
<td>IB Math 2</td>
</tr>
<tr>
<td>Science</td>
<td>IB Environmental Sciences</td>
<td>Pre DP Chemistry</td>
<td>IB Biology 1</td>
<td>IB Biology 2</td>
</tr>
<tr>
<td>Social Studies</td>
<td>AP Human Geography</td>
<td>Pre DP World History II or AP World Geography</td>
<td>IB History of the Americas</td>
<td>IB 20th Century Topics and Government</td>
</tr>
<tr>
<td>Health</td>
<td>Health 9</td>
<td>Health 10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Physical Education</td>
<td>Physical Education 9</td>
<td>Physical Education 10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>World Languages</td>
<td>Pre DP Spanish or French</td>
<td>Pre DP Spanish or French</td>
<td>IB Spanish or French</td>
<td>IB Spanish or French</td>
</tr>
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<td>Specialty Requirement</td>
<td>Personal Finance</td>
<td>Theory of Knowledge 1</td>
<td>Theory of Knowledge 2</td>
<td></td>
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<tr>
<td>Electives</td>
<td>Student Choice</td>
<td>Student Choice</td>
<td>Student Choice</td>
<td>IB Psychology</td>
</tr>
<tr>
<td>Community Service Hours</td>
<td>10 Hours</td>
<td>10 Hours</td>
<td>Begin the IB Community Service requirement (CAS)</td>
<td>Finish CAS requirement</td>
</tr>
</tbody>
</table>

"✓" means the requirement could be completed in any of those years.

"-" means not applicable

### COURSES

**PB109 PRE IB ENGLISH 9**

One credit

This course concentrates on literary analysis, oral communication skills, and writing tasks, focusing on audience, purpose, and style. Students draw conclusions, evaluate, and discuss their learning, while perfecting ways to express their thinking.

**PB1105 PRE IB ENGLISH 10**

One credit

Writing about literature and texts becomes a major focus, as students begin making valuable connections about short and texts from various cultures through time and culture. Also, fundamental elements of research will be applied directly to written and oral communications. (Prerequisite: Pre IB English 9)

**IB111 IB ENGLISH 11**

One credit

The first year of a two-year course, this course is designed to develop power of expression, both in oral and written communication. Students read texts chosen from a broad list of internationally renowned authors, representing different literary genres and styles as well as literature from other languages and cultures read in translation. Oral and written examinations are used to assess student learning, as well as their ability to analyze texts, and their ability to express an independent response to literature. (Prerequisites: Pre IB English 9 and 10)
IB112 IB ENGLISH 12
One credit
This course is the second year of a two-year course. It is designed to continue developing the power of expression, both in oral and written communication. Oral and written examinations are used to assess students’ individual language skills. Final portfolios and exams are administered in the senior year. (Prerequisite: IB English 11)

IB016 THEORY OF KNOWLEDGE 1
One credit
This course is the first of a two-year sequence. Theory of Knowledge is a required interdisciplinary course intended to stimulate critical reflection upon knowledge and experience gained inside and outside the classroom.

IB017 IB THEORY KNOWLEDGE 2
One credit
This course is the second of a two-year sequence. Theory of Knowledge is a required interdisciplinary course intended to stimulate critical reflection upon knowledge and experience gained inside and outside the classroom. (Prerequisite: IB Theory of Knowledge 1)

IB303 IB MATH 1
One credit
This course focuses on interconnected mathematical topics, developing student understanding of fundamental concepts, mathematical reasoning, and solving problems embedded in a wide range of contexts. It is designed to offer students with varied mathematical backgrounds and abilities the opportunity to learn important concepts and techniques and gain an understanding of a wide variety of mathematical topics.

IB304 IB MATH 2
One credit
The second year of this course includes descriptive statistics, logic, probability, statistical applications and differential calculus. Students will complete internal assessment, an individual project involving the collection of information or the generation of measurements, and analysis and evaluation. (Prerequisite: IB Math 1)

PB420 PRE-DP EARTH SCIENCE
One credit
This is a laboratory course with major areas of study in astronomy, geology, meteorology, physical geography, energy, and the environment.

PB440 PRE DP CHEMISTRY
One credit
This inquiry-based, laboratory course is comprehensive, emphasizes problem-solving, and provides a thorough foundation for the college-bound student.
IB432 IB BIOLOGY 1
One credit
This is the first year of a two-year sequence. The course is a rigorous, comprehensive study of biology in which laboratory analysis, mathematical application and problem-solving skills are emphasized. (Prerequisites: Pre DP Earth Science, Pre DP Chemistry)

IB433 IB BIOLOGY 2
One credit
This is the second year of a two-year sequence. The course is a rigorous, comprehensive study of biology in which laboratory analysis, mathematical application and problem-solving skills are emphasized. (Prerequisites: Pre DP Earth Science, Pre DP Chemistry, IB Biology 1)

IB211 IB HISTORY OF THE AMERICAS
One credit
Having previously studied the world from antiquity to the present, students will focus on the unique evolution of the United States, Canada, and Latin America and the conflicts that created them. (Prerequisite: Membership in the IB Program)

IB212 IB GOVERNMENT AND TWENTIETH CENTURY TOPICS
One credit
The curriculum examines the structure and functions of government. The course will focus on the political, economic, diplomatic and social movements; geographic influences; and effects of technological changes throughout the 20th century. (Prerequisite: IB History of the Americas)

IB241 IB PSYCHOLOGY
One credit
This course will introduce students to a systematic study of human experience and behavior from four psychological perspectives: the behavioral experience, the cognitive experience, the humanistic perspective and the psychodynamic perspective.

IB543, 544, 545, 546
IB Spanish 3-6
One credit
Students will develop and strengthen their linguistic skills of listening, speaking, reading, and writing. They are expected to express themselves beyond basic simple mechanical responses, demonstrating the ability to manipulate and create the language.

IB513, 514, 515, 516
IB French 3-6
One credit
Students will develop and strengthen their linguistic skills of listening, speaking, reading, and writing. They are expected to express themselves beyond basic simple mechanical responses, demonstrating the ability to manipulate and create the language.
The Meadowbrook Academy for Developing Entrepreneurs is a specialty center that gives students in Chesterfield County access to a robust business curriculum that allows them the opportunity to generate ideas, develop a business plan, design prototypes using a variety of equipment, acquire financing, and open their business while still in high school! If you think you are the next Daymond Johns, Ana Flores, Steve Jobs, or Oprah Winfrey then our specialty center is the right place for you!

**M.A.D.E FOR TOMORROW**

- Complete a sequential program of study that focuses on specific skills, knowledge and technology in the field of business, marketing, and entrepreneurship.
- Courses centered around innovation, collaboration, critical thinking, and problem solving.
- Provide students with an understanding of startup culture and how to create a small business in our modern economy.
- Collaborate with local entrepreneurs and industry leaders to promote their entrepreneurial education and provide authentic experiences, including internships.
- Allow students the opportunity to create a startup by the time they graduate.
- This center connects to almost any Career Pathway that students can pursue at the high school level.

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The **Academy for Developing Entrepreneurs at Meadowbrook High School** provides students with the opportunity to pursue entrepreneurial opportunities through innovative and unique course offerings centered around allowing students to create startups in high school. The entrepreneurial experiences are offered through a collaborative, innovative and experiential environment.

<table>
<thead>
<tr>
<th>Course Sequence 2020-2021 with Advanced Diploma</th>
<th>9th</th>
<th>10th</th>
<th>11th</th>
<th>12th</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td>MADE English 9, Honors with Communications</td>
<td>MADE English 10, Honors</td>
<td>English 11* or AP English Language</td>
<td>English 12* or AP English Literature or DE College Composition</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>Geometry* or higher</td>
<td>Algebra II* or higher</td>
<td>Advanced Algebra/Trig*, Trig/Analysis*, DE Pre-Calculus or Higher</td>
<td>DE Pre-Calculus, Probability and Statistics, AP Stats, or AP Calculus</td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>Biology* or Earth Science*</td>
<td>Biology* or Chemistry*</td>
<td>Physics* or AP Science/Elective</td>
<td>AP Science or Science Elective</td>
</tr>
<tr>
<td><strong>Social Studies</strong></td>
<td>AP Human Geography</td>
<td>World History II or AP World</td>
<td>US/VA History** or AP History</td>
<td>US/VA Govern. or AP Government</td>
</tr>
<tr>
<td><strong>Health &amp; Physical Education</strong></td>
<td>Health &amp; Physical Ed 9 (Online option)</td>
<td>Health &amp; Physical Ed 10 (Online option)</td>
<td></td>
<td></td>
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<tr>
<td><strong>World Lang.</strong></td>
<td>Student choice</td>
<td>Student choice</td>
<td>Student choice</td>
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<tr>
<td><strong>Speciality Requirements</strong></td>
<td>Entrepreneurship, Honors 9</td>
<td>Marketing, Honors</td>
<td>Accounting, Honors</td>
<td>Advanced Entrepreneurship, Honors</td>
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<td><strong>Speciality Requirements</strong></td>
<td></td>
<td></td>
<td>MADE Econ &amp; Personal Finance, Honors</td>
<td>Business Management, Honors or DE</td>
</tr>
</tbody>
</table>
### COURSES

#### ENTREPRENEURSHIP EDUCATION, HONORS - #C9093H - 1 CREDIT
This course introduces students to the exciting world of creating, owning, and launching their own business. Students will learn concepts and techniques for planning an entrepreneurial venture, using design thinking and business model development. Students will learn about financial statements, marketing principles, sales and customer service, and basic economic principles for successful operation.

The goal of this course is to give the students the platform and necessary skills to launch a business by the end of the school year. This course introduces students to the exciting world of creating, owning, and launching their own business. Students will learn concepts and techniques for planning an entrepreneurial venture, using design thinking and business model development. Students will learn about financial statements, marketing principles, sales and customer service, and basic economic principles for successful operation.

#### MARKETING, HONORS - #C8120H - 1 CREDIT
Students examine activities in marketing and business important for success in marketing employment and postsecondary education. Students will learn how products are developed, branded, and sold to businesses and consumers. Students will analyze industry trends and gain hands-on experience in the marketing of goods, services, and ideas. Topics will include professionalism in the workplace, product planning and positioning, promotion, pricing, selling, economic issues, and the impact of technology on the marketplace. Computer/technology applications and DECA activities enhance the course. DECA, the co-curricular student organization, offers opportunities in leadership, community, and competitive events.

As an introduction to entrepreneurship, this course focuses on the foundations and concepts of entrepreneurship with a focus on business opportunity generation and validation. Students gain an understanding of the importance of marketing in today’s society. They develop skills related to interpersonal communication, self-presentation, economics, marketing, sales, employability, career discovery, and ethical decision-making. Computer/technology applications and DECA activities support this course. DECA, the co-curricular student organization, offers opportunities in leadership, community, and competitive events.
ECONOMICS & PERSONAL FINANCE, HONORS - C6120H - 1 CREDIT
Students learn how economies and markets operate and how the United States economy is interconnected with the global economy. Additionally, they learn how to navigate the financial decisions they must face and to make informed decisions relating to career exploration, budgeting, banking, credit, insurance, spending, financing postsecondary education, taxes, saving and investing, buying/leasing a vehicle, and living independently. They also learn the importance of investing in themselves in order to gain the knowledge and skills valued in the marketplace. Development of financial literacy skills and an understanding of economic principles will provide the basis for responsible citizenship, more effective participation in the workforce, and career success. The course incorporates all economics and financial literacy objectives included in the Code of Virginia §22.1-200-03B.

ACCOUNTING, HONORS - #C6320H - 1 CREDIT
Accounting students study the basic principles, concepts, and practices of the accounting cycle for a service business and a merchandising business. Topics covered include analyzing transactions, journalizing and posting entries, preparing payroll records and financial statements, and managing cash control systems. Business ethics and professional conduct are emphasized. Students learn fundamental accounting procedures, using both manual and electronic systems.

ADVANCED ENTREPRENEURSHIP, HONORS - #C9094H - 1 CREDIT
This course is designed for students who wish to concentrate on advanced strategies for entrepreneurship, building upon concepts introduced in Entrepreneurship (9093). The focus of the course is on the development of a business plan and small business management. Students will establish, market, and maintain a business.

Based on the results of Entrepreneurship, students in this course will have the opportunity to work with their teams to run their business. The course is catered to the individual needs of all startups in the course. This course is designed for students who wish to concentrate on advanced strategies for entrepreneurship, building upon concepts introduced in Entrepreneurship. The focus of the course is on development of a business plan and small business management. Students will establish, market, and maintain a business. (Prerequisite: Entrepreneurship)

BUSINESS MANAGEMENT, HONORS - #C6135H - 1 CREDIT
Students study basic management concepts and leadership styles as they explore business ownership, planning, operations, marketing, finance, economics, communications, the global marketplace, and human relations. Quality concepts, project management, problem solving, and ethical decision making are an integral part of the course. Students may enhance leadership skills by participation in school-based or virtual enterprises, job shadowing, internships, apprenticeships, cooperative education, and/or the Future Business Leaders of America (FBLA).
MIDLOTHIAN HIGH
INTERNATIONAL BACCALAUREATE PROGRAM
INTERNATIONAL BACCALAUREATE PROGRAM
The International Baccalaureate Program (IB) at Midlothian High School is an academically challenging program that prepares students for university and future life experiences. Students receive a holistic learning experience as they study six courses at higher or standard levels, providing them with breadth as well as depth, and completing the three core requirements: the Extended Essay, Theory of Knowledge and Creativity, Activity and Service.

Center Objectives

• Develop inquiring, knowledgeable and caring young people
• Develop life-long learners, and encourage intellectual curiosity
• Cultivate critical-thinking skills
• Develop and master verbal and written communication skills
• Develop strong awareness of the power of collaboration and teamwork
• Garner an appreciation for global perspectives
• Promote community awareness and involvement
• Explore the Theory of Knowledge, and discuss how we make meaning of the world around us
• Learn research skills through authentic and student-centered inquiry

International Baccalaureate Program

• IB Math 1 and 2
• IB History of the Americas
• IB Government
• IB English 11 and 12
• IB Biology 1 and 2
• IB Spanish, French, German, Latin
• Theory of Knowledge
• IB Psychology
• IB Business Management
• IB Visual Arts
• IB Music
<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
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<tbody>
<tr>
<td>English</td>
<td>Pre-IB English 9</td>
<td>Pre-IB English 10</td>
<td>IB English 11</td>
<td>IB English 12</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Geometry H) or higher</td>
<td>Algebra II (H) or higher</td>
<td>IB Math 1</td>
<td>IB Math 2</td>
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<td>Science</td>
<td>Biology (H)</td>
<td>Chemistry (H)</td>
<td>IB Biology 1</td>
<td>IB Biology 2</td>
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<tr>
<td>Earth Science (H)</td>
<td>AP Environment</td>
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<tr>
<td>Social Studies</td>
<td>AP Human Geo</td>
<td>AP World</td>
<td>IB History of the Americas</td>
<td>IB Government</td>
</tr>
<tr>
<td>World 1 (H)</td>
<td>World 2 (H)</td>
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<td>Physical Education and Health</td>
<td>Physical Education and Health 9</td>
<td>Physical Education and Health 10</td>
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<tr>
<td>Spanish, French, German or Latin</td>
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<tr>
<td>World Languages</td>
<td>German, or Latin (Honors)</td>
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<td>German, or Latin</td>
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<td>Specialty Requirement</td>
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<td>Personal Finance</td>
<td>Theory of Knowledge</td>
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<td>Honors Art</td>
<td>Honors Art</td>
<td>IB Visual Arts</td>
<td>IB Visual Arts</td>
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<td>Community Service Hours</td>
<td>20 Hours</td>
<td>50 Hours</td>
<td>IB CAS requirement</td>
<td>150 over two years</td>
</tr>
</tbody>
</table>

“✓” means the requirement could be completed in any of those years.

“-” means not applicable

**COURSES**

**PB109 PRE IB ENGLISH 9**

One credit

This course concentrates on literary analysis, oral communication skills, and writing tasks, focusing on audience, purpose, and style. Students draw conclusions, evaluate, and discuss their learning, while perfecting ways to express their thinking.

**PB1105 PRE IB ENGLISH 10**

One credit

Writing about literature and texts becomes a major focus, as students begin making valuable connections about short and texts from various cultures through time and culture. Also, fundamental elements of research will be applied directly to written and oral communications. (Prerequisite: Pre IB English 9)
IB111 IB ENGLISH 11
One credit
The first year of a two-year course, this course is designed to develop power of expression, both in oral and written communication. Students read texts chosen from a broad list of internationally renowned authors, representing different literary genres and styles as well as literature from other languages and cultures read in translation. Oral and written examinations are used to assess student learning, as well as their ability to analyze texts, and their ability to express an independent response to literature.
(Prerequisites: Pre IB English 9 and 10)

IB112 IB ENGLISH 12
One credit
This course is the second year of a two-year course. It is designed to continue developing the power of expression, both in oral and written communication. Oral and written examinations are used to assess students' individual language skills. Final portfolios and exams are administered in the senior year.
(Prerequisite: IB English 11)

IB303 IB MATH 1
One credit
This course focuses on interconnected mathematical topics, developing student understanding of fundamental concepts, mathematical reasoning, and solving problems embedded in a wide range of contexts. It is designed to offer students with varied mathematical backgrounds and abilities the opportunity to learn important concepts and techniques and gain an understanding of a wide variety of mathematical topics.

IB304 IB MATH 2
One credit
The second year of this course includes descriptive statistics, logic, probability, statistical applications and differential calculus. Students will complete internal assessment, an individual project involving the collection of information or the generation of measurements, and analysis and evaluation. (Prerequisite: IB Math 1)

IB432 IB BIOLOGY 1
One credit
This is the first year of a two-year sequence. The course is a rigorous, comprehensive study of biology in which laboratory analysis, mathematical application and problem-solving skills are emphasized.

IB433 IB BIOLOGY 2
One credit
This is the second year of a two-year sequence. The course is a rigorous, comprehensive study of biology in which laboratory analysis, mathematical application and problem-solving skills are emphasized. (Prerequisite: IB Biology 1)
IB211 IB HISTORY OF THE AMERICAS
One credit
Having previously studied the world from antiquity to the present, students will focus on the unique evolution of the United States, Canada, and Latin America and the conflicts that created them. (Prerequisite: Membership in the IB Program)

IB212 IB GOVERNMENT AND TWENTIETH CENTURY TOPICS
One credit
The curriculum examines the structure and functions of government. The course will focus on the political, economic, diplomatic and social movements; geographic influences, and effects of technological changes throughout the 20th century. (Prerequisite: IB History of the Americas)

IB016 THEORY OF KNOWLEDGE
One credit
Theory of Knowledge is a required interdisciplinary course intended to stimulate critical reflection upon knowledge and experience gained inside and outside the classroom.

IB543H, 544H, 545H, 546H, 550H
IB SPANISH 3-7
One credit
Students will develop and strengthen their linguistic skills of listening, speaking, reading, and writing. They are expected to express themselves beyond basic simple mechanical responses, demonstrating the ability to manipulate and create the language.

IB513H, 514H, 515H, 516H, 519H
IB FRENCH 3-7
One credit
Students will develop and strengthen their linguistic skills of listening, speaking, reading, and writing. They are expected to express themselves beyond basic simple mechanical responses, demonstrating the ability to manipulate and create the language.

IB523H, 524H, 525H, 526H, 529H
IB GERMAN 3-7
One credit
Students will develop and strengthen their linguistic skills of listening, speaking, reading, and writing. They are expected to express themselves beyond basic simple mechanical responses, demonstrating the ability to manipulate and create the language.

IB534H, 535H, 536H, 539H
IB LATIN 4-7
One credit
Students develop an appreciation of the different perspectives of the people from classical cultures through the study of authentic Roman texts. Students research the politics, mythology, and culture of the time, while exploring the impact of these elements on later generations, and drawing meaningful connections to the world in which we live today. Students will refine grammatical skills, increase command of vocabulary, and gain a deepened conceptual understanding of the period's political and social contexts through translating and analyzing texts in Latin.
IB241 IB PSYCHOLOGY
One credit
This course will introduce students to a systematic study of human experience and behavior from four psychological perspectives: the behavioral experience, the cognitive experience, the humanistic perspective and the psychodynamic perspective.

IB483 IB BUSINESS AND MANAGEMENT
One credit
Students develop an understanding of business theory, as well as principles, practices and skills in the field. Students apply analytical tools and techniques, to gain an appreciation of complex business activities. The course considers the diverse range of business organizations, as well as the cultural and economic context in which businesses operate. Emphasis is placed on strategic decision-making and the day-to-day business functions of marketing, production, human resource management and finance.

IB963, 964 IB DESIGN STUDIO
One credit
Students will prepare a personal exhibition of their studio work made over the two-year IB period. Extensive journals will be maintained to document their visual arts heritage with their personal growth and development. Students will be able to visually and verbally articulate their ideas.

IB986 IB MUSIC THEORY
One credit
The IB music course provides students with a broad spectrum of musical experiences that include the study of Western traditions and other world cultures. This course will provide a solid foundation of music fundamentals for the student who has a general interest in studying music further. The course of study will include basic music theory, listening skills, music history, world music, composition, and performance.

IB611H IB THEATRE 1
This advanced-level theatre-making course at Midlothian is multifaceted, and gives students the opportunity to actively engage in the theatre process as creators, designers, directors, performers, and spectators. It emphasizes the importance of working both individually and collaboratively as part of an ensemble. Through this study of theatre, students learn and explore a variety of theatrical world traditions while also experimenting with performance techniques and production processes. Students will develop an increasing understanding of oneself and others, become aware of their own personal and cultural perspectives, and develop an appreciation of the diversity of theatre practices.

IB612H IB THEATRE 2
One credit
This advanced-level IB Theatre course is offered for students who began the course in the previous year. Students have the opportunity to validate the skills and abilities they’ve acquired by producing works of greater depth. Students will actively develop and transform their ideas into action as inquisitive and productive artists by working with play texts, performing theatre theory, examining world theatre traditions, and collaboratively creating original theatre.
The Center for the Humanities at Monacan High School is an interdisciplinary program in the liberal arts with core courses including and emphasizing a specialized study of history and literature, as well as the arts.

This program is designed for the student who seeks academic challenge and rigor, not only in English and history, but also in math and science. The curriculum provides a foundation that prepares students for any field they may pursue. While students explore the development of people and cultures, they are also taught to think critically and creatively while communicating effectively, both orally and in writing. This is considered to be a reading and writing intensive program.

Center Objectives
- To engage students in an enriched, rigorous, interdisciplinary learning environment that supports, develops, and encourages academic, intellectual, social, and emotional flourishing
- To provide an active learning environment that incorporates texts, discussions, technology, and experiential learning including fine arts, community service, and scientific investigation
- To provide opportunities to understand the development of ancient and modern civilizations and to apply the lessons of the past to the issues of the future
- To develop a thematic course of study to explore the relationships among the fine arts, language arts, natural sciences, and social sciences
- To develop an understanding of the contributions of diverse cultures and their impact on values

Center for the Humanities Courses
- Humanities World Literature I and II
- Humanities AP Language/Comp
- Humanities AP Literature/Comp
- Humanities World History I
- Humanities AP European History
- Humanities AP US History
- Humanities AP Government and Politics
- Humanities Perspectives on the Human Experience I, II, III, IV
- Humanities Biology
- Humanities Geometry
### COURSES

**HM109H HONORS HUMANITIES WORLD LITERATURE I**  
One credit  
This course is a study of classical literature, mythology, drama, and narrative poetry taught in conjunction with the chronology and themes presented in Humanities World History I and Perspectives on the Human Experience I. The course makes connections between and among ancient and modern texts and engages students in expository writing, literary analysis, and oral communication skills.

**HM110H HONORS HUMANITIES WORLD LITERATURE II**  
One credit  
This course is a study in the reading and critical analysis of literature, from the Renaissance to the present. This course focuses on language as a symbolic process and on literature as a preserved experience; as such works are placed within their historical context. (Prerequisite: Humanities World Literature I)
HM114H HUMANITIES HONORS AP LANGUAGE AND COMPOSITION
One credit
This course is a study of American Literature, with an emphasis on the resources of language and rhetoric. Demonstrating efficiency in synthesis and research skills, students will examine and respond to pieces that offer varying perspectives and contexts while relating to contemporary issues. (Prerequisite: Humanities World Literature II)

HM113H HUMANITIES HONORS AP LITERATURE AND COMPOSITION
One credit
This course develops students’ interpretive skills as they read and write with increased complexity and sophistication. This course integrates with Humanities AP Government and Perspectives on the Human Experience IV. (Prerequisite: Humanities AP Language/Composition)

HM430 HONORS HUMANITIES BIOLOGY
One credit
This is a laboratory-based course that includes a study of the interrelationships in ecosystems, taxonomy, cellular chemistry, genetics, microbiology, and physiology. Students will explore the impacts of biology on society through an assortment of means, including research, Socratic Seminar, and art.

HM209H HONORS HUMANITIES WORLD HISTORY 1
One credit
This is a study of the diversity of culture and the evolution of human history, chronologically and geographically, from the beginning of time until the rise of nation states in Europe. Students will examine the development of the world’s major political, economic, and legal systems, as well as the influential people of history.

HM220H HONORS HUMANITIES AP MODERN EUROPEAN HISTORY
One credit
This course uses a chronological approach to study the scope of European History from the Renaissance to the present. Economic, political, and social history is examined, as well as the lives of great monarchs, artists, and thinkers who shaped the history of Europe and America. (Prerequisite: Humanities World History I)

HM213H HONORS HUMANITIES AP U.S. HISTORY
One credit
This course uses chronological approach to cover United States history from the first European exploration of the Americas to the present. The influences and contributions of individuals and groups are examined in the development of the United States and its changing role in world affairs. (Prerequisite: Humanities AP European History)

HM214H HONORS HUMANITIES AP GOVERNMENT
One credit
This course gives students an analytical perspective on government and politics in the United States. This course involves both the study of general concepts used to interpret United States politics and the analysis of specific case studies and statistical data; the content of this course emphasizes contemporary issues. (Prerequisite: Humanities AP U.S. History)
HM330 HONORS HUMANITIES GEOMETRY
One credit
This course is a unified study of plane, solid, and coordinate geometry. The curriculum makes connections to the visual arts, philosophy, and biology. (Prerequisite: Algebra 1)

HM061H HONORS HUMANITIES PERSPECTIVES ON THE HUMAN EXPERIENCE 1
One credit
This course is an introduction to humanistic studies and integrates areas of human endeavors and achievements in literature, languages, history, social studies, philosophy, math, science, and fine arts, from the prehistoric period through the Middle Ages. (This course integrates with Humanities Honors English 1 and Humanities Honors World History 1.)

HM062H HONORS HUMANITIES PERSPECTIVES ON THE HUMAN EXPERIENCE 2
One credit
This course is an introduction to humanistic studies and integrates areas of human endeavors and achievements in literature, languages, history, social studies, philosophy, math, science, and fine arts, from the Renaissance to the present. (This course integrates with Humanities Honors English II and Humanities AP Modern European History.) (Prerequisite: Perspectives 1)

HM063H HONORS HUMANITIES PERSPECTIVES ON THE HUMAN EXPERIENCE 3
One credit
This course serves as an introduction to American humanistic studies and integrates areas of human endeavors and achievements in literature, languages, history, social studies, philosophy, math, science, and fine arts, from the settlement of early American through the 20th century. (This course integrates with Humanities AP Language and Composition and Humanities AP U.S. History.) (Prerequisite: Perspectives 2)

HM063H HONORS HUMANITIES PERSPECTIVES ON THE HUMAN EXPERIENCE 4
One credit
This course integrates areas of human endeavors and achievements in literature, languages, history, social studies, philosophy, math, science, and fine arts, from the late 19th and 20th centuries. Focus is placed on the cultural and artistic expression of contemporary society with all of its diversity and variety. (This course integrates with Humanities AP Literature and Composition and Humanities AP Government.) (Prerequisite: Perspectives III)
The Health Professions and Therapies (HPT) Center at Monacan High School provides students with academic and practical field experiences in preventative medicine and therapeutic health careers. Students will explore health-care careers that focus on therapy and prevention such as: sports medicine; athletic training; physical and occupational therapy; physical education; and exercise science. The HPT mentorship program allows students to experience health and therapy careers in clinical settings through partnerships established with the local medical community.

Center Objectives

- Develop a strong foundation of knowledge and skills that support a health-care career in therapeutic or preventive services
- Incorporate a focus on physical therapy, occupational therapy, sports medicine, and athletic training into traditional core courses
- Provide lab-based practical and clinical applications
- Foster professional behavior and ethical decision-making skills
- Cultivate critical thinking skills as well as the ability to apply program knowledge to real life problems
- Practice and improve communication skills including the use of appropriate medical terminology

Health Professions and Therapies Courses

- Medical Terminology
- Sports Medicine I and II
- Therapeutic Sciences
- Anatomy and Physiology
- Exercise Science
- EMT
- Nutrition/Complementary Medicine
<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
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<tbody>
<tr>
<td>English</td>
<td>HPT English 9</td>
<td>HPT English 10</td>
<td>English 11 or AP Language</td>
<td>English 12 or Ap Lit or DE Eng</td>
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<tr>
<td>Mathematics</td>
<td>Geometry or higher</td>
<td>Algebra II or higher</td>
<td>Trig or higher</td>
<td>Math Elective</td>
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<tr>
<td>Science</td>
<td>HPT Biology</td>
<td>HPT Chemistry</td>
<td>HPT Physics or AP Physics</td>
<td>AP Science</td>
</tr>
<tr>
<td>Social Studies</td>
<td>World History I or AP Human Geo</td>
<td>World History I or AP World</td>
<td>US/VA History Or AP US</td>
<td>US/VA Government or AP Gov</td>
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<tr>
<td>Health</td>
<td>Health 9</td>
<td>Health 10</td>
<td>-</td>
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<tr>
<td>Physical Education</td>
<td>Physical Education 9</td>
<td>Physical Education 10</td>
<td>-</td>
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<td>World Languages</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>Specialty Requirement</td>
<td>Health Sciences Explorations*</td>
<td>Medical Terminology*</td>
<td>HPT Elective</td>
<td>HPT Elective</td>
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<td>Electives</td>
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<td>Personal Finance</td>
<td>Student Choice</td>
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<tr>
<td>Career Investigations</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Community Service Hours</td>
<td>15 Health Related Hours</td>
<td>15 Health Related Hours</td>
<td>10 Health Related Hours</td>
<td>10 Health Related Hours</td>
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<tr>
<td>Mentorship</td>
<td>-</td>
<td>-</td>
<td>80/160 hours (.5/1 credit)</td>
<td>80/160 hours (.5/1 credit)</td>
</tr>
</tbody>
</table>

“✓” means the requirement could be completed in any of those years.

“-“ means not applicable

*CTE course sequence for workplace readiness certification and Governor’s Health Science Academy

**COURSES**

HT109H HONORS HPT ENGLISH 9
One credit
This course is a study of nonfiction, mythology, and an introduction to classical literature with a focus on the health sciences as part of their coursework. Students will study health science related novels as part of their literature analysis.

HT110H HONORS HPT ENGLISH 10
One credit
This course stresses refinement of skills with emphasis on effective written and oral communications. Students will explore various writing techniques and styles with a specific focus on technical writing in the health-care field.

HT430H HONORS HPT BIOLOGY
One credit
This course, the study of living things, is a laboratory course designed with a focus on health science, which includes the following major areas of study: experimental design, chemistry, cells, genetics, viruses, bacteria, protists, fungi, plants, animals, the human body, classification, evolution, and ecology. These areas are developed within a framework of the principal biological theories with an emphasis on critical thinking and science process skills and a focus on the relationships with human health care.
HT440H HONORS HPT CHEMISTRY
One credit
This inquiry-based laboratory course surveys the major topics in inorganic chemistry. In addition to learning the concepts of chemistry, students will spend the majority of their time on applying their knowledge to new situations and analyzing and evaluating chemistry in health career fields. (Co-requisite - Algebra 2)

HT450H HONORS HPT PHYSICS
One credit
This is a college preparatory course with emphasis on the analytical treatment of content, which will include kinematics, dynamics, Newtonian mechanics, conservation laws, kinetic molecular theory, waves, and the electromagnetic spectrum. These areas are developed within a framework of the principal physical theories with an emphasis on critical thinking and science process skills and a focus on the relationships with human health care.

HT418H HONORS MEDICAL MATH
One credit
This course is designed to focus, utilize and build on mathematics skills commonly used in healthcare occupations. Students will develop the skills to accurately calculate oral and parenteral dosages and relate mathematics to activities in the health science and discuss the importance of a thorough understanding of mathematics to a successful career in the health professions.

HT090H HONORS HEALTH SCIENCE EXPLORATIONS
One credit
The course is designed to provide an introduction to the profession of physical and occupational therapy as well as other allied health careers. Students explore the principles and practices of therapists in the health-care industry and participate in clinical skill development and observations. This course provides a thorough and realistic overview of both the profession and the practice of health professions.

HT723H HONORS EXERCISE SCIENCE
One credit
Students study how physical activity experiences in sport, exercise, work and rehabilitation contribute to the understanding of the human body. The course is designed to help the student explore and understand the biological and physiological changes that occur during exercise and as a result of extreme physical training.

HT419H HONORS MEDICAL TERMINOLOGY
One credit
This course is designed to help students learn the vocabulary of the human body and the study of that body. The course will delve into some anatomy as well as some of the common disease processes that are encountered on an everyday basis in the world of rehabilitation. (Prerequisite: Health Science Explorations)
HT722H HONORS SPORTS MEDICINE 1
HT742H HONORS SPORTS MEDICINE 2
One credit
Sports Medicine provides students with the basic concepts and skill set for sports medicine related health careers. It introduces students to topics such as injury prevention, nutrition, first aid/CPR/AED, exercise physiology, and biomechanics. Students study basic human anatomy and physiology, medical terminology, legal and ethical issues in sports medicine, and career preparation. Course competencies have been constructed so as not to go beyond the professional scope of aide/assistant level.

HT946H HONORS EMT
One credit
This course will provide instruction in basic life support and physical assessment. This course will introduce roles and responsibilities of the emergency medical technician/ ambulance. Topics will also include emergency operations, anatomy and physiology, bleeding, shock, cardiopulmonary resuscitation, soft tissue injuries, fractures and dislocations, abdominal and chest injuries.

HT463H HONORS NUTRITION THERAPY
Semester
Half credit
There is a plethora of information on various diet plans, foods that prevent disease and health ailments. This course is designed to build a solid foundation in the basic principles and concepts of good nutrition. The course will clarify nutrition misconceptions and help build a healthy lifestyle through nutritional awareness.

HT030H HONORS INTRO TO THERAPEUTIC SCIENCES
One credit
Therapeutic Sciences is a course designed to explore various health professions using pure science to be applied to the practical practices of health care. The course will encompass a variety of sub-disciplines that will relate to the application, approach and research of science to health.

HT10H HONORS HPT MENTORSHIP
HT101H HONORS HPT MENTORSHIP
One credit
Opportunity designed to provide students with supervised on the job work experience related to the Health and Physical Therapy career fields. Students will be placed or will find placement in an allied health field of their interest and have practical experience in such field. This mentorship is to be completed after-school or during the summer.

HT020H HONORS COMPLEMENTARY MEDICINE
One credit
Students will discover the variety of methods that are practiced in complementary medicine by researching each topic, debating the pros and cons of certain types, and learning how to incorporate conventional medical practices with complementary medicine practices. The class will be research based while incorporating laboratory practices when possible.
GLOSSARY

ACCREDITATION

Virginia’s public schools receive annual state and federal accountability ratings based on the performance of students on state assessments in English, mathematics and science and on other measures of quality and performance. Public schools in Virginia are accredited by the Virginia Department of Education. For the 2018-19 and 2019-20 school years, all Chesterfield County schools are fully accredited.

ALTERNATIVE EDUCATION

To meet the needs of a large and diverse student population, alternative education opportunities are offered through programs like these: Academy360, Carver College and Career Academy, CCPSOnline, Night School at Carver Academy and the Phoenix Academy. See your school counselor for more information.

APPOMATTOX REGIONAL GOVERNOR’S SCHOOL

A regional Governor’s School focused on the arts and technology. Located in Petersburg

ASOL

The Aligned Standards of Learning (ASOLs) are the Standards of Learning that are assessed in the Virginia Alternate Assessment Program (VAAP). The VAAP is designed to evaluate the performance of students with significant cognitive disabilities who are working on academic standards that have been reduced in complexity and depth. Students in grades 3-8 who are participating in the VAAP are required to submit evidence in the same subject areas as required of their non-disabled peers in the same grade level. High School students participating in the VAAP are required to submit evidence in reading, writing, mathematics, science, and history/social sciences by the end of their completion of grade 11 or on a schedule identified by the local school division.

CODERVA

A regional high school located in Richmond that uses blended and project-based learning to develop students’ self-management skills while integrating academic content, agile workplace methodologies, and internship experiences that provide a pipeline of critical thinkers prepared to enter college or Richmond’s growing tech sector.

COMMUNITY SERVICE LEARNING

Students in middle and high schools may participate in voluntary activities that serve organizations as well as individuals in the community.

COMPREHENSIVE HIGH SCHOOLS

Each Chesterfield County high school offers opportunities for students to pursue a Standard or Advanced Studies diploma and to participate in rigorous academic core programs. Additionally, students may select electives in the fine arts, career and technical education, and general academic areas.
COMPREHENSIVE STUDENT HEALTH AND WELLNESS

In accordance with School Board Policy 4190 (Student Wellness at https://go.boarddocs.com/vsba/chesterfield/Board.nsf/files/AZRMGT548200/$file/4190%20-%20REVISED%20-%206-12-18.pdf), the school division supports efforts to improve student health and wellness. Support programs include health and physical education, student health services, school counseling, family life education, life skills instruction, and related services.

CUMULATIVE GPA

Refers to a student's overall grade point average, which is determined by dividing the total number of points assigned for each final course grade by the number of courses taken.

DIPLOMA SEALS

Students meeting specific requirements for graduation and demonstrating exemplary performance may receive diploma seals for recognition. The Standards of Accreditation establish the requirements for diploma seals. The Virginia Department of Education makes these seals available to local school divisions: Governor’s Seal, Board of Education Seal, Board of Education Career and Technical Education Seal, Board of Education Science, Technology, Engineering, and Mathematics (STEM) Seal, Board of Education Advanced Mathematics and Technology Seal, Board of Education Excellence in Civics Education Seal, Board of Education Biliteracy Seal, and Board of Education Excellence in Science and the Environment Seal. More information is available at http://www.doe.virginia.gov/instruction/graduation/diploma_seals/index.shtml

DUAL ENROLLMENT

Dual enrollment is a plan that allows students an opportunity to meet high school graduation requirements while simultaneously earning college credit.

ENGLISH SECOND LANGUAGE LEARNERS

English Second Language Learners are students designated as English Learners (ELs) based on English proficiency levels at the elementary, middle and high school level. High quality language instruction is provided with a focus on student's ability to speak, listen, read and write English and meet challenging State standards.

SPECIAL EDUCATION

Special 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 program (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 programs.
GIFTED EDUCATION

Gifted learners are those students in elementary and secondary schools who demonstrate or who show potential for advanced thinking and reasoning, creativity, and high achievement when compared to others of the same age, of similar prior learning experiences, and of comparable home environments and cultures.

HOMEBOUND PROGRAMS

The Homebound Program provides instructional assistance and support for core academic courses when a medical determination is made that a student is unable to attend classes for a temporary period of time.

IMMERSION

A means of acquiring a world language through content matter instruction.

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.

PARENT HANDBOOK

The school division provides information and meets statutory requirements for parent notifications through the annual publication of the CCPS Parent Handbook. This handbook contains some of the information found in this Programs of Study resource as well as other important information for effective parent-school partnership. A hard copy is distributed to each student during the first week of school and can be found online at mychesterfieldschools.com.

MAGGIE L. WALKER GOVERNOR’S SCHOOL (MLWGS)

A regional Governor’s School focused on government and international studies. Located in Richmond.

MILITARY SCIENCE/JROTC

Military Science/JROTC is offered at five county high schools: Thomas Dale (Army), James River (Navy), Manchester (Army), Meadowbrook (Army) and Monacan (Air Force).

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 updated 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.
PROMOTION POLICIES


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 an infinite learner who is also life ready upon graduation. The primary task of the school counselor is to assist students and their parents in identifying appropriate pathways and opportunities for a positive academic, social, and career direction.

SPECIALTY CENTERS

Eighth-grade students are encouraged to investigate their options for high school. In addition to a broad spectrum of programs in each high school, Chesterfield County Public Schools offers students the opportunity to participate in specialty centers and governor’s schools that target specific interests. Specialty centers and governor’s schools are open to students from every district in Chesterfield.

STANDARDS OF LEARNING (SOL)

The Commonwealth 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 tests assess the establish minimum expectations for what students should know and be able to do at the end of each grade or course in English, mathematics, science, history/social science and other subjects. All middle and high school students enrolled in applicable high school credit-bearing courses are required, as defined by the Virginia Department of Education, to take corresponding end-of-course tests or substitute tests. See the Graduation Requirements section at http://www.doe.virginia.gov/testing/.

STUDENT ACTIVITIES

Students are encouraged to explore interests and participate in 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. See School Board Policy 4070 (Extracurricular Activities) at https://go.boarddocs.com/vsba/chesterfield/Board.nsf/files/BW5PV465B572/$file/4070%20REVISED%2012-8-20.pdf.

SUMMER SESSION


More information about opportunities can be found online at https://mychesterfieldschools.com/curriculum/summer-programs/.
While testing is an essential part of a student’s education to determine individual strengths as well as areas for growth, the goal is to allocate less time to the measurement of learning and more time to instruction. Annually, the school division publishes an annual assessment calendar for elementary, middle, and high school levels, which outlines the slated division-wide assessments.