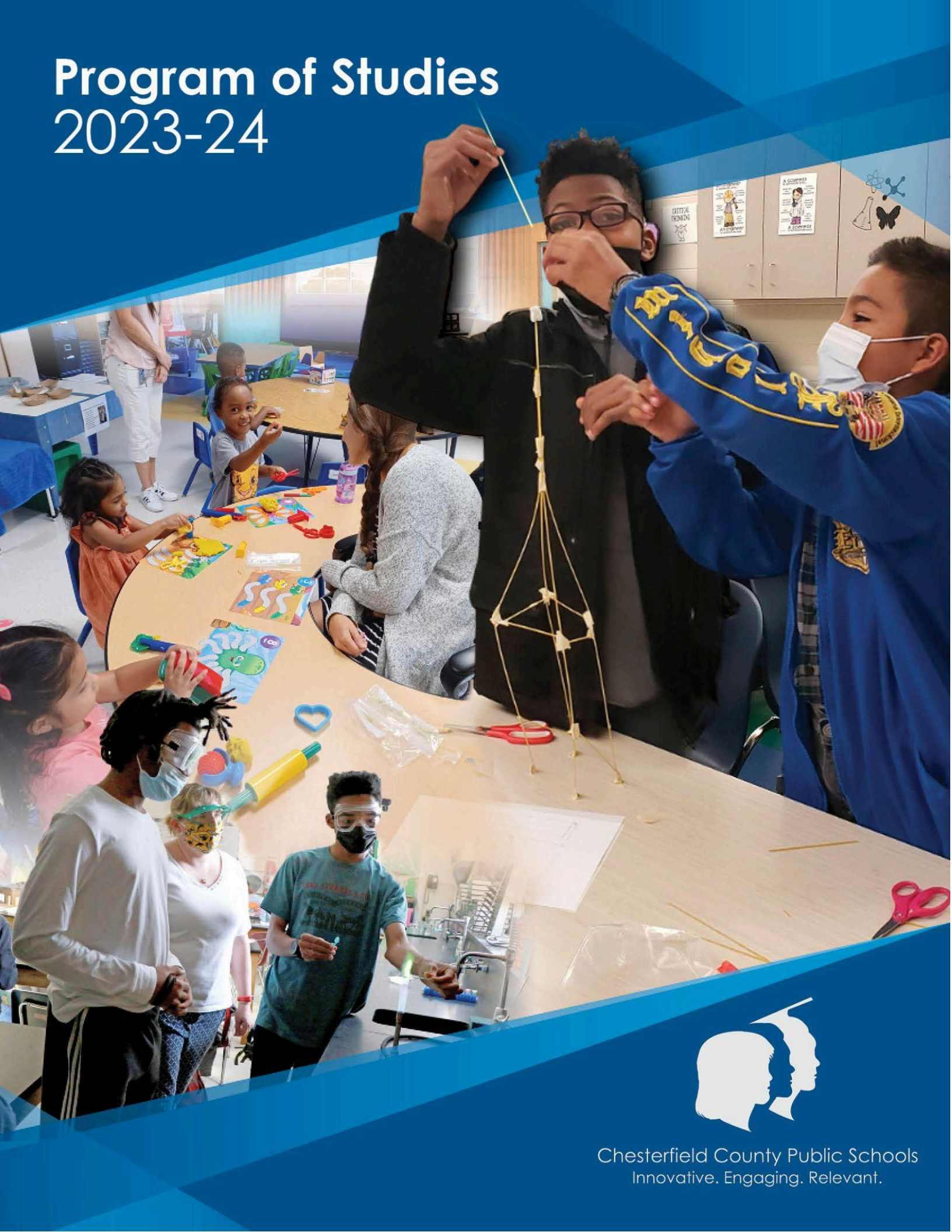


Program of Studies 2023-24



Chesterfield County Public Schools
Innovative. Engaging. Relevant.

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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. Developing 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.

Important VDOE diploma requirement links for Virginia Diplomas following CCPS diploma types are offered here <http://www.doe.virginia.gov/instruction/graduation/credits/index.shtml>.

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?

GRADING SCALES

Grades K-5 number scale

- 4 Student's performance exceeds standard/expectation, and student consistently produces outstanding work.
- 3 Student's performance meets standard/expectation, and student consistently produces quality work.
- 2 Student's performance is approaching standard/expectation, and student inconsistently applies learned skills.
- 1 Student's performance is below standard/expectation, and student frequently requires re-teaching.
- NA This skill or concept was not assessed during this grading period.

Grades 2-5 Grades Range

A	90-100	Excellent
B	80-89	Very Good
C	70-79	Satisfactory
D	60-69	Minimal Progress
F	Below 60	Failing

Grades 6-12 Grades Range

Letter Grade	Range	Meaning	GPA	GPA for honors	GPA for AP/IB/DE industry certification*
A+	97-100	Excellent	4.5	5	5.5
A	90-96	Excellent	4	4.5	5
B+	86-89	Very Good	3.5	4	4.5
B	80-85	Very Good	3	3.5	4
C+	76-79	Satisfactory	2.5	3	3.5
C	70-75	Satisfactory	2	2.5	3
D+	66-69	Minimum Passing	1.5	2	2.5
D	60-65	Minimum Passing	1	1.5	2
F	Below 60	Failing	0	0	0

*Industry certification courses can be found online at mychesterfieldschools.com.

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.

PROMOTION

Middle school students must pass five subjects (math, science, social studies and language arts and an elective, which can be two 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 that 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>

For more information about promotion standards, see School Board Policy 3042

at [https://go.boarddocs.com/vsba/chesterfield/Board.nsf/files/BVYSGH723E9F/\\$file/3042%20REVISED%205-9-17.pdf](https://go.boarddocs.com/vsba/chesterfield/Board.nsf/files/BVYSGH723E9F/$file/3042%20REVISED%205-9-17.pdf)

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.

Supporting a Diverse Community



Chesterfield County
Public Schools
Imagine Tommorrow!

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. The online referral 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.

For more gifted education information, including referral deadlines and program information, visit mychesterfieldschools.com/gifted/.

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 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 ELs 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 academic and social 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 reach English proficiency as defined by state ELP assessment criteria standards, 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 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. Pre-kindergarten is offered at several elementary school sites:

- Chester Early Childhood Learning Academy serving: Bellwood, Bensley, Beulah, M. Christian, Curtis, C.C. Wells, Ecoff, Enon, Harrowgate, Gates, Salem Church, Elizabeth Scott
- Bon Air, Chalkley, Crenshaw, Crestwood, A.M. Davis, Ettrick, Falling Creek, Hening, Hopkins, Jacobs Road, Matoaca, Providence, Reams Road

Non-Traditional Options

Year-Round School

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

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."

Summer School

Summer school is 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.

CCPSOnline

The CCPS*Online* 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. CCPS*Online* helps to serve the following 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 high 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, and
- 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.

CCPS*Online* 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 CCPS*Online*, please visit mychesterfieldschools.com/ccpsonline.

Home Schooling

The home instruction specialist of Chesterfield County Public Schools is available to help with the necessary steps 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.

Visit mychesterfieldschools.com/curriculum/home-schooling for more information.

Carver College and Career Academy

The school's goal is to prepare every student for transition into post-secondary life whether that involves higher education, the military, or a job. Students receive a personalized education plan that emphasizes academic rigor, character development, 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 and college-level dual enrollment courses,
- A student support system that continually works with students and their social emotional needs,
- A personalized learning plan based on student needs, goals, and career interests,
- Small group mentoring available to all students,
- Opportunity to take part in VHSL sports, student interest activities, and nationally recognized clubs and organizations, and
- Additional student support provided by Chesterfield Communities in Schools and Clear Vision Support Services.

Academy 360

Academy360 is 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 a focus on small-group instruction, mentoring, Positive Behavior Interventions and Supports (PBIS), and restorative practices. 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

Updated information about this opportunity will be available soon.

GED Preparation

Our mission, in partnership with students, families and the community, is to set high expectations and instill desire to pursue the knowledge and life skills necessary to achieve personal and professional success. 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.

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, workforce courses, and ESL support, to meet the needs of students in the 21st century.

Regional High Schools

Appomattox Regional Governor's School for the Arts and Technology

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
- Music 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 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.

To be eligible to apply, students must:

- Be in eighth grade,
- Live in Chesterfield County (must be the location of their primary residence), and
- 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.)

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 args.us.

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

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 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.

To be eligible to apply, students must:

- Be in eighth grade,
- Live in Chesterfield County (must be the location of their primary residence), and
- 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.)

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 uses composite scores to offer admission to the top qualifying applicants from each middle school and then from the division-level ranking.

For additional information, visit the MLWGS website at 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.

Elementary Courses



Chesterfield County
Public Schools
Imagine Tomorrow!

Elementary Courses

Pre-kindergarten

Literacy

Pre-kindergarten students interact with responsive adults and peers in language and print-rich environments with varied and frequent language experiences:

- listening and telling stories
- reading aloud frequently throughout the school day
- rereading familiar texts
- writing

Students are able 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 for ongoing academic success.

Mathematics

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

Science

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 is also introduced.

History and Social Studies

Pre-K students interact with their surroundings to help with understanding of history, geography, civics and economics.

Health and Physical Development

Children 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 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

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

Kindergarten

Reading

Kindergarten students are immersed in a text-rich environment to develop phonological and phonemic awareness, phonics, 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 encourage the development of reading skills that are foundational to effective comprehension and critical thinking.

Writing

Students will 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 encourage 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 investigate measurement through direct comparisons, collect data and create graphs.

Science

Students use their senses to make observations of the characteristics and interactions of objects in their world. Topics include: the characteristics of water, the basic needs of living things, relationships between the sun and Earth through shadows and weather, changes in motion, scientific process skills and the design process.

Social Studies

Kindergarten social studies focuses on the local community and includes an introduction to basic history and social science skills. Students learn about their community, including 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 are immersed in a text-rich environment to develop phonological and phonemic awareness, phonics, vocabulary and comprehension skills. Additionally, students use reading materials as sources of information and enjoyment while increasing vocabulary and comprehension. Teachers encourage the development of reading skills foundational to effective comprehension and critical thinking.

Writing

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

Mathematics

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

Social Studies

Students focus on Virginia, including an introduction to the lives of leaders in the history of Virginia and their contributions to the Commonwealth. Students should continue to develop history and social science skills including using artifacts and primary and secondary sources, basic map skills, economic concepts of goods and services, consumers and producers, and making economic choices. Students should learn to apply traits of a good citizen and recognize that communities in Virginia have local governments. They should learn that communities include people with diverse ethnic origins, customs and traditions who contribute to their communities, and who are united as Americans by common principles.

Second Grade

Reading

Students will be immersed in fiction and nonfiction texts which relate to all content areas and different personal interests. Teachers continue to develop phonological and phonemic awareness as well as phonics and vocabulary skills foundational to effective comprehension and critical thinking. Students expand vocabulary, use a combination of strategies when reading and read familiar selections with fluency, accuracy and expression.

Writing

Students have 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 encourage the development of writing skills foundational to effective written communication and critical thinking.

Mathematics

The study of number and spatial sense is extended 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 curriculum focuses 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

Students focus on the United States, including 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 the use of artifacts and primary and secondary sources, map skills and demonstrate an understanding of basic economic concepts. Students will identify selected Americans who worked to improve the lives of American citizens. Students will recognize the United States is a land of people with diverse ethnic origins, customs and traditions who make contributions to their communities and are united as Americans by common principles.

Third Grade

Reading

Students 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 continue to use comprehension strategies to compare and contrast story elements and differentiate between fiction and nonfiction. Teachers encourage the development of reading skills foundational to effective comprehension and critical thinking.

Writing

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

Mathematics

Emphasis is on exploring multiplication and division concepts as well as basic addition and subtraction facts. Concrete materials and two-dimensional representations are used to introduce addition and subtraction with fractions and the concept of probability as chance. Students investigate polygons and identify relevant properties of points, line segments, rays, angles, vertices and lines.

Science

There is an increased emphasis on conducting scientific investigations using scientific process skills and the engineering design process. Students 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

Students focus on world cultures, including an introduction to the heritage and contributions of the peoples of ancient China, Egypt, Greece, Rome and the West African empire of Mali. Students should continue using artifacts and primary and secondary sources, developing map skills and demonstrating an understanding of basic economic and civics concepts. 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

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 expand vocabulary using knowledge of roots, affixes, synonyms, antonyms and homophones. Teachers encourage the development of reading skills foundational to effective comprehension and critical thinking.

Writing

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

Mathematics

There is an 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 refine their estimation skills for computations and measurements.

Accelerated Mathematics

Emphasis is 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 identify and describe representations of points, lines, line segments, rays, and angles, including endpoints and vertices.

Science

Students learn where we fit in our 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 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 will be included as part of Virginia's story.

Fifth Grade

Reading

There is an emphasis on reading comprehension by comparing fiction and nonfiction texts. Fifth grade instruction emphasizes nonfiction reading; students will identify 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 encourage the development of reading skills foundational to effective comprehension and critical thinking.

Writing

Students 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 encourage the development of writing skills foundational to effective written communication and critical thinking.

Mathematics

Emphasis is 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 develop proficiency in the use of fractions and decimals to solve problems. Students collect, display and analyze data in a variety of ways and solve probability problems using a sample space or tree diagram.

Accelerated Mathematics

Rational numbers and algebraic concepts are emphasized. Students 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

Students delve more deeply into foundational concepts in physical science and begin making connections between energy and matter. Students explore how energy is transformed and learn about electricity, sound and light. They also learn about the composition of matter and how energy can change phases of matter. Students apply an understanding of force, matter and energy when they explore how the Earth's surface changes. Students continue to use the engineering design process to apply their scientific knowledge to solve problems.

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.

World Studies is a county-created curriculum with a focus on geography and culture. The curriculum is organized around the five themes of geography which include location, place, human-environmental interaction, movement, and regions.

Resource

(list of resource offerings will be specific to each school)

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 have the opportunity to check out books from the school library each week.

Music

General music standards enable students to use music knowledge and skills to synthesize information and create music. Students continue to read, write and compose music, using increasingly complex rhythms and meters. 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 describe and analyze musical performances.

STEAM

Students master the integration of 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 learning experiences.

World Language - Foreign Language Elementary Schools or FLES

Listening, speaking, reading and writing are practiced through various themes throughout the year. Students communicate in the target language (French, Spanish or Mandarin) at the “survival level” in basic language functions such as talking about self, family, school, holidays and leisure activities. The language proficiency level will vary depending on the grade level.

World Language FLES programs are currently being offered at Betty Weaver ES, Robious ES, OB Gates ES and Elizabeth Scott ES.

World Language - Dual Language Immersion or DLI

Students will acquire a World Language such as French, Spanish, Mandarin or American Sign Language, practicing all modes of communication in content courses such as math, science, social studies and literacy. Dual Immersion programs in Chesterfield follow the 50/50 program, meaning approximately half of the daily instructional time will be in the target language.

Chesterfield currently offers Dual Immersion programs at Robious ES, OB Gates ES and Elizabeth Scott ES, with the intent to grow the program offering throughout the district, as DLI education promotes academic achievement, biliteracy, and social-intercultural competence.

Secondary Courses



Chesterfield County
Public Schools

Imagine Tomorrow!

Secondary Courses

Language Arts

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.

EN188C READING ENRICHMENT**EN189C READING ENRICHMENT**

Semester/Year

Reading Enrichment is a course that will enhance reading skills and foster a love of lifelong reading both for the avid reader as well as a developing reader. Students will explore many genres of books and learning strategies for many different types of reading to include reading for critical analysis, reading for research, reading on tests, reading and notetaking (reading for information), etc. Students will share their understanding through opportunities to discuss, critique, and make connections to the world around them.

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 ARTS WORKSHOP

Full year

This class is designed to build connections between English and the Visual Arts. Each project incorporates both the art and English curriculum. It strives 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 8**

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.

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

This 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.

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.

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

EN109H HONORS 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.

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. *(This course is only used in accordance with the College Board-approved Pre-AP program.)*

EN110C ENGLISH 10

EN110H HONORS 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.

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. *(This course is only used in accordance with and alignment to the College Board-approved Pre-AP program.)*

EN111C ENGLISH 11**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**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.

ES109C ESL ENGLISH 9

Full year

One credit

This English course is for ESL identified students. 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.

ES110C ESL ENGLISH 10

Full year

One credit

This English course is for ESL identified students. 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.

ES111C ESL ENGLISH 11*Full year**One credit*

This English course is for ESL identified students. 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.

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.

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 AP ENGLISH LITERATURE*Full year**One credit*

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, and it can be taken as English 11 or English 12.

EN114H AP ENGLISH LANGUAGE AND COMPOSITION*Full year**One credit*

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, and it can be taken as English 11 or English 12.

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, similes, 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.

EN120O LITERATURE, SOCIETY AND SCIENCE**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.

EN1240 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.

EN1280 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.

EN1290 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.

EN1320 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.

EN1350 APPLIED READING*Full year**One credit*

This is a course 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.

EN1370 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.

EN1390 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.

EN1500 CREATIVE WRITING / EN1510 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.

EN1520 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.

EN1520 CREATIVE WRITING 3**EN152H 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.

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.

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**

Full year

One credit

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.

EN1690 ETHICS AND CULTURE IN FILM**EN169H HONORS 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.

EN1710 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.

EN1720 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.

EN1730 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.

EN1740 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.

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.

EN7010 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

TR5110 PEER TUTORING I**TR5120 PEER TUTORING II****TR5130 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.

EN1330 / EN1450 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. *(Aligns with Brightpoint Community College's equivalent EN111/EN112: Six credits)*

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. *(Aligns with Brightpoint Community College's equivalent EN241/EN243: Six credits)*

DE158D COLLEGE WORLD LITERATURE

Semester

Half credit

This course examines literary texts across a variety of cultures, genres, and time periods and develops critical thinking and interpretive skills through close reading, discussion, and analysis of literary texts from around the world in their historical, cultural, social, and/or literary contexts. *(Aligns with Brightpoint Community College's equivalent course: Three credits)*

DE133D COLLEGE PRINCIPLES OF PUBLIC SPEAKING

Semester

Half credit

This course applies theory and principles of public address with emphasis on preparation and delivery. *(Aligns with Brightpoint Community College's equivalent CST100: Three credits)*

Mathematics

Middle School Mathematics

MA377C MIDDLE SCHOOL MATH 1

Full year

Middle School Mathematics 1 (MSM1) 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. Traditionally, this course is taught in grade 6, and students take the Virginia Grade 6 Mathematics SOL assessment at the conclusion of the course.

MA378C MIDDLE SCHOOL MATH 2

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. Traditionally, this course is taught in grade 7, and students take the Virginia Grade 8 Mathematics 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. Traditionally, this course is taught in grade 6, and students take the Virginia Grade 7 Mathematics SOL assessment at the conclusion of the course. (*Prerequisite: Grade 6 Mathematics content*)

MA307H HONORS MATH 7/8

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 Mathematics 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.

MA1000 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.

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.

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.

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.

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: MA320C/H Algebra I or MA330C/H 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*)

MA357H AP PRECALCULUS

Full year

One credit

The AP Precalculus course will build deep mastery of modeling and functions, and examine scenarios through multiple representations. Students will also learn to observe, explore, and build mathematical meaning from dynamic systems.

MA360C HIGH SCHOOL CALCULUS**MA359H HONORS 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: MA352C/H Trigonometry Advanced/Analysis*)

MA361H AP CALCULUS AB

Full year

One credit

Advanced Placement Calculus AB explores the topics of limits/continuity, derivatives and integrals.

(Prerequisite: MA352C/H Trigonometry Advanced/Analysis)

MA362H 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: MA352C/H Trigonometry/Analysis)

MA810C DATA SCIENCE

Semester, Half credit

MA811C DATA SCIENCE

Full year, One credit

The Data Science course will allow students to use Open Source technology tools to engage in a data science problem solving structure to interact with large data sets as a means to formulate problems, collect and clean data, visualize data, model to predict, and communicate effectively about data formulated solutions.

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's course in probability and statistics exposes students to fundamental concepts with an 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: MA340C/H 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: MA340C/H 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: MA330C/H 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 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 students who receive a qualifying score on the AP examination. *(Prerequisite: MA340C/H 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: MA320C/H Algebra I and MA330C/H Geometry)*

MA384H 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.

MA384H AP COMPUTER SCIENCE PRINCIPLES A

Full year

One credit

This course uses Java programming to implement computer-based solutions. Major topics include programming methodology, algorithms and data structures. Extended topics include constructs, data types, functions, testing, debugging, algorithms and data structures.

MA3900 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.

MA5600 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: MA333C/H Algebra Functions and Data Analysis or MA340C/H Algebra II*)

MA5810 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 or instructional sessions. Students are recommended for this elective course by their previous math teacher.

DE335D COLLEGE PRE-CALCULUS

Full year

One credit

This course is dual-enrollment with Brightpoint 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. *(Aligns with Brightpoint Community College's equivalent MTH 161 and MTH 162: Six credits)*

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. *(Aligns with Brightpoint Community College's equivalent MTH 263 and MTH 264: Six credits)*

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. *(Aligns with Brightpoint Community College's equivalent MTH 161 and MTH 261: Six credits)*

DE363D COLLEGE DIFFERENTIAL EQUATIONS

Full year or semester

One credit / half credit

Introduces ordinary differential equations. Designed for mathematical, physical and engineering science programs. *(Aligns with Brightpoint Community College's equivalent MTH267; Prerequisite: AP Calculus BC: Three to six credits)*

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. *(Aligns with Brightpoint Community College's equivalent MTH 245 and MTH 246; Six credits)*

DE368D 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. Additionally, it covers matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, eigenvalues, and eigenvectors. Features instruction for mathematical, physical and engineering science programs. *(Aligns with Brightpoint Community College; Six credits)*

DE369D MULTIVARIATE CALCULUS

Full year

One credit

Multivariate Calculus (Calculus III) focuses on extending the concepts of function, limit, continuity, derivative, integral and vector from the plane to the three-dimensional space. Covers topics including vector functions, multivariate functions, partial derivatives, multiple integrals, and an introduction to vector calculus. Features instruction for mathematical, physical, and engineering science programs. *(Aligns with Brightpoint Community College; Six credits)*

Science

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 HONORS 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, water properties 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 HONORS 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. Traditionally, this course is taught in grade 7, and students take the Virginia Grade 8 SOL assessment at the conclusion of the course. (*Prerequisite: SC067 Science Systems I or SC406 Science 6 and Bridge Course*)

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. Students will take the Virginia Grade 8 SOL assessment at the conclusion of the course. (*Prerequisite: SC407 Life Science*)

ST0610 STEAM EXPEDITIONS 6

ST0710 STEAM EXPEDITIONS 7

ST0800 STEAM EXPEDITIONS 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

SC4100 DISCOVER SCIENCE

Full year

One credit

This interdisciplinary elective 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 economic circumstances. *(Prerequisite: SC420 Earth and Space Science or SC430 Biology)*

SC420C EARTH AND SPACE SCIENCE

SC420H HONORS EARTH AND SPACE SCIENCE

Full year

One credit

This course connects the study of Earth's composition, structure, processes and history; its atmosphere, freshwater 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. (Laboratory science)

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)* (Laboratory science)

SC4220 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 or SC430 Biology)* (Laboratory science course when paired with Astronomy (SC4730)).

SC426O OCEANOGRAPHY**SC426H HONORS 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 or SC430 Biology*) (Laboratory science)

SC452O / SC473O ASTRONOMY**SC452H HONORS 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. The semester course must be paired with Meteorology (SC422O). (*Prerequisite: SC420 Earth and Space Science or SC430 Biology*) (Laboratory science)

SC467O PALEONTOLOGY

Semester

Half credit

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 or SC430 Biology*) (Laboratory science course when paired with Astronomy (SC473O) or Meteorology (SC422O))

SC428O ENVIRONMENTAL SCIENCE**SC428H HONORS 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. (Laboratory science)

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. *(Co-requisite: SC430 Biology or SC440 Chemistry, Prerequisite: SC420 Earth and Space Science)* (Laboratory science)

SC430C BIOLOGY**SC430H HONORS 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. (Laboratory science)

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)* (Laboratory science)

SC434O ANATOMY AND PHYSIOLOGY**SC434H HONORS 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 and one additional lab course: SC440 Chemistry or SC420 Earth and Space Science)* (Laboratory science)

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. (Laboratory 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, SC440 Chemistry*) (Laboratory science)

SC415C FORENSIC BIOLOGY**SC415H HONORS 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*) (Laboratory science)

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 or SC420 Earth and Space Science*) (Laboratory science)

SC440C CHEMISTRY**SC440H HONORS 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 MA333 AFDA)* (Laboratory science)

SC240H HONORS 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 MA333 AFDA)* (Laboratory 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 college text resources; 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; MA340 Algebra II or MA333 AFDA)* (Laboratory science)

SC460C FORENSIC CHEMISTRY**SC460H HONORS 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, SC440 Chemistry)* (Laboratory science)

SC471H HONORS INTRODUCTORY CHEMISTRY, PART 2 (ORGANIC AND BIOCHEMISTRY)

Semester

Half credit

This course follows Introductory Chemistry Part 1 and provides a basic understanding of organic chemistry, focusing on recognizing classes of organic compounds, understanding the bonding and geometry (stereochemistry) of these compounds and their chemical properties. The course will emphasize relevance to biochemical processes. 50% of the course will be used for labs and hands-on activities. This course aligns with DE447D (College Introductory Chemistry, Part 1). (Laboratory science)

SC540C CHEMISTRY BY DESIGN**SC540H HONORS 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*) (Laboratory science)

SC450C PHYSICS 1**SC450H HONORS 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: MA320 Algebra I or MA340 Algebra II*) (Laboratory science)

SC459H AP PHYSICS C

Full year

One credit

This course is the equivalent of a college physics course. AP Physics C prepares students for 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*) (Laboratory science)

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. *(Co-requisite: MA340 Algebra II)* (Laboratory science)

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, SC555 AP Physics I)* (Laboratory science)

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)* (Laboratory science)

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: MA320 Algebra I)*

SC900H RESEARCH AND EXPERIMENTATION IN RESEARCH AND TECHNOLOGY

Full year

One credit

This course will provide students with an introduction to scientific analysis or experimentation as a tool(s) utilized to make major decisions in the world of technology and science. Students will design and implement an experiment to collect their own data using lab or field science research. This inquiry-based 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, analyze data to make conclusions for a real-world impact, and present their findings in a juried setting. Students will also be exposed to volunteering opportunities in their field of research.

SC4900 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.

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, SC440 Chemistry*) (*Aligns with Brightpoint Community College's Biology 141/142 – eight credits*) (Laboratory science)

DE436D 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, SC440 Chemistry*) (*Aligns with Brightpoint Community College's Biology 101/102 – eight credits*) (Laboratory science)

DE447D COLLEGE INTRODUCTORY CHEMISTRY, PART 1

Semester

Half credit

This course emphasizes experimental and theoretical aspects of inorganic, organic and biological chemistry. It discusses general chemistry concepts as they apply to issues within our society and environment, and it is designed for the non-science major. 50% of the course time will be dedicated to labs and hands-on activities. This course aligns with SC471H (Honors Introductory Chemistry, Part 2), and prepares students for Chemistry SOL. (*Aligns with Brightpoint Community College's Chemistry 101 – four credits*) (Laboratory science)

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 Brightpoint Community College's Chemistry 111/112 – eight credits)* (Laboratory science)

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 Brightpoint Community College's Physics 201/202-eight credits)* (Laboratory science)

History

Middle School History and Social Sciences

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

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.

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.

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.

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.

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.

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.

SS133O DEBATE IN THE HISTORY AND SOCIAL STUDIES CLASSROOM

Full year

One credit

This course will introduce students to the elements of debate and focuses on helping students become stronger public speakers, growing in their ability to craft arguments and ideas for various audiences. Students will learn to evaluate their own performance and that of others.

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. This course does not replace the VUS History course requirement.

SS2020 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 I SOL assessment. This course does not replace the WHI course requirement.

SS2150 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.

SS2170 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.

SS2220 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.

SS2230 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.

SS2240 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.

SS2250 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.

SS2280 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.

SS2290 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.

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.

SS330H AP AFRICAN AMERICAN STUDIES

Full year

One credit

Students will analyze African American History through an interdisciplinary lens, and gain insight into the contributions of African Americans from a variety of historical and cultural sources.

SS2330 INTERNATIONAL AFFAIRS

Semester

Half credit

The purpose of this elective course is to emphasize the Cold War (Berlin Wall, Cuban Missile Crisis, Vietnam, etc.), collapse of Communism, 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.

SS236H HONORS INTERNATIONAL AFFAIRS

Full year

One credit

The purpose of this elective course is to emphasize the Cold War (Berlin Wall, Cuban Missile Crisis, Vietnam, etc.), collapse of Communism, 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 position papers, participate in Model UN and complete two major research papers.

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**SS234H HONORS MYTHS, LEGENDS AND MYSTERIES**

Full year

One credit

The purpose of this elective course is for students to engage in an enhanced exploration of 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.

SS245C 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.

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 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.

SS2550 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.

SS2670 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.

SS213H AP U.S. GOVERNMENT

Full year

One credit

This 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.

SS215H AP U.S. GOVERNMENT

Semester

Half credit

This 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, and it is designed to be paired with *SS313H AP Comparative Government and Politics*.

SS214H AP U.S. HISTORY

Full year

One credit

This 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 AP WORLD HISTORY

Full year

One credit

This Advanced Placement 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.

SS220H AP EUROPEAN HISTORY

Full year

One credit

This Advanced Placement 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.

SS231 AP ECONOMICS AND ECONOMICS AND PERSONAL FINANCE*Full year**One credit*

The microeconomic component of this 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 Advanced Placement course will prepare students to take the AP Economics exam while also embedding the Economics and Personal Finance course Standards of Learning.

SS247H AP HUMAN GEOGRAPHY*Full year**One credit*

This Advanced Placement 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.

SS251H AP PSYCHOLOGY*Full year**One credit*

This Advanced Placement 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.

SS313H AP COMPARATIVE GOVERNMENT AND POLITICS*Semester**Half credit*

This 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 AP COMPARATIVE GOVERNMENT AND POLITICS*Full year**One credit*

This 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.

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.

(Brightpoint Community College: Three credits)

DE211D COLLEGE U.S. HISTORY

Full year

One credit

This course offers college credit for coursework completed through Brightpoint Community College. The course content surveys United States history from its beginning to the present. *(Aligns with Brightpoint Community College HIS121/122: Six credits)*

SS290H HONORS VIRGINIA/UNITED STATES GOVERNMENT

Semester

Half credit

Students will apply critical thinking skills as they identify and analyze the importance and impact of the political, social, cultural and geographic factors which influenced American national government and politics from the colonial era to the present. Students will apply social science methodology and identify and analyze the impact of a variety of factors as they apply to the people, events and institutions of American national politics. This course aligns with DE226D (College U.S. Government).

DE226D COLLEGE U.S. GOVERNMENT & POLITICS

Semester

Half credit

This course offers college credit for coursework completed through Brightpoint 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. *(Aligns with Brightpoint Community College PLS211: Three credits)*

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 Brightpoint Community College HIS101/102: Six credits)*

DE221D COLLEGE LEGAL STUDIES 1

Semester

Half credit

Legal Studies 1 will introduce students to areas of law and the VA and federal court system. Students will learn about the role of the legal assistant as well. *(Aligns with Brightpoint Community College Introduction to Law and the Legal Assistant: Three credits)*

DE222D COLLEGE LEGAL STUDIES 2

Semester

Half credit

Legal Studies 2 will introduce students to how to conduct legal research. *(Aligns with Brightpoint Community College Legal Research: Three 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. *(Aligns with Brightpoint Community College: Three credits)*

DE229D COLLEGE INTRODUCTION TO PSYCHOLOGY

Full year

One 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. *(Aligns with Brightpoint Community College: Six credits)*

DE230D COLLEGE DEVELOPMENTAL PSYCHOLOGY

Full year

One credit

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. *(Aligns with Brightpoint Community College PSY200/SPY230: Six credits)*

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. *(Aligns with Brightpoint Community College GIS 101/102 – six credits)*

Health and Physical Education

Middle School Health and Physical Education

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

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.

HP7780 FITNESS FOR LIFE

Semester

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.

HP7850 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.

HP7830 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.

HP7860 TEAM SPORTS

Full year

This course will take an in-depth learning experience to a variety of real and modified versions of 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.

HP7870 TEAM SPORTS I

Semester

Team Sports I 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.

HP7880 TEAM SPORTS II

Semester

Team Sports II is an extension of Team Sports I and 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.

HP6000 UNIFIED PHYSICAL EDUCATION

Full year

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. Traditionally, this course is taken in grade 9.

HP718O PHYSICAL EDUCATION 9

Semester

Half credit

This summer school course emphasizes 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. Traditionally, this course is taken in grade 10.

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.

HP719O PHYSICAL EDUCATION 10

Semester

Half credit

This summer school course emphasizes students becoming confident and competent in performing lifetime physical activities.

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. 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 is an extension of Advanced Physical Education 1 and includes an extended exploration into recreational activities, fitness activities and individual, dual, and team sports. Fitness experiences and individual fitness assessments are integrated throughout the year.

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 students 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.

HP7300 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.

HP7330 TEAM SPORTS

Semester

Half-credit

Students will learn the rules and history, skills and strategies of team sports. This course will also include a daily focus on health-related fitness.

HP7340 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.

HP7350 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 7410 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.

HP7380 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. *(Aligns with Brightpoint Community College: Three credits)*

Performing Arts

Middle School Performing Arts

PA106O SPEECH AND DRAMA 6

Quarter

This nine-week course 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, verbal skills and build self-confidence.

PA107O SPEECH AND DRAMA 7

Semester

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

PA108O SPEECH AND DRAMA 8

Semester

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

PA105O SPEECH AND DRAMA 8

Full year

This year-long course gives students the opportunity to be involved in two or more stage or film 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*)

PA102O THEATRE ARTS 6

Full year

This course is designed as an introduction to the study of theatre history, dramatic literature and theatrical production.

PA104O THEATRE ARTS 7

Full year

This course is designed as an introduction and continuation 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 a part of the overall grade for this class. Instrumentation will be determined by the teacher. Students should provide their own instrument and method book. School-loaned instruments may be provided for a fee depending on availability.

PA3020 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 should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability. Special attire may be required for performances. *(Prerequisite: PA3010 Beginning Band 6 and or band teacher recommendation)*

PA3030 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 should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability. Special attire may be required for performances. *(Prerequisite: PA3020 Intermediate Band 7 and or band teacher recommendation)*

PA4010 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.

PA4020 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.

PA4030 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.

PA4000 CHORUS EXPLORATORY 6*Quarter*

This class fosters skills that help students appreciate the relationships among music, other arts and society. This course enables students to become knowledgeable about music notation and music reading and introduces skills that help students become singers and music consumers.

PA4040 GENERAL MUSIC EXPLORATORY 6*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.

PA4050 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.

PA4060 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.

PA4070 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.

PA4080 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.

PA4700 WORLD MUSIC EXPLORATORY 2*Full Year*

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.

PA5150 MIDDLE SCHOOL BEGINNER GUITAR 6*Quarter*

This course is designed as an introduction for the beginning guitar student. This course enables students to become knowledgeable about music notation, music reading and introduces technical skills that help students become guitar players and music consumers. Students should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability.

PA5260 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. Students should provide their own instrument and. method book. School loaned instruments may be provided for a fee depending on availability.

PA5160 MIDDLE SCHOOL BEGINNER GUITAR 7*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 should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability.

PA5190 MIDDLE SCHOOL BEGINNER GUITAR 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 should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability.

PA5270 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. Students should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability.

PA5170 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. Students should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability.

PA5510 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.

PA5540 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.

PA5520 TECHNOLOGY-ASSISTED MUSIC 7*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.

PA5550 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.

PA5530 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.

PA6010 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. Performances are mandatory and are a part of the overall grade in this class. Students should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability.

PA6020 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. Performances are mandatory and are a part of the overall grade in this class.

Students should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability. Special clothing may be required for performances.

(Prerequisite: PA6010 Beginning Orchestra 6 and/or Orchestra teacher recommendation)

PA6030 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. Performances are mandatory and are a part of the overall grade in this class. Students should provide their own instrument and method book. School loaned instruments may be provided for a fee depending on availability. Special clothing may be required for performances. (*Prerequisite: PA6020 Intermediate Orchestra 7 and/or Orchestra teacher recommendation*)

High School Performing Arts

PA1110 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.

PA1120 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: PA1110 Theatre 1 and staff recommendation*)

PA1130 THEATRE 3

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. Honors students must also fulfill the requirements of the Honors Syllabus. (*Prerequisites: PA1120 Theatre 2 and staff recommendation*)

PA1140 THEATRE 4

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. Honors students must also fulfill the requirements of the Honors Syllabus.

(*Prerequisites: PA1110 Theatre 1, PA1120 Theatre 2, and PA1130 Theatre 3 and staff recommendation*)

PA1210 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: PA121O Theatre Production 1 and theatre teacher recommendation)

PA123O THEATRE PRODUCTION 3**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 and includes the highest level of theatre that incorporates light, sound, costuming and makeup. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisites: PA122O 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**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. Honors students must also 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: PA111O Theatre 1)*

PA1800 LIGHTING AND SOUND STAGE

Full year

One credit

Explore, analyze, manipulate and evaluate the technology used for stage lighting and sound.

PA2210 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.

PA2220 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.

PA2230 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.

PA2240 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.

PA3100 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.

PA3110 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)*

PA3120 ADVANCED BAND**PA312H HONORS 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 and provide their own instrument. Marching band may be a part of this course, and special clothing may be required for performances. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA3130 SYMPHONIC BAND**PA313H HONORS 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. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA3140 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*)

PA3150 ADVANCED JAZZ BAND**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 and provide their own instrument. Marching band may be a part of this course, and special clothing may be required for performances. Honors students must also fulfill the requirements of the Honors Syllabus. (*Prerequisites: Audition and instructor evaluation*)

PA3160 INSTRUMENTAL ENSEMBLE**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 and provide their own instrument. Marching band may be a part of this course, and special clothing may be required for performances. Honors students must also fulfill the requirements of the Honors Syllabus. (*Prerequisite: Instructor evaluation*)

PA3170 GUITAR ENSEMBLE**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 and method book. Honors students must also fulfill the requirements of the Honors Syllabus. (*Prerequisite: Instructor evaluation*)

PA318O STRING ENSEMBLE**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 and provide their own instrument. Special clothing may be required for performances. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA319O WIND ENSEMBLE**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, and special clothing may be required for performances. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisites: Audition by and permission of director.)*

PA411O TREBLE CHOIR**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. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA412O MIXED CHORUS**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. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA413O ADVANCED MIXED CHORUS**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, and special dress apparel may be required for performances. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA414O JAZZ SHOW CHOIR**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. Students enrolled in this course are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA415O TENOR/BASS CHOIR**PA415H HONORS TENOR/BASS CHOIR**

Full year

One credit

This course provides the opportunity for select music students to study vocal technique for various types of vocal music. Students may study microphone technique, choreography and stage presence. Students are expected to attend mandatory rehearsals/performances, and special dress apparel may be required for performances. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA416O SOPRANO/ALTO SHOW CHOIR**PA416H HONORS SOPRANO/ALTO 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. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA417O VOCAL ENSEMBLE 1**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 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. Honors students must also fulfill the requirements of the Honors Syllabus. (*Prerequisite: Instructor evaluation*)

PA418O VOCAL ENSEMBLE 2**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. Honors students must also fulfill the requirements of the Honors Syllabus. (*Prerequisite: Instructor evaluation*)

PA511O PIANO LAB**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. Honors students must also fulfill the requirements of the Honors Syllabus.

PA512O PIANO LAB 2**PA511H HONORS 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. Honors students must also fulfill the requirements of the Honors Syllabus.

PA513O PIANO LAB 3**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. Honors students must also fulfill the requirements of the Honors Syllabus.

PA514O PIANO LAB 4**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. Honors students must also 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.

PA523O INTERMEDIATE 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. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: PA5210 Beginning Guitar)*

PA522O ADVANCED 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. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: PA523O/H Intermediate 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 technology through individual and group-based projects centered on 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.

PA5580 TECHNOLOGY-ASSISTED MUSIC 3

Full year

One credit

Students in Technology-Assisted Music Level 3 will put skills and knowledge learned in levels 1 & 2 towards real life performing situations. They will learn how to produce music to be sold to the public and to be used in concert situations. The goal of a student in level 3 is to understand what it takes and be able to produce a public performance with or without their own created music, including use of all manner of audio technology.

PA6000 BEGINNING ORCHESTRA**PA600H HONORS BEGINNING ORCHESTRA**

Full year

One credit

High school students will have the opportunity to learn a string instrument (violin, viola, cello and 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. Honors students must also fulfill the requirements of the Honors Syllabus.

PA6110 INTERMEDIATE ORCHESTRA**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 and provide their own instrument. Special clothing may be required for performances. Honors students must also fulfill the requirements of the Honors Syllabus.
(Prerequisite: Instructor evaluation)

PA6120 CONCERT ORCHESTRA**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 and provide their own instrument. Honors students must also fulfill the requirements of the Honors Syllabus. Special clothing may be required for performances. (Prerequisite: Instructor evaluation)

PA7110 INDEPENDENT MUSIC**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. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA7120 MUSIC THEORY**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. Honors students must also fulfill the requirements of the Honors Syllabus. *(Prerequisite: Instructor evaluation)*

PA713H 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.

DE652H COLLEGE MUSIC APPRECIATION/MUSICIANSHIP

Full year

One credit

Students gain a new understanding of music history and 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 Brightpoint Community College Music 101 and 121: Six credits)*

DE651D COLLEGE MUSICIANSHIP

Semester

Half credit

Students gain a new understanding of music history and basic music theory, with cultural and historical connections. These dual enrollment credits will help students satisfy their college elective credits.

(Aligns with Brightpoint Community College Music 101: Three credits)

DE652D COLLEGE MUSIC IN SOCIETY

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 Brightpoint Community College Music 121: Six credits)*

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 Brightpoint Community College Music 111 and 112: Six credits)*

DE901D COLLEGE INTRODUCTION TO THEATRE

Semester

Half credit

Surveys the principles of drama, the development of theatre production and selected plays to acquaint the student with various types of theatrical presentations. *(Aligns with Brightpoint Community College Introduction to Theatre: Three credits)*

DE902D COLLEGE ACTING I

Semester

Half credit

Develops personal resources and explores performance skills through such activities as theatre games, role playing, improvisation, work on basic script units and performance of scenes. *(Aligns with Brightpoint Community College Acting I: Three credits)*

Visual Arts

Middle School Visual Arts

VA0600 ART 6 EXPLORATORY

Quarter

Students will explore a variety of art media while developing an understanding of the elements of art and the principles of design. Contemporary and historical artists will be studied with an emphasis on personal vision and expression of the individual. Interdisciplinary relationships among other subject areas will also be studied.

VA0610 ART 6

Full year

Students will build skills in media including drawing, painting, printmaking and sculpture while developing an understanding of the elements of art and the principles of design. Contemporary and historical artists will be studied with an emphasis on personal vision and expression of the individual. Interdisciplinary relationships among other subject areas will also be studied.

VA0620 ART 6

Semester

Students will build skill in media including drawing, painting, printmaking and sculpture while developing an understanding of the elements of art and the principles of design. Contemporary and historical artists will be studied with an emphasis on personal vision and expression of the individual. Interdisciplinary relationships among other subject areas will also 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 and visual literacy. The elements of art and principles of design will be emphasized in the creation of digital images.

VA0720 COMPUTER ART

Semester

An introductory course that allows students to develop skills in the use of the computer as an artistic and creative tool. Students will explore software applications that promote creativity, meaning and visual literacy. The elements of art and the principles of design will be emphasized in the creation of digital images.

VA0700 ART 7

Semester

Students will build skills in media including painting, drawing, printmaking and sculpture while focusing on the elements of art and the principles of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as well as building connections between artists, cultures and how they relate to the student's life.

VA0710 ART 7

Full year

Students will build skills in media including painting, drawing, printmaking and sculpture while focusing on the elements of art and the principles of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as well as building connections between artists, cultures and how they relate to the student's life.

VA0740 DIGITAL PHOTOGRAPHY I

Semester

Grade level: 7

This level 1 course is designed to introduce students to digital photography as an art form and to digital media software programs. Students will use various techniques and methods to create digital images and explore photography as a creative process.

VA0750 DIGITAL PHOTOGRAPHY II

Semester

Grade level: 7

In this level 2 course, students will continue to explore digital photography as an art form and develop skills in digital media software programs. Students will use various techniques and methods to create digital images and explore photography as a creative process. (*Prerequisite: VA0740 Digital Photography I, 7th Grade*)

VA0780 ART 7/8

Semester

Students will further develop skills in artistic media including painting, drawing, printmaking and sculpture while focusing on the elements of art and the principles of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as well as building connections between artists, cultures and how they relate to the student's life.

VA0800 ART 8

Semester

Students will further develop skills in artistic media including painting, drawing, printmaking and sculpture while focusing on the elements of art and the principles of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as well as building connections between artists, cultures and how they relate to the student's life.

VA0810 ART 8

Full year

Students will further develop skill in artistic media including painting, drawing, printmaking and sculpture while focusing on the elements of art and the principles of design. Developing craft, observational skills, envisioning, reflection and creating meaning will be emphasized, as well as building connections between artists, cultures and how they relate to the student's life.

VA0820 COMPUTER ART I

Semester

Grade Level: 8

This level 1 course designed for students to develop skills in the use of the computer as an artistic and creative tool. Students will explore software applications that promote creativity, meaning and visual literacy. The elements of art and the principles of design will be emphasized in the creation of digital images.

VA0860 COMPUTER ART II

Semester

Grade Level: 8

Students will continue to develop skills in the use of the computer as an artistic and creative tool. Students will utilize software applications that promote creativity, meaning and visual literacy while also exploring careers in graphic design and digital media. The elements of art and the principles of design will be emphasized in the creation of digital images. *(Prerequisite: VA0280 Computer Art I)*

VA0830 DIGITAL PHOTOGRAPHY I

Semester

Grade Level: 8

A level 1 course designed to introduce students to digital photography as an art form and to digital media software programs. Students will use various techniques and methods to create photographic digital images and explore photography as a creative process.

VA0850 DIGITAL PHOTOGRAPHY II

Semester

Grade Level: 8

Students will continue to explore digital photography as an art form including digital media software programs. Students will use various techniques and methods to create digital images and explore photography as a creative process. *(Prerequisite: VA0830 Digital Photography I, 8th Grade)*

VA087O COMPUTER ART 7/8

Semester

An introductory course that allows students to develop skills in the use of the computer as an artistic and creative tool. Students will explore software applications that promote creativity, meaning and visual literacy. The elements of art and the principles of design will be emphasized in the creation of digital images.

VA906O ADVANCED ART 6

Full year

Students will explore a variety of artistic media to further develop their understanding of the elements of art and principles of design within the creative process. Artwork from various times and cultures are studied, and through projects, students create works of art which express personal meaning.

(Prerequisite: Elementary art teacher recommendation or evaluation of student's artwork)

VA907O ADVANCED ART 7

Full year

Students will develop technical skills in drawing, painting, printmaking, various sculptural/craft media and new media. Artwork from various times and cultures are studied, and through projects, students create works of art which express personal meaning. *(Prerequisite: Art teacher recommendation)*

VA908O ADVANCED ART 8

Full year

Students will further refine technical skills in drawing, painting, printmaking, various sculptural/craft media and new media while creating original works of art that express personal meaning. Through multiple projects, students will plan, create and reflect on the creative process. *(Prerequisite: Art teacher recommendation.)*

High School Visual Arts

VA911O ART I

Full year

One credit

This course is designed as a foundation to develop student skill and confidence in the creation of original works of art. Through maintaining a portfolio, the creative process will be explored in planning, creating and reflecting on ideas. The elements of art and the principles of design will be emphasized as students explore cultural and historical influences within contemporary art making practices. (*Lab fee is required.*)

VA912O ART II

VA912H HONORS ART II

Full year

One credit

Students will continue to refine technical skills within a variety of art media and further develop an understanding of why artists create. Emphasis is placed on student voice and choice during the art making process. Through maintaining a portfolio, the creative process will be explored in planning, creating and selecting artworks for exhibition. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisites: VA911O/H Art I or teacher recommendation)*

VA913O ART III

VA913H HONORS ART III

Full year

One credit

During this course, students will begin to plan a path of study with the goal of strengthening their personal style, while increasing competency within art media of their choice. An emphasis will be placed on contemporary art making practices and visual art careers. A career or college-level portfolio will be created. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisite: VA912O/H Art II)*

VA914O ART IV**VA914H HONORS ART IV**

Full year

One credit

An advanced art course in which the student will plan an individualized path of study with the art teacher. The student will work in-depth with selected art media of their choice while maintaining a process portfolio. An emphasis will be placed on contemporary art making practices and visual art careers. A career or college-level portfolio will be created. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisite: VA913O/H Art III)*

VA915O ART V**VA915H HONORS ART V**

Full year

One credit

An advanced art course in which the student will continue a self-directed approach to art making with an emphasis on careers in the visual arts. The student should have prior skills and competencies to assume assignments on a contractual basis. A career or college-level portfolio will be created. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisite: VA914O/H Art IV)*

VA920O ART AESTHETICS/HISTORY**VA920H HONORS ART AESTHETICS/HISTORY**

Full year

One credit

During this course, students will explore a variety of time periods within art history while engaging in group discussion, studio work and the analysis of aesthetics as it relates to the visual arts. Students will gain insight into the innovations and techniques of art making through cultural and historical perspectives. For Honors Course: *Honors Contract requirements must be met to receive weighted grading.*

VA921O 3-D DESIGN AND CRAFTS I

Full year

One credit

Students will explore a wide variety of techniques in mediums such as ceramics, sculpture, fiber and other media. Emphasis will be placed on craftsmanship as well as the elements of art and the principles of design as they apply to the creation of three-dimensional visual art and crafts. The influences of artists from contemporary and historical time periods and cultures will be explored. *(Lab fee is required.)*

VA922O 3-D DESIGN AND CRAFTS II**VA922H HONORS 3-D DESIGN AND CRAFTS II**

Full year

One credit

Students will continue to develop a variety of technical skill in three-dimensional art and craft mediums such as ceramics, sculpture, fiber and other media with an emphasis on student voice and choice. The influences of artists from contemporary and historical time periods and cultures will be explored. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisite: VA921O 3-D Design and Crafts I)*

VA923O 3-D DESIGN AND CRAFTS III**VA923H HONORS 3-D DESIGN AND CRAFTS III**

Full year

One credit

During this course, students will plan an individualized path of study with the art teacher based upon one or more three-dimensional art or craft mediums such as ceramics, sculpture, fiber and other media. Emphasis will be placed on the creative process as students research, plan, create, discuss and exhibit original works of art or craft. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisites: VA925O/H 3-D Design and Crafts II)*

VA926O 3-D DESIGN AND CRAFTS IV**VA926H HONORS 3-D DESIGN AND CRAFTS IV**

Full year

One credit

An advanced course where students plan an individual path of study with the art teacher based upon one or more three-dimensional design or craft media of their choice. Emphasis will be placed on the creative process as students research, plan, create, discuss and exhibit original works of art or craft. Further investigation of visual art careers are explored related to media such as ceramics, sculpture, metal, glass, installation, performance, assemblage, 3-D fabric/fiber arts and other media. A career or college-level portfolio will be created. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee is required.) (Prerequisite: VA925O/H 3-D Design and Crafts III)*

VA931O PHOTO I

Full year

One credit

An introductory course in photography as an art form ranging from the study of pinhole photography, basic film development and photographic processes. Skills and techniques related to 35mm darkroom photography will be explored. *(Requirements: a 35mm SLR camera and lab fee)*

VA932O PHOTO II**VA932H HONORS PHOTO II**

Full year

One credit

Processes and skills covered in Photography I will be reviewed with an emphasis placed on further exploring composition and other creative approaches to photography as an art medium. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Prerequisites: VA931O Photography I or teacher recommendation) (Requirements: a 35mm SLR camera and lab fee)*

VA933O PHOTO III**VA933H HONORS PHOTO III**

Full year

One credit

This course is designed for students who have a special interest and aptitude for photography and are considering this art medium as a possible career choice. Further development of photography skills and techniques will be emphasized with a focus on student choice and voice. A career or college-level portfolio will be created. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Prerequisite: VA932O/H Photography II) (Requirements: a 35mm SLR camera and lab fee)*

VA934O PHOTO IV**VA934H HONORS PHOTO IV**

Full year

One credit

An advanced course is designed for students who have a special interest and aptitude for photography and are considering this art medium as a possible career choice. Refinement of photography skills and techniques will be emphasized with a focus on student choice and voice. A career or college-level portfolio will be created. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Prerequisite: VA933O/H Photography III) (Requirements: a 35mm SLR camera and lab fee)*

VA942O DIGITAL MEDIA AND GRAPHIC DESIGN I

Full year

One credit

An introductory course designed for the student to develop skills within a variety of software applications and tools associated with digital art, content creation and graphic communications. The student will explore the elements of art and the principles of design as they relate to the production of creative and practical digital media. *(Lab fee required.)*

VA9500 DIGITAL MEDIA AND GRAPHIC DESIGN II**VA950H HONORS DIGITAL MEDIA AND GRAPHIC DESIGN II**

Full year

One credit

Students will further develop skill within a variety of software applications and tools associated with digital art, content creation, graphic communications, multimedia and 3-D design. By combining images, using multiple software and new media, students will further their understanding of creative and practical digital media. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee required) (Prerequisites: VA942O/H Digital Media and Graphic Design I)*

VA9530 DIGITAL MEDIA AND GRAPHIC DESIGN III**VA953H HONORS DIGITAL MEDIA AND GRAPHIC DESIGN III**

Full year

One credit

This course is designed for students who have a special interest and aptitude for digital media and graphic design and are considering this field as a possible career choice. Further development of skills and techniques will be emphasized with a focus on student choice and voice. A career or college-level portfolio will be created. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee required) (Prerequisites: VA950O/H Digital Media and Graphic Design II)*

VA9540 DIGITAL MEDIA AND GRAPHIC DESIGN IV**VA954H HONORS DIGITAL MEDIA AND GRAPHIC DESIGN IV**

Full year

One credit

This advanced course is designed for students who have a special interest and aptitude for digital media and graphic design and are considering this field as a possible career choice. Refinement of skills and techniques will be emphasized with a focus on student choice and voice. A career or college-level portfolio will be created. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Lab fee required) (Prerequisites: VA953O/H Digital Media and Graphic Design III)*

VA9510 INDEPENDENT STUDY**VA951H HONORS INDEPENDENT STUDY**

Semester

Half credit

This course is taken in conjunction with an advanced level course, such as Art IV / V, 3-D Design and Crafts IV, Photography IV or Digital Media and Graphic Design IV and with prior permission of the instructor. The objective is to allow advanced level students the opportunity to explore technique and develop proficiency in selected media of their choice. *(Seniors only) (Teacher recommendation required)*

VA952O INDEPENDENT STUDY**VA952H HONORS INDEPENDENT STUDY**

Full year

One credit

This course is taken in conjunction with an advanced level course, such as Art IV / V, 3-D Design and Crafts IV, Photography IV or Digital Media and Graphic Design IV 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 media of their choice. For Honors Course: *Honors Contract requirements must be met to receive weighted grading. (Seniors only) (Teacher recommendation required)*

VA955O FILM/VIDEO I

Full year

One credit

This 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: VA911O Art I, VA931O Photo I, Mass Communications I, Theatre I or teacher recommendation.)*

VA956H HONORS VIDEO PRODUCTION I

Full year

One credit

This course is designed to introduce students to video production as an art form as well as their practical use within a variety of design, broadcasting and commercial applications. Students will learn to edit, produce, film and organize their own videos using a variety of production equipment. *Honors Contract requirements must be met to receive weighted grading.*

VA957H HONORS VIDEO PRODUCTION II

Full year

One credit

This course is designed for students to further develop skills related to video production as an art form as well as their practical use within a variety of design, broadcasting and commercial applications. Students will edit, produce, film and organize their own videos using a variety of video equipment. *Honors Contract requirements must be met to receive weighted grading. (Prerequisites: VA956H Video Production I)*

VA980H ANIMATION I

Full year

One credit

Animation I is an introductory course into the world of Digital Animation where students will learn the 12 basic principles of traditional animation to create engaging character & graphic animations.

(Prerequisite: VA942O Digital Media and Graphic Design 1)

VA981C ANIMATION II**VA981H ANIMATION II**

Full year

One credit

Animation II continues to build upon the basic principles of animation first introduced in Animation I while introducing the student to new techniques of creating character rigs, designing for animation, and exploring further capabilities of Adobe Animate. Students will begin to script their own stories, work with others to record dialogue, and learn the complete process for creating finished animated shorts. Students will also explore more design-oriented styles of animation using motion graphics & music while learning more about employment opportunities in the field of animation/motion graphics.

(Prerequisite: VA980H Animation I)

VA980C ANIMATION III**VA980H ANIMATION III**

Full year

One credit

In Animation III students will apply everything they've learned in Animation I & II to create a finished Senior project that will complete their Animation portfolio and have them prepared to either pursue a career in animation, or to continue their education at the post-secondary level. *(Prerequisite: VA981C/H Animation II)*

VA924H AP 3-D DESIGN AND CRAFTS

Full year

One credit

An advanced course where students plan an individual path of study with the art teacher based upon one or more three-dimensional art or craft media of their choice. Emphasis on the creative process is emphasized as students research, plan, create, discuss and exhibit original works of art or craft. Further investigation of visual art careers are explored related to media such as ceramics, sculpture, metal, glass, installation, performance, assemblage and 3-D fabric/fiber arts and other media. A career or college-level portfolio will be created in fulfilling College Board requirements for advanced placement courses. *(Lab fee is required.) (Prerequisite: VA923O/H 3-D Design and Crafts III or art teacher recommendation)*

VA935H AP 2-D DESIGN AND PHOTOGRAPHY

Full year

One credit

An advanced course where students plan an individual path of study with the art teacher based upon photography techniques, skills and concepts of their choice. Emphasis will be placed on the creative process as students research, plan, create, discuss and exhibit original works of art. A career or college-level portfolio will be created in fulfilling College Board requirements for advanced placement courses. *(Requirements: a 35mm SLR camera and lab fee) (Prerequisites: VA933O/H Photo III and/or instructor approval)*

VA943H AP ART HISTORY

Full year

One credit

An advanced course designed to explore history, aesthetics and culture through works of visual 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 AP STUDIO ART

Full year

One credit

An advanced art course in which the student will plan an individualized path of study with the art teacher. The student will work in-depth with selected art media of their choice while maintaining a process portfolio. A career or college-level portfolio will be created in fulfilling College Board requirements for advanced placement courses. *(Prerequisites: VA913O/H Art III or art teacher recommendation) (Lab fee required)*

VA945H AP 2-D DESIGN AND DIGITAL MEDIA

Full year

One credit

An advanced course in which the student will plan an individualized path of study with the art teacher. The student will work in-depth in a variety of digital art making tools while maintaining a process portfolio. A career or college-level portfolio will be created in fulfilling College Board requirements for advanced placement course. *(Lab fee required) (Prerequisites: VA950O/H Digital Media and Graphic Design II or teacher recommendation)*

DE955D COLLEGE FILM APPRECIATION

Semester

Half Credit

This course is designed to provide students with an understanding of film as an art form through the viewing, analysis, and discussion of works from a variety of historical and cultural perspectives. *(Align with Brightpoint Community College's CST151: Three credits)*

DE962D COLLEGE DRAWING

Semester

Half Credit

This course is designed for students to develop drawing skills in a variety of artistic media with an emphasis on visual language through both studio instruction and lecture. Drawing concepts explored include proportion, space, perspective, tone and composition. *(Align with Brightpoint Community College: Three credits)*

DE963D COLLEGE PAINTING

Semester

Half Credit

This course is designed for students to develop painting skills in a variety of artistic media with an emphasis on value, color, composition and technique through both studio instruction and lecture. *(Align with Brightpoint Community College: Three credits)*

World Language

Secondary World Language

WL006O INTERNATIONAL STUDIES 6 EXPLORATORY

WL063O/WL065O INTERNATIONAL STUDIES (Year)

WL064O INTERNATIONAL STUDIES (Semester)

Full year, semester, or quarterly in middle schools only

Students will be introduced to a variety of languages offered in CCPS (French, Spanish, German, Latin, Chinese, Japanese). Each thematic unit makes world connections to language and culture, with basic vocabulary and Project Based Learning elements allowing students to make global connections. The use of technology is encouraged to implement and enhance the students' connection to the world.

WL511C FRENCH 1

Full year

One credit

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy. Instructed in at least 90% French, thematic modules range from greeting & introductions, my interests, my family, about my school and spending time with friends. Successful students will exit the course with a Novice-Mid or higher language proficiency level aligned with the Virginia Standards of Learning and ACTFL proficiency scale.

WL512C FRENCH 2

WL512H HONORS FRENCH 2

Full year

One credit

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy. Instructed in at least 90% French, thematic modules continue to expand to shopping, entertainment and social media, celebrations, daily life and health & wellness. Successful students will exit the course with a Novice-Mid or higher in Presentational Speaking and Novice-High or higher proficiency levels in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL511C French 1*)

WL513C FRENCH 3**WL513H HONORS FRENCH 3**

Full year

One credit

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy. Instructed in at least 90% French, thematic modules continue to expand to relationships, the arts, travel, past events, expressing opinions and future careers. Successful students will exit the course with a Novice-High in Presentational Speaking and Intermediate-Low or higher language proficiency level aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL512C/1H French 2*)

WL514C FRENCH 4**WL514H HONORS FRENCH 4**

Full year

One credit

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy, taught in French. Successful students will exit the course with an Intermediate-Low in Presentational Speaking and an Intermediate-Mid proficiency level in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL513C/H French 3*)

WL515C FRENCH 5**WL515H HONORS FRENCH 5**

Full year

One credit

Students increase their understanding of contemporary literature, historical and cultural contexts as they address current social problems and solutions, using all modes of communication, including intercultural communication, and communicative literacy in French. Successful students will exit this course with an Intermediate-Mid proficiency in Presentational Speaking and Intermediate-High or higher in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL514C/H French 4*)

WL516C FRENCH 6**WL516H HONORS FRENCH 6**

Full year

One credit

This World Language course expands language proficiency in all modes of communication, including intercultural communication, and communicative literacy. Classes are taught entirely in French, using authentic resources and touching on contemporary, francophone topics. Successful students exit this course with an Intermediate-High proficiency in Presentational Speaking and an Advanced-Low proficiency in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL515C/H French 5*)

WL519H HONORS FRENCH 7

Full year

One credit

This course continues to expand communicative skills, literary exposure and cultural awareness. 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. Successful students exit this course with an Advanced-Low in Presentational Speaking and an Advanced-Mid proficiency in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL516C/H French 6*)

WL517H AP FRENCH LANGUAGE

Full year

One credit

The goal of this course is to achieve a high level of proficiency in all modes of communication, including intercultural communication and communicative literacy. Students prepare to succeed on the AP French Language exam with a score of 3 or higher. An AP score of 3 or higher qualifies the student for the Seal of Biliteracy. The classes are conducted in French. (*Prerequisite: WL514C, WL514H or higher*)

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. (*Prerequisite: WL514C/H French 4*) (*Aligns with Brightpoint Community College's FRE201/202: Six credits*)

WL521C GERMAN 1*Full year**One credit*

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy. Instructed in at least 90% German, thematic modules range from greeting & introductions, my interests, my family, about my school and spending time with friends. Successful students will exit the course with a Novice-Mid or higher language proficiency level aligned with the Virginia Standards of Learning and ACTFL proficiency scale.

WL522C GERMAN 2**WL522H HONORS GERMAN 2***Full year**One credit*

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy. Instructed in at least 90% German, thematic modules continue to expand to shopping, entertainment and social media, celebrations, daily life and health & wellness. Successful students will exit the course with a Novice-Mid or higher in Presentational Speaking and Novice-High or higher proficiency levels in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL521C German 1*)

WL523C GERMAN 3**WL523H HONORS GERMAN 3***Full year**One credit*

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy. Instructed in at least 90% German, thematic modules continue to expand to relationships, the arts, travel, past events, expressing opinions and future careers. Successful students will exit the course with a Novice-High in Presentational Speaking and Intermediate-Low or higher language proficiency level aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL522C/H German 2*)

WL524C GERMAN 4**WL524H HONORS GERMAN 4***Full year**One credit*

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy, taught in German. Successful students will exit the course with an Intermediate-Low in Presentational Speaking and an Intermediate-Mid proficiency level in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL523C/H German 3*)

WL525C GERMAN 5**WL525H HONORS GERMAN 5**

Full year

One credit

Students increase their understanding of contemporary literature, historical and cultural contexts as they address current social problems and solutions, using all modes of communication, including intercultural communication, and communicative literacy in German. Successful students will exit this course with an Intermediate-Mid proficiency in Presentational Speaking and Intermediate-High or higher in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale.

(Prerequisite: WL524C/H German 4)

WL526C GERMAN 6**WL526H HONORS GERMAN 6**

Full year

One credit

This World Language course expands language proficiency in all modes of communication, including intercultural communication, and communicative literacy. Classes are taught entirely in German, using authentic resources and touching on contemporary, German topics. Successful students exit this course with an Intermediate-High proficiency in Presentational Speaking and an Advanced-Low proficiency in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale.

(Prerequisite: WL525C/H German 5)

WL529H HONORS GERMAN 7

Full year

One credit

This course continues to expand communicative skills, literary exposure, and cultural awareness. 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. Successful students exit this course with an Advanced-Low in Presentational Speaking and an Advanced-Mid proficiency in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. *(Prerequisite: WL526C/H German 6)*

WL527H AP GERMAN LANGUAGE

Full year

One credit

The goal of this course is to achieve a high level of proficiency in all modes of communication, including intercultural communication and communicative literacy. Students prepare to succeed on the AP German Language exam with a score of 3 or higher. An AP score of 3 or higher qualifies the student for the Seal of Biliteracy. The classes are conducted in German. *(Prerequisite: WL524C/H or higher)*

WL531C LATIN 1*Full year**One credit*

This Classical World Language course focuses on all modes of communication. Successful students will exit the course with a Novice-Mid or higher language proficiency level in the interpretive listening, interpersonal and presentational mode of communication, and at the Novice-High at the interpretive reading mode, aligned with the Virginia Standards of Learning and ACTFL proficiency scale.

WL532C LATIN 2**WL532H HONORS LATIN 2***Full year**One credit*

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 for interpretive reading and a Novice-Mid proficiency level or higher for all other modes of communication, aligned with the Virginia Standards of Learning and ACTFL proficiency scale.
(Prerequisite: WL531C Latin 1)

WL533C LATIN 3**WL533H HONORS LATIN 3***Full year**One credit*

The third level reviews and completes the study of grammar and 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. Successful students will exit the course with an Intermediate-Mid proficiency level for interpretive reading, Novice-High for interpretive listening & presentational writing and a Novice-Mid proficiency level or higher for all other modes of communication, aligned with the Virginia Standards of Learning and ACTFL proficiency scale.
(Prerequisite: WL532C/H Latin 2)

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. Successful students will exit the course with an Intermediate-High proficiency level for interpretive reading, Intermediate-Low for interpretive listening & presentational writing and a Novice-Mid\High proficiency level or higher for all other modes of communication, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL533C/H 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. Successful students will exit the course with an Advanced-Low proficiency level for interpretive reading, Intermediate-Low for interpretive listening, Intermediate-Mid for presentational writing and a Novice-Mid proficiency level or higher for all other modes of communication, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL534C/H 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. Successful students will exit the course with an Advanced-Mid proficiency level for interpretive reading, Intermediate-Low for interpretive listening, Intermediate-High for presentational writing and a Novice-Mid proficiency level or higher for all other modes of communication, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL535C/H Latin 5*)

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: WL536C/H Latin 6)

WL538H 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. Students with a score of 3 or higher on the AP Latin Language Exam qualify for the Seal of Biliteracy. *(Prerequisites: WL534C/H Latin 4)*

WL541C SPANISH 1

Full year

One credit

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy. Instructed in at least 90% Spanish, thematic modules range from greeting & introductions, my interests, my family, about my school and spending time with friends. Successful students will exit the course with a Novice-Mid or higher language proficiency level aligned with the Virginia Standards of Learning and ACTFL proficiency scale.

WL542C SPANISH 2**WL542H HONORS SPANISH 2**

Full year

One credit

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy. Instructed in at least 90% Spanish, thematic modules continue to expand to shopping, entertainment and social media, celebrations, daily life and health & wellness. Successful students will exit the course with a Novice-Mid or higher in Presentational Speaking and Novice-High or higher proficiency levels in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. *(Prerequisite: WL541C Spanish 1)*

WL543C SPANISH 3**WL543H HONORS SPANISH 3**

Full year

One credit

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy. Instructed in at least 90% Spanish, thematic modules continue to expand to relationships, the arts, travel, past events, expressing opinions and future careers. Successful students will exit the course with a Novice-High in Presentational Speaking and Intermediate-Low or higher language proficiency level aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL542C/H Spanish 2*)

WL544C SPANISH 4**WL544H HONORS SPANISH 4**

Full year

One credit

This World Language course focuses on all modes of communication, including intercultural communications, and communicative literacy, taught in Spanish. Successful students will exit the course with an Intermediate-Low in Presentational Speaking and an Intermediate-Mid proficiency level in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. (*Prerequisite: WL543C/H Spanish 3*)

WL545C SPANISH 5**WL545H HONORS SPANISH 5**

Full year

One credit

Students increase their understanding of contemporary literature, historical and cultural contexts as they address current social problems and solutions, using all modes of communication, including intercultural communication, and communicative literacy in Spanish. Successful students will exit this course with an Intermediate-Mid proficiency in Presentational Speaking and Intermediate-High or higher in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale (*Prerequisite: WL544C/H Spanish 4*)

WL546C SPANISH 6**WL546H HONORS SPANISH 6**

Full year

One credit

This World Language course expands language proficiency in all modes of communication, including intercultural communication, and communicative literacy. Classes are taught entirely in Spanish, using authentic resources and touching on contemporary, Spanish topics. Successful students exit this course with an Intermediate-High proficiency in Presentational Speaking and an Advanced-Low proficiency in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale.

(Prerequisite: WL545C/H Spanish 5)

WL550H HONORS SPANISH 7

Full year

One credit

This course continues to expand communicative skills, literary exposure and cultural awareness. 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. Successful students exit this course with an Advanced-Low in Presentational Speaking and an Advanced-Mid proficiency in all other modes, aligned with the Virginia Standards of Learning and ACTFL proficiency scale. *(Prerequisites: WL546C, or WL546H or WL548H)*

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: Novice-High interpersonal speaking proficiency in Spanish, novice-mid 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: WL561C Heritage Spanish 1 or equivalent language proficiency)*

WL563C HERITAGE SPANISH LANGUAGE 3**WL563H HONORS 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: WL562C/H Heritage Spanish Language 2)

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: WL543C/H Spanish 3)*

WL581H HONORS WORLD LANGUAGE CADET

Full year

One credit

Students who have completed at least four years of a World Language may serve as a World Language Cadet. This student would be embedded with another level of Spanish with the goal of continuing to grow their own proficiency in the target language while also growing the proficiency of the students they are mentoring. Students are recommended for this course by their previous World Language teachers.

IS576O SPANISH LEARNING LAB

One credit

This course is only available for students who study in a Spanish-speaking country during the summer. Students will immerse themselves in the culture, deepening their appreciation for the Spanish language and culture through authentic and meaningful learning experiences while studying abroad. Additional coursework and expectations are required beyond the travel/study component.

WL547H 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: WL545C/H Spanish V or higher*)

WL548H 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: WL547H AP Spanish Language*)

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. (*Aligns with Brightpoint Community College's SPA101/102: Six credits*)

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, student's progress to an intermediate-high level of proficiency in this college-level course. (*Prerequisite: WL544C or WL544H or DE563D*) (*Aligns with Brightpoint Community College's SPA201/202: Six credits*)

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. Successful students exit the course with Novice-Mid proficiency level in interpersonal speaking and a Novice-Low proficiency level in all other modes of communication, aligned with the Virginia Standards of Learning and the ACTFL proficiency scale.

WL568C CHINESE 2*Full year**One credit*

Students continue to expand their language proficiency and knowledge of Chinese culture 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. Successful students will exit the course with a Novice-High proficiency level in interpersonal speaking and Novice-Mid in all other modes of communication, aligned with the Virginia Standards of Learning and the ACTFL proficiency scale. (*Prerequisite: WL567C Chinese 1*)

WL5800 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.

WL5810 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.

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. Successful students exit the course with Novice-Mid proficiency level in interpersonal speaking and a Novice-Low proficiency level in all other modes of communication, aligned with the Virginia Standards of Learning and the ACTFL proficiency 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. Successful students will exit the course with a Novice-High proficiency level in interpersonal speaking and Novice-Mid in all other modes of communication, aligned with the Virginia Standards of Learning and the ACTFL proficiency scale. (*Prerequisite: WL551C 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 an Intermediate-Low proficiency level in interpersonal speaking, and Novice-Mid or higher in all other modes of communication, aligned with the Virginia Standards and the ACTL proficiency scale. (*Prerequisite: WL552C/H Japanese 2*)

WL554H HONORS JAPANESE 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-Mid proficiency level in interpersonal speaking and Intermediate-Low in all other modes of communication, aligned with the Virginia Standards and the ACTL proficiency scale. (*Prerequisite: WL553C/H 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. Students will focus on communicative competence. Students exit with a Novice-Mid proficiency for interpretive (receptive-fingerspelling), interpersonal and expressive presentational mode, at Novice-Low for glossing, and Novice-High on the receptive interpretive, aligned with the Virginia Standards and the ACTFL proficiency scale.

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 exit with a Novice-High proficiency for interpretive (receptive-fingerspelling), interpersonal and expressive presentational mode, at Novice-Mid for glossing, and Intermediate-Low on the receptive interpretive, aligned with the Virginia Standards and the ACTFL proficiency scale. (*Prerequisite: WL590C 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. Students exit with an Intermediate-Low proficiency for interpretive (receptive-fingerspelling), interpersonal and expressive presentational mode, at Novice-High for glossing, and Intermediate-Mid on the receptive interpretive, aligned with the Virginia Standards and the ACTFL proficiency scale. (*Prerequisites: WL590C American Sign Language 1 and WL595C American Sign Language 2*)

English as a Second Language

Middle School English as a Second Language

ES1040 ESL NEWCOMER

Full year

One credit

This course is designed for English Learners (ELs) who have attended US schools for 12 months or less with an English language proficiency level of 1. Listening, speaking, reading, and writing skills are developed and aligned with WIDA English Language Development (ELD) Standards. Through differentiated instruction and scaffolded support, ELs will demonstrate progress in English language development and academic achievement.

ES1200 ACCELERATING LANGUAGE THROUGH LITERACY

Full year

This interdisciplinary course is designed to expose ELs who are at developing and expanding levels of language development to academic vocabulary. The content of literacy will be explored and presented through the four language domains (Listening, Speaking, Reading and Writing) and differentiated interactions. Skills within the four domains are developed and aligned with WIDA English Language Development (ELD) Standards.

ES1650 ACCELERATING LANGUAGE THROUGH MATHEMATICS

Full year

This interdisciplinary course is designed to expose ELs who are at developing and expanding levels of language development to math academic vocabulary. This course is aligned with grade-level standards and focuses on building fundamental math skills through language domains.

ES1700 ENGLISH FOR ACADEMIC PURPOSES

Full year

This course is designed to provide ELs remedial and supplemental support across content areas.

High School English as a Second Language

ES1040 ESL NEWCOMER

Full year

One credit

This course is designed for English Learners (ELs) who have attended US schools for 12 months or less with an English language proficiency level of 1. Listening, speaking, reading, and writing skills are developed and aligned with WIDA English Language Development (ELD) Standards. Through differentiated instruction and scaffolded support, ELs will demonstrate progress in English language development and academic achievement.

ES1240 ACCELERATING LANGUAGE THROUGH LITERACY I

Full year

One credit

This course is designed to expose ELs who are at entering and beginning levels of language proficiency to literacy. Literacy components are explored with an emphasis on phonological awareness, phonics, vocabulary, fluency and writing. Language acquisition skills are developed in alignment with WIDA English Language Development (ELD) Standards.

ES1250 ACCELERATING LANGUAGE THROUGH LITERACY II

Full year

One credit

This course is designed to expose ELs who are at beginning and developing levels of language proficiency to literacy. This course is intended to extend reading skills with a continued focus on vocabulary development and academic language. This class will place an emphasis on the receptive language domains of reading and listening comprehension in alignment with WIDA English Language Development (ELD) Standards.

ES2650 ACCELERATING LANGUAGE THROUGH MATH

Full year

One credit

This course is designed to prepare beginning level English learners for courses in math. 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.

ES1320 ACCELERATING LANGUAGE THROUGH SCIENCE*Full year**One credit*

This course is designed to prepare beginning level English learners for courses in 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 science.

ES1420 LANGUAGE AND CULTURE*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.

ES1560 HILD LITERACY*Full year**One credit*

This High Intensive Language Development (HILD) 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. Basic interpersonal communication skills are emphasized with introductory academic vocabulary development. This course will prepare students to transition to core content classes.

ES1590 HILD 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.

ES1570 HILD SCIENCE*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. 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.

ES1580 HILD SOCIAL STUDIES*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.

ES2700 ENGLISH FOR ACADEMIC PURPOSES*Full year**One credit*

This course is designed to provide remedial and supplemental support across content areas.

ES0280 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.

Special Education

Middle School Special Education

Special education courses are available for students with an Individualized Education Program (IEP). The following courses are designed to meet the unique educational needs of students with an IEP.

IP1060 FOUNDATIONS OF LANGUAGE ARTS 6

IP1070 FOUNDATIONS OF LANGUAGE ARTS 7

IP1080 FOUNDATIONS OF LANGUAGE ARTS 8

Full year

This course is designed for students assessed on the Virginia Essentialized Standards of Learning (VESOL). Emphasis will be placed on the Middle School Reading VESOLs, which include word analysis strategies and comprehension of fictional and nonfictional texts. Emphasis will also be placed on Writing, which includes researching, planning, composing, revising and editing for a variety of purposes. In addition, the curriculum will focus on building vocabulary, basic reading and reading fluency to improve written communication skills. This course will provide instruction that is individualized to meet the specific reading needs of each student.

IP1140 ESSENTIAL READING 1

IP2140 ESSENTIAL READING 2

IP3140 ESSENTIAL READING 3

Full year

This course is designed for students assessed on the Standards of Learning (SOL). The course will provide basic reading instruction that addresses phonological awareness and phonics. Enrollment in this course is an IEP team decision. This course will provide instruction that is individualized to meet the specific basic reading needs of each student. Students should take this elective course in sequence.

IP3060 FOUNDATIONS OF MATH 6

IP3070 FOUNDATIONS OF MATH 7

IP3080 FOUNDATIONS OF MATH 8

Full year

This course is designed for students assessed on the VESOLs. Emphasis will be placed on the Middle School Math VESOLs, which include number, number sense, computation, estimation, measurement, Geometry, probability, statistics, patterns, functions and Algebra. Students will also practice basic math skills and operations, including whole numbers, fractions, decimals, percents and measurements. This course will provide instruction that is individualized to meet the specific math needs of each student.

IP2060 FOUNDATIONS OF SOCIAL STUDIES 6**IP2070 FOUNDATIONS OF SOCIAL STUDIES 7****IP2080 FOUNDATIONS OF SOCIAL STUDIES 8**

Full year

This course is designed for students assessed on the Virginia Aligned Standards of Learning. Emphasis will be placed on the Middle School History/Social Science which include Virginia history, American history, geography, economics and 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. This course will provide instruction that is individualized to meet the specific needs of each student.

IP4060 FOUNDATIONS OF SCIENCE 6**IP4070 FOUNDATIONS OF SCIENCE 7****IP4080 FOUNDATIONS OF SCIENCE 8**

Full year

This course is designed for students assessed on the VESOLs. Emphasis will be placed on the Middle School Science VESOLs, which includes force, motion, energy and life systems, ecosystems, Earth and space systems. Students will also engage in basic concepts of health, ecology, biology and geography that can be applied to everyday living. This course will provide instruction that is individualized to meet the specific needs of each student.

IP0519 SOCIAL SKILLS 6**IP0529 SOCIAL SKILLS 7****IP0530 SOCIAL SKILLS 8**

Full year

This course is designed to provide strategies in developing the student's ability to use thinking and social skills to cope with personal and interpersonal relations. Students will learn a variety of social skills necessary for successful interaction in all environments. Students will demonstrate an understanding of appropriate adult and peer relations, conflict resolution and problem-solving strategies. This course will also align with the student's individual need for social skills based on their IEP goals and objectives.

IP0540 PRE-VOCATIONAL SKILLS 6**IP0550 PRE-VOCATIONAL SKILLS 7****IP0560 PRE-VOCATIONAL SKILLS 8**

Full year

This course is designed for students assessed on the VESOLs. Emphasis will be placed on the exploration and investigation of career opportunities. Students will 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.

HP701O ADAPTIVE PHYSICAL EDUCATION 6-8

Full year

This course is designed for students who require an adaptive physical education experience as outlined in the student's IEP addressing the child's unique needs. 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).

High School Special Education

Special education courses are available for students with an Individualized Education Program (IEP). The following courses are designed to meet the unique educational needs of students with an IEP.

IP9090 APPLIED ENGLISH 9

IP9100 APPLIED ENGLISH 10

IP9110 APPLIED ENGLISH 11

IP9120 APPLIED ENGLISH 12

Full year

One credit

This course is designed for students assessed on the Virginia Essentialized Standards of Learning (VESOL). Emphasis will be placed on the high school reading VESOLs, which include word analysis strategies and comprehension of fictional and nonfictional texts. In addition, the curriculum will focus on building vocabulary, basic reading and reading fluency to improve written communication skills. This course will provide instruction that is individualized to meet the specific reading needs of each student.

IP101C 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 purposeful integration of reading and writing practices. 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 also assist in building vocabulary and improve written communication needed in real-life situations. This course will provide instruction that is individualized to meet the specific reading needs of each student.

IP134C ESSENTIAL READING I

IP234C ESSENTIAL READING II

IP334C ESSENTIAL READING III

Full year

One credit

This course is designed for students assessed on the Standards of Learning (SOL). The course will provide basic reading instruction that addresses phonological awareness and phonics. Enrollment in this course is an IEP team's decision. This course will provide instruction that is individualized to meet the specific basic reading needs of each student. Students should take this elective course in sequence.

IP5090 APPLIED MATH 9**IP5100 APPLIED MATH 10****IP5110 APPLIED MATH 11****IP5120 APPLIED MATH 12**

Full year

One credit

This course is designed for students assessed on the VESOLs. Emphasis will be placed on the high school Math VESOLs, which include expressions and operations, equations and inequalities and functions. Students will also practice basic math skills and operations, including whole numbers, fractions, decimals, percentages and measurements. This course will provide instruction that is individualized to meet the specific math needs of each student.

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, percentages and other skills related to real-world scenarios in the home and community. This course will provide instruction that is individualized to meet the specific math needs of each student.

IP2090 SOCIAL STUDIES 9**IP2100 SOCIAL STUDIES 10****IP2110 SOCIAL STUDIES 11****IP2120 SOCIAL STUDIES 12**

Full year

One credit

This course is designed for students assessed on the Aligned Standards of Learning. Emphasis will be placed on the High School History/Social Science Aligned Standards of Learning, which includes World and United States History, geography, economics and civics. Course objectives also focus on improving time management, comprehension, memory, note taking, study and test taking skills. This course will provide instruction that is individualized to meet the specific needs of each student.

IP8090 SCIENCE 9**IP8100 SCIENCE 10****IP8110 SCIENCE 11****IP8120 SCIENCE 12***Full year**One credit*

This course is designed for students assessed on the VESOLs. Emphasis will be placed on the High School Science VESOLs, which includes life at the molecular/cellular and systems/organisms levels and interactions of life forms and ecosystem dynamics. Students will also engage in basic concepts of health, ecology and biology that can be applied to everyday living. This course will provide instruction that is individualized to meet the specific needs of each student.

IP133C STUDY SKILLS I*Full year**One credit*

This course is designed to provide instruction on study skills and strategies that will enhance student performance in general and vocational courses. Students will learn strategies and skills to improve outcomes on assignments from content classes. Emphasis will be placed on understanding content material, test-taking strategies, organizational skills, accessing and utilizing resource materials for oral and written projects and developing technology and self-advocacy skills. This course will also align with the student's individual need for study skills based on their Individualized Education Program (IEP) goals and objectives. This course is designed as an elective credit for students with an IEP and does not meet requirements for any content area.

IP139C STUDY SKILLS II*Full year**One credit*

This course is designed to be a continuation of IP133C Study Skills I. Course objectives include an extension of test-taking strategies, organizational skills, accessing and utilizing resource materials for oral and written projects and developing technology and self-advocacy skills. Emphasis will be placed on methods of research, use of technology, learning strategies and higher order thinking skills as they relate to academic courses. This class will also align with the student's individual need for study skills based on their Individualized Education Program (IEP) goals and objectives. This course is designed as an elective credit for students with an IEP and does not meet requirements for any content area.

IP790C SOCIAL SKILLS I*Full year**One credit*

This course is designed to provide instruction in social skills development. Emphasis will be placed on strategies to improve the student's ability to use thinking and social skills to cope with personal and interpersonal relations and behaviors. This course will also align with the student's individual need for social skills based on their IEP goals and objectives. This course is designed as an elective credit for students with an IEP and does not meet requirements for any content area.

IP791C SOCIAL SKILLS 2*Full year**One credit*

This course is designed to be a continuation of IP790C Social Skills I. Course objectives include an extension of social skills development. Emphasis will be placed on methods of research, use of technology, learning strategies and higher order thinking skills as they relate to problem solving and interpersonal relations. This course will also align with the student's individual need for social skills based on their Individualized Education Program (IEP) goals and objectives. This class is designed as an elective credit for students with an IEP and does not meet requirements for any content area.

HPO 0700 ADAPTIVE PHYSICAL EDUCATION 9-12*Full year**One credit*

This course is designed for students who require an adaptive physical education experience as outlined in the student's IEP addressing the child's unique needs. 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.)

IP780C EMPLOYABILITY SKILLS*Full year**One credit*

This course is designed to provide instruction in self-determination and self-advocacy skills needed for successful employment. Emphasis will be placed on real-world activities designed to expose and prepare students for 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.

IP788C TRANSITION TO EMPLOYMENT

Full year

One credit

This course is designed to provide workplace readiness skills and instruction needed for successful employment. Emphasis will be placed on job acquisition skills which include matching individual skills with job requirements, and identifying and practicing work related behaviors within the school and community settings. Instruction will focus on a postsecondary employment goals in the student's IEP. This course is designed as an elective for students with an IEP. *(IP780C EMPLOYABILITY SKILLS is a prerequisite for this course)*

IP801C COMMUNITY SKILLS

Full year

One credit

This course is designed to provide instruction on developing functional skills needed to be successful in the community. It includes reading signs, using skills that facilitate participation in community activities and money management. This course will align with the student's individual need for functional skills based on their IEP goals.

IP802C RECREATION AND LEISURE SKILLS

Full year

One credit

This course is designed to provide instruction on developing age-appropriate interpersonal relations and communication/language skills necessary in a variety of environments. This course will align with the student's individual need for functional skills based on their IEP goals.

IP886C LIFE SKILLS

Full year

One credit

This course is designed to provide instruction and foundational skills that will enable students to be independent in the home, community and workplace to include self-determination, goal setting and communication/language skills necessary in a variety of environments. Students will be instructed on how to work with others, care for their personal needs, make responsible expenditures and utilize community resources. This course will align with the student's individual need for functional skills based on their Individualized Education Program (IEP) goals and objectives.

IP885C INDEPENDENT LIVING*Full year**One credit*

This course is designed to 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/language skills necessary in a variety of environments. Instruction will focus on a student's individualized independent living goal and the necessary steps to achieve that goal. This course will align with the student's individual need for functional skills based on their Individualized Education Program (IEP) goals and objectives.

IP7700 PROJECT SEARCH: OCCUPATIONAL ORIENTATION*Full year**One credit*

Students who enroll in this course are selected through an application process. Project SEARCH Transition-to-Work Program is a one-year business-led employment preparation program where students rotate through interest-based internships within a community employment site. This course provides employment and educational opportunities for students with disabilities. The course is a collaborative effort with agencies that support students achieve postsecondary employment goals.

IP7710 LIFE ACADEMY: OCCUPATIONAL ORIENTATION*Full year**One credit*

Students who enroll in this course are selected through an application process. LIFE Academy is an extended transition program for students with disabilities that provides authentic, structured work experiences and educational opportunities in a community-based environment. The program is dedicated to workforce development that benefits the individual, community and workplace. It is based on a collaborative effort with agencies that support students achieve postsecondary employment goals.

Additional Offerings and Programs

The AVID Program

Advancement via Individual Determination (AVID) is an academic elective course focused on developing college and career readiness skills and student agency. Students participate in activities that incorporate strategies focused on writing, inquiry, collaboration, organization, and reading to support their academic growth. Academic instruction includes guest-speaker presentations, field-trip opportunities, and research to increase their knowledge of college and career options.

AVID Excel is a branch of the AVID Program designed specifically to accelerate academic language acquisition and literacy development for 7th and 8th grade students identified as long-term English learners. The goal of the program is to prepare the students for high school AVID and college preparatory coursework. Academic instruction includes guest-speaker presentations, field-trip opportunities, and research to increase student knowledge of college and career options.

COURSES

TR6000 AVID ELECTIVE 6th GRADE

Full Year

Students will increase their awareness of college and careers and the values accompanying academic goals and success. The course will focus on building students' self-confidence, communication skills, and academic reading and writing skills. *(Prerequisites: Teacher/Counselor recommendations, application, and interview.)*

TR7000 AVID ELECTIVE 7TH GRADE

Full Year

Students build upon the foundational components of the AVID philosophy by taking an active role in their learning. They engage in self- and peer evaluations, refine short-and long-term goals, and develop intra- and interpersonal skills. Academic skill development focuses on academic writing and note-taking in relation to studying and test preparation. *(Prerequisites: Successful completion of AVID 6th grade and/or Teacher/Counselor recommendations, application, and interview.)*

TR8000 AVID ELECTIVE 8TH GRADE

Full Year

Students transition from active learners to leaders and refine previous goals focusing on their transition to high school as part of their pathway to college. Students will broaden their academic skills by completing all steps of the writing process, expanding test-preparation and test-taking knowledge, and developing and utilizing reading strategies to access advanced texts. *(Prerequisites: Successful completion of AVID 7th grade and/or Teacher/Counselor recommendations, application, and interview.)*

TR7010 AVID EXCEL ELECTIVE 7TH GRADE

Full Year

Students begin to prepare for rigorous high school coursework by taking control of their learning and language building and supports our English Learners. Classroom instruction focuses on reading, writing, oral language, academic vocabulary, study skills, and self-determination and leadership. *(Prerequisites: Teacher/Counselor recommendations, application, and interview.)*

TR8100 AVID EXCEL ELECTIVE 8TH GRADE

Full Year

Students continue to prepare for rigorous high school coursework by building upon their academic language and leadership skills acquired in the 7th grade and support our English Learners. Classroom instruction focuses on reading, writing, oral language, academic vocabulary, study skills, and self-determination and leadership. *(Prerequisites: Successful completion of AVID Excel 7th grade and/or Teacher/Counselor recommendations, application, and interview.)*

TR811H AVID ELECTIVE 1 9TH GRADE

Full Year

One credit

Students will develop and/or refine academic and personal goals, communication and study skills, and test-taking, note-taking, and research techniques. Academic instruction will emphasize analytical and thesis writing as well as collegial discussions using sources to support ideas and opinions. Their college research will include financial topics and knowledge of colleges and careers of interest. *(Prerequisites: Successful completion of AVID 8th grade and/or Teacher/Counselor recommendations, application, and interview.)*

TR812H AVID ELECTIVE 2 10TH GRADE

Full Year

One credit

Students will continue to refine and adjust their academic learning plans and goals while increasing their participation in rigorous courses and school/community activities. Academic instruction will focus on the development of a writing portfolio, analytical reading and writing, vocabulary expansion, and collaborative discussions. 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.)*

TR813H AVID ELECTIVE 3 11TH GRADE

Full Year

One credit

The 11th grade AVID Elective course is the first 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 also engage in activities designed to support them when they apply to colleges and confirm their postsecondary plans. *(Prerequisites: Successful completion of AVID 10th grade and/or Teacher/Counselor recommendations, application, and interview.)*

TR814H AVID ELECTIVE 4 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 and develop and present a portfolio representing their years of work in the AVID program. Students will continue to participate in activities designed to support them as they apply to colleges and confirm their postsecondary plans. *(Prerequisites: Successful completion of AVID 11th grade and/or Teacher/Counselor recommendations, application, and interview.)*

For Gifted Students in Middle School

ER0610 ACADEMIC SUCCESS AND ENRICHMENT (GRADE 6)

ER0710 ACADEMIC SUCCESS AND ENRICHMENT (GRADE 7)

ER0810 ACADEMIC SUCCESS AND ENRICHMENT (GRADE 8)

Semester

ER0060 ACADEMIC SUCCESS AND ENRICHMENT (GRADE 6)

ER0070 ACADEMIC SUCCESS AND ENRICHMENT (GRADE 7)

ER0080 ACADEMIC SUCCESS AND ENRICHMENT (GRADE 8)

Full Year

Academic Success and Enrichment (ASE) provides opportunities for middle school CBG students to learn more about themselves, to deepen their knowledge through authentic research, 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 how they will lead change in a society throughout their lives.

The Summit Learning Program

The Summit Learning Program is an academic platform that teaches through projects, fosters lifelong learning habits, and mentors students while also teaching the Virginia Standards of Learning. Students receive instruction that utilizes an adaptable platform that helps teachers guide students with weekly one-on-one meetings. Families are able to opt their students into Summit Learning if it is offered at the middle or high school. Summit courses begin with the course code **SU** on a student's schedule.

Additional Course Offerings

TR0060 LEADERSHIP 6 / TR0160 LEADERSHIP 6 / TR0260 LEADERSHIP 6

Full year / Quarter / Semester

This introductory elective course is designed to familiarize students with the characteristics and styles of leadership. Students will be encouraged to actively pursue leadership roles in all of their classes, such as modeling proper behavior for peers, assisting the teacher with classroom tasks, and spearheading grade-level activities. This course may be included as part of a larger school-wide leadership program.

TR0070 LEADERSHIP 7 / TR0270 LEADERSHIP 7*Full year / Semester*

This elective course will emphasize leadership throughout the school. Students will be encouraged to pursue leadership roles in the school. Such roles may include assisting administrators with school-wide functions, running for office, or helping with the day-to-day school activities. Communication skills will also be emphasized as a good leader communicates his/her message effectively and in a way that captures others' interest. Students may participate in public speaking and persuasive writing activities. This course may be included as part of a larger school-wide leadership program.

TR0080 LEADERSHIP 8 / TR0280 LEADERSHIP 8*Full year / Semester*

This elective course will emphasize leadership throughout the school. Students will be encouraged to pursue leadership roles in the school. Such roles may include assisting administrators with school-wide functions, running for office, or helping with the day-to-day school activities. Communication skills will also be emphasized as a good leader communicates his/her message effectively and in a way that captures others' interest. Students may participate in public speaking and persuasive writing activities. This course may be included as part of a larger school-wide leadership program.

ER6000 MS FLEX BLOCK*Full year*

Middle School Flex Block is a non-graded period designed to provide time for school wide activities, such as acceleration or remediation opportunities and Promote Respect, PBIS, or other Core Values-related lessons. Students will collaborate, receive teacher support, and make connections to the core curriculum. This course is for 6th grade students.

ER7000 MS FLEX BLOCK*Full year*

Middle School Flex Block is a non-graded period designed to provide time for school wide activities, such as acceleration or remediation opportunities and Promote Respect, PBIS, or other Core Values-related lessons. Students will collaborate, receive teacher support, and make connections to the core curriculum. This course is for 7th grade students.

ER8000 MS FLEX BLOCK*Full year*

Middle School Flex Block is a non-graded period designed to provide time for school wide activities, such as acceleration or remediation opportunities and Promote Respect, PBIS, or other Core Values-related lessons. Students will collaborate, receive teacher support, and make connections to the core curriculum. This course is for 8th grade students.

C90950 JOBS FOR VIRGINIA GRADUATES*Full Year**One Credit*

Jobs for Virginia Graduates (JVG) provides twelfth grade students facing adverse education, personal, and family barriers with the tools to develop core skills that encourage independent, responsible, and productive living. The JVG curriculum addresses thirty competencies in career development, job attainment, and job survival, as well as basic competencies in written and verbal communications and mathematical calculations. The program promotes the Career Association, a student-led organization designed to aid students in leadership development, organizational skills development, team building, and demonstrating the ability to accomplish a set of goals. In a twelve-month follow-up upon graduation, the job specialist assists the student participants in successful job placements, military appointments, or further educational opportunities.

SS2260 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.

SS2210 COMMUNITY SERVICE I*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.

SS2490 COMMUNITY SERVICE 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.

TR221H HONORS SERVICE LEARNING I*Full year**One credit*

This elective course exposes students to the importance of Service Learning within their community. Students learn by doing. Service Learning develops and refines responsibility and commitments. Students who perform Service Learning add value to their skills and develop positive images about themselves. Students may be dismissed from school in order to provide their service in the community. Students learn to work with others and to solve problems, and in the process, develop leadership and teamwork skills. Each student is required to complete a Service Learning project during the school year and to participate in class projects.

TR222H HONORS SERVICE LEARNING II*Full year**One credit*

This elective course exposes students to the importance of Service Learning within their community. Students learn by doing. Service Learning develops and refines responsibility and commitments. Students who perform Service Learning add value to their skills and develop positive images about themselves. Students may be dismissed from school in order to provide their service in the community. Students learn to work with others and to solve problems, and in the process, develop leadership and teamwork skills. Each student is required to complete a Service Learning project during the school year and to participate in class projects.

TR9510 PERSONAL & PROFESSIONAL DISCOVERY LAB*Full year**One credit*

The Personal and Professional Discovery Lab is an interdisciplinary high school course designed to examine and develop the knowledge, skills, and attitudes necessary to help students develop personal and professional skills that can be applied in the workplace. Students will engage with professionals from the local community through project based learning (PBL) and open-ended inquiry in conjunction with blended learning. Students will develop critical thinking skills, become stewards of their personal and professional accomplishments, and gain valuable team working experience, which will prepare them to be informed and empowered citizens.

Middle and High School *Success* Courses

TR8010 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.)*

TR8150 SUCCESS 1 FOR MIDDLE SCHOOL

Semester

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.)*

TR9010 SUCCESS 1 FOR HIGH SCHOOL

Full year

One credit

Enrollment is 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.)*

TR9000 SUCCESS 1 FOR HIGH SCHOOL

Semester

Half credit

Enrollment is 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.)*

TR9020 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.)*

TR9030 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.)*

TR9040 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 the Success Peer Facilitator Program. Recommended 11-12th grades. *(Placement in this course is based on school recommendation.)*

Career and Technical Education



Chesterfield County
Public Schools
Imagine Tommorrow!

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. Virginia added a 17th cluster, Energy, in July of 2020.

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. Course availability at a school is based on school choice and selection.

- Agriculture, Food and Natural Resources
- Architecture and Construction
- Arts, A/V Technology and Communications
- Business Management and Administration
- Education and Training
- *Energy coming soon*
- 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
- E – Online

Middle School Career and Technical Education Course Offerings

Course Pathways						
Business & Information Technology	Family and Consumer Sciences (FACS)	Technology and Engineering Education: General Studies	Technology and Engineering Education: Manufacturing Studies	Technology and Engineering Education: Computer Science Studies	Technology and Engineering Education: Environmental Engineering Studies	Career Exploration
Keyboarding C6148O - .25	FACS Exploratory I C8206O - .25 C8208O - .5	Introduction to STEM C8481O - .25	Design and Modeling, PLTW CDM76O - .25			Career Investigations C9068O, E - .25
Computer Solutions C6609O,E - .5 C6610O - 1	FACS Exploratory II C8263O - .5	Exploring Engineering C8464O - .5	Science of Technology, PLTW CST79O - .25	App Creators, PLTW CAC79O - .25	Energy and the Environment, PLTW CEE79O - .25	Career Investigations C9069O, E - .5
Digital Technology Foundations C6160O - .5 C6161O - 1	FACS Exploratory III C8244O - .5	Engineering Systems C8463O - .5	Automation and Robotics, PLTW CAR76O - .25	Computer Science for Innovators and Makers, PLTW CCS79O - .25	Green Architecture, PLTW CGA79O - .25	
Make it Your Business C8114O - .5						

Career Exploration

[Level 1]

CAREER INVESTIGATIONS, C9068O (Standard)

CAREER INVESTIGATIONS, C9068E (Online)

Quarter

Students will 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 their academic and career interests. Students will also identify and demonstrate the workplace skills that employers desire in their future employees.

CAREER INVESTIGATIONS, C9069O (Standard)

CAREER INVESTIGATIONS, C9069E (Online)

Semester

Students will 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. Students will also identify and demonstrate the workplace skills that employers desire in their future employees.

Business and Information Technology Program of Study

[Level 1]

Keyboarding, C6148O (Standard)

Quarter

Students will be introduced 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.

[Level 2]

Computer Solutions, C6609O (Standard)

Computer Solutions, C6609E (Online)

Semester

[OR] **Computer Solutions**, C6601O (Standard)

Computer Solutions, C6601E (Online)

Full Year

Students will be 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.

[Level 3]

Digital Technology Foundations, C6160O (Standard)

Semester

[OR] **Digital Technology Foundations, C6161O (Standard)**

Full Year

Students will be introduced to 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.

[Level 4]

Make it Your Business, C8114O (Standard)

Semester

Students will 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.

Family and Consumer Sciences Program of Study

[Level 1]

Family and Consumer Sciences Exploratory 1, C8206O (Standard)

Quarter

[OR] **Family and Consumer Sciences Exploratory 1, C8208O (Standard)**

Semester

Students will prepare to be life-ready as they manage individual, family, career, and community roles and responsibilities.

[Level 2]

Family and Consumer Sciences Exploratory 2, C8263O (Standard)

Semester

Students will develop essential knowledge and skills to lead better lives, be career-ready, build strong families, and make meaningful contributions to their communities.

[Level 3]

Family and Consumer Sciences Exploratory 3, C8244O (Standard)

Semester

Students will 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: General Studies Program of Study

[Level 1]

Introduction to STEM, C8481O (Standard)

Quarter

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

[Level 2]

Exploring Engineering, C8464O (Standard)

Semester

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

[Level 3]

Engineering Systems, C8463O (Standard)

Semester

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

Technology and Engineering Education: Manufacturing Studies Program of Study

[Level 1]

Design and Modeling (PLTW), CDM760 (Standard)

Quarter

Students will discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They will be challenged and empowered to use and apply what they have 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.)*

[Level 2/3]

Science of Technology (PLTW), CST790 (Standard)

Quarter

Students will 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.)*

[Level 2/3]

Automation and Robotics (PLTW), CAR760 (Standard)

Quarter

Students will 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 will 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.)*

Technology and Engineering Education: Computer Science Studies Program of Study

[Level 1]

Design and Modeling (PLTW), CDM760 (Standard)

Quarter

Students will discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They will be challenged and empowered to use and apply what they have 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.)*

[Level 2/3]

App Creator (PLTW), CAC790 (Standard)

Quarter

Students will be exposed 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.)*

[Level 2/3] **Computer Science for Innovators and Makers (PLTW), CCS790 (Standard)**

Quarter

Students will be introduced to programming for the physical world by blending hardware design and software development, allowing them 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.)*

Technology and Engineering Education: Environmental Engineering Program of Study

[Level 1]

Design and Modeling (PLTW), CDM760 (Standard)

Quarter

Students will discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They will be challenged and empowered to use and apply what they have 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.)*

[Level 2/3]

Energy and the Environment (PLTW), CEE790 (Standard)

Quarter

Students will be 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 will use what they have 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.)*

[Level 2/3]

Green Architecture (PLTW), CGA790 (Standard)

Quarter

Students will learn how to apply green concepts to the fields of architecture and construction. They will 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.)*

High School Career and Technical Education Courses

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 which is a valid assessment of a student's knowledge and skills. Credentials include state-issued professional licenses, industry certifications, pathway industry certifications, 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 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 11 WBL experiences.

Course availability at a school is based on school choice/selection.

Course offering availability

- O – Standard
- H – Honors
- D – Dual Enrollment (*available based on teacher qualifications as approved by the awarding institution of higher education*)
- E – Online
- I – International Baccalaureate
- W – Cooperative Education
- P – Private Placement

Agriculture, Food & Natural Resources Career Cluster

Agriculture, Food & Natural Resources					
* = Entry point for students at any grade level Red = New CCPS Course, ^=Career Credential	Agribusiness Systems Pathway	Animal Systems Pathway	Environmental Service Systems Pathway	Plant Systems Pathway	
Programs of Study	Agribusiness	Veterinary Science	Environmental Engineering	Plant Systems	Landscaping
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Farming, Fishing, Forestry Supervisors (451011) -17% \$49,078 17	Veterinary Technician (292056) 37% \$38,152 46	Environmental Engineer (172081) 0% \$85,530 22	Food Science Technicians (194011) 6% \$31,874 11	Landscaping, Lawn Service Supervisors (971012) 8% \$45,860 119
HS Level 1	*Agricultural Business Fundamentals I C8022 O - 1	*Small Animal Care C8083 - O, H, D - 1	*Biological Applications in Agriculture C8086 O, H - 1	*Introduction to Plant Systems C8007 O, H - 1	*Landscaping I C8036 O - 1
HS Level 2	Agricultural Business Operations II C8024 O - 1 ^Workplace Readiness	Veterinary Science I C8088 O, H, D - 1 ^Workplace Readiness	*Biotechnology Foundations in Agriculture C8085 O, H - 1 ^Workplace Readiness	Greenhouse Plant Production and Management C8035 O, H - 1 ^Workplace Readiness	Landscaping II C8039 O - 1 ^Workplace Readiness
HS Level 3	Horticulture Sciences C8034 O - 1	Veterinary Science II C8089 O, H, D - 1 ^Beef Quality Assurance (Courthouse Only)	Biotechnology Applications in Agriculture C8087 O, H - 1	Floriculture C8038 O, H - 1	Turfgrass Management C8051 O - 1
HS Level 4					Community Forestry & Tree Management C8048 O - 1

Agribusiness Systems Pathway

- **Agribusiness Program of Study**
- Career: **Farming, Fishing, Forestry Supervisors** (SOC Code: 451011), Growth by 2028 -17%, Mean Wage \$49,078, Regional Openings 17

Sequence of Courses: (*=Entry point)

[Level 1]

***Agricultural Business Fundamentals 1**, C8022O (Standard)

Full Year

One Credit

Students will 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.

[Level 2]

***Agricultural Business Operations 2**, C8024O (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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: C8022O)

[Level 3]

***Horticulture Sciences**, C8034O Standard)

Full Year

One Credit

Students will prepare 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.

Animal Systems Career Pathway

- **Career Veterinary Science Program of Study**
- Career: **Veterinary Technician** (SOC Code: 292056), Growth by 2028 37%, Mean Wage \$38,152, Regional Openings 46

Sequence of Courses: (*=Entry point)

[Level 1]

***Small Animal Care**, C8083O (standard)

***Small Animal Care**, C8083H (Honors)

***Small Animal Care**, C8083D (Dual Enrollment)

Full Year

One Credit

Students learn how to care for and manage small animals, focusing on the connection between humans and animals, animal behavior, health, nutrition, management, and reproduction. Opportunities to handle live animals may occur. Course content also includes instruction on the tools, equipment, and facilities used in the small animal care industry. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills. High-quality work-based learning (HQWBL) will provide experiential learning opportunities related to students' career goals and/or interests, integrated with instruction, and performed in partnership with local businesses and organizations.

[Level 2]

***Veterinary Science 1**, C8088O (Standard), Career Credential [Workplace Readiness Skills](#)

***Veterinary Science 1**, C8088H (Honors), Career Credential [Workplace Readiness Skills](#)

***Veterinary Science 1**, C8088D (Dual Enrollment), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will prepare 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.

[Level 3]

***Veterinary Science 2**, C8089O (Standard) [Beef Quality Assurance \(CTC@Courthouse only\)](#)

***Veterinary Science 2**, C8089H (Honors) [Beef Quality Assurance \(CTC@Courthouse only\)](#)

***Veterinary Science 2**, C8089D (Dual Enrollment) [Beef Quality Assurance \(CTC@Courthouse only\)](#)

Full Year

One Credit

Students will 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. (*Pre-requisites: C8083H/O/D and C8088H/O/D*)

Environmental Service Systems Career Pathway

- **Environmental Engineering Program of Study**
- Career: **Environmental Engineer** (SOC Code: 172081), Growth by 2028 0%, Mean Wage \$85,530, Regional Openings 22

Sequence of Courses: (*=Entry point)

[Level 1]

***Biological Applications in Agriculture**, C8086O (Standard)

***Biological Applications in Agriculture**, C8086H (Honors)

Full Year

One Credit

Students will apply biological principles to agriculture, food, and natural resources. Competencies emphasize and reinforce standards of learning for biology with agricultural applications. This course will give students the foundational knowledge to be successful in Biotechnology Foundations in Agricultural and Environmental Science.

[Level 2]

***Biotechnology Foundations in Agriculture**, C8085O (Standard), Career Credential [Workplace Readiness Skills](#)

***Biotechnology Foundations in Agriculture**, C8085H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will focus on the 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.

[Level 3]

***Biotechnology Applications in Agriculture**, C8087O (Standard)

***Biotechnology Applications in Agriculture**, C8087H (Honors)

Full Year

One Credit

Students will be introduced to 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: C8085O/H*)

Plant Systems Career Pathway

- **Plant Systems Program of Study**
- Career: **Food Science Technicians** (SOC Code: 194011), Growth by 2028 6%, Mean Wage \$31,874, Regional Openings 11

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Plant Systems**, C8007O (Standard)

***Introduction to Plant Systems**, C8007H (Honors)

Full Year

One Credit

Students will 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.

[Level 2]

***Greenhouse Plant Production and Management, C8035O (Standard)**, Career Credential [Workplace Readiness Skills](#)

***Greenhouse Plant Production and Management, C8035H (Honors)**, Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will prepare 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: C8007O, C8034O*)

[Level 3]

***Floriculture, C8038O (Standard)**

***Floriculture, C8038H (Honors)**

Full Year

One Credit

Students will prepare 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.

- Program of Study: **Landscaping**
- Career: **Landscaping, Lawn Service Supervisors** (SOC Code: 971012), Growth by 2028 8%, Mean Wage \$45,860, Regional Openings 119

Sequence of Courses: (*=Entry point)

[Level 1]

***Landscaping 1, C8036O (Standard)**

Full Year

One Credit

Students will be exposed to the expanding and ever-evolving green industry. This course will focus on preparing students for entry-level employment, postsecondary opportunities, and advancement in the landscape design, construction, and maintenance industries.

[Level 2]

***Landscaping 2, C8039O (Standard)**, Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will focus on preparing 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: C8036O*)

[Level 3]

***Turfgrass Management, C8051O (Standard)**

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.

[Level 4]

***Community Forestry & Tree Management, C8048O (Standard)**

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.

Architecture & Construction Career Cluster

Architecture & Construction						
* = Entry Point Red = New CCPS Course, ^ = Career Credential	Construction Pathway			Design/Pre-Construction Pathway		Maintenance/Operations Pathway
Programs of Study	Carpentry	Electricity	Plumbing	Architectural Design	PLTW Architectural Design	HVAC
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Carpenter (472031) 12% \$41,639 391	Electrician (472111) 8% \$47,071 399	Plumber (472152) 11% \$51,442 273	Architect (171011) 6% \$88,752 49		HVAC Installer (499021) 10% \$53,219 274
HS Level 1	*Technical Drawing and Design C8435 O, H, D - 1			*Technical Drawing and Design C8435 O, D, H - 1	*Introduction to Engineering Design, PLTW C8439 O - 1	*Technical Drawing and Design C8435 O, H, D - 1
	^Autodesk Certified User: AutoCAD			^Autodesk Certified User: AutoCAD	^Autodesk Certified User: AutoCAD	^Autodesk Certified User: AutoCAD
HS Level 2	Architectural Drawing and Design C8437 O, H, D - 1			Architectural Drawing and Design C8437 O, D, H - 1	Civil Engineering and Architecture, PLTW C8430 - O, H - 1	Architectural Drawing and Design C8437 O, H, D - 1
	^Autodesk Certified User: Revit			^Autodesk Certified User: Revit	^Autodesk Certified User: Revit	^Autodesk Certified User: Revit
HS Level 3	*Carpentry I C8601 O - 1	*Electricity I C8533 O, D - 1	*Plumbing I C8551 O - 1	Advanced Drawing and Design C8438 O, H, D - 1		*Heating, Ventilation, Air Conditioning, and Refrigeration I C8503 O, D - 1
	^OSHA & WRS	^OSHA & WRS	^OSHA & WRS			^OSHA & WRS
HS Level 4	Carpentry II C8602 O - 2	Electricity II C8534 O, D - 2	Plumbing II C8552 O - 2			*Heating, Ventilation, Air Conditioning, and Refrigeration II C8504 O, D - 2
		^NCCER Core & Level 1	^NCCER Core & Level 1			^EPA & HVAC HEAT

Construction Career Pathway

- **Carpentry Program of Study**
- Career: **Carpenter** (SOC Code: 472031), Growth by 2028 12%, Mean Wage \$41,639, Regional Openings 391

Sequence of Courses: (*=Entry point)

[Level 1]

***Technical Drawing and Design**, C8435O (Standard), Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design**, C8435H (Honors), Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design**, C8435D (Dual Enrollment), Career Credential [Autodesk Certified User: AutoCAD](#)

Full Year

One Credit

Students will learn the basic language of technical drawing and design, and they will design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.

[Level 2]

***Architectural Drawing and Design**, C8437O (Standard), Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design**, C8437H (Honors), Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design**, C8437D (Dual Enrollment), Career Credential [Autodesk Certified User: Revit](#)

Full Year

One Credit

Students will 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: C8435O/D/H)

[Level 3]

***Carpentry 1**, C8601O (Standard), Career Credential [OSHA 10 Hour and Workplace Readiness Skills](#)

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

[Level 3]

***Carpentry 2, C8602O (Standard)**

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: C8601O)

[Level 3]

***Carpentry 3, C8603O (Standard)**

Full Year

Two Credits

Students will 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: C8602O)

- **Electricity Program of Study**
- Career: **Electrician** (SOC Code: 472111), Growth by 2028 8%, Mean Wage \$47,071, Regional Openings 399

Sequence of Courses: (*=Entry point)

[Level 1]

***Technical Drawing and Design**, C8435O (Standard), Career Credential [Autodesk Certified User:](#)

[AutoCAD](#)

***Technical Drawing and Design**, C8435H (Honors), Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design**, C8435D (Dual Enrollment), Career Credential [Autodesk Certified User:](#)

[AutoCAD](#)

Full Year

One Credit

Students will learn the basic language of technical drawing and design, and they will design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.

[Level 2]

***Architectural Drawing and Design**, C8437O (Standard), Career Credential [Autodesk Certified User:](#)

[Revit](#)

***Architectural Drawing and Design**, C8437H (Honors), Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design**, C8437D (Dual Enrollment), Career Credential [Autodesk Certified User: Revit](#)

Full Year

One Credit

Students will 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: C8435O/D/H)

[Level 3]

***Electricity 1**, C8533O (Standard), Career Credential [OSHA 10 Hour and Workplace Readiness Skills](#)

***Electricity 1**, C8533D (Dual Enrollment), Career Credential [OSHA 10 Hour and Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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.

[Level 3]

***Electricity 2**, C8534O (Standard), Career Credential [NCCER Core & Level 1](#)

***Electricity 2**, C8534D (Dual Enrollment), Career Credential [NCCER Core & Level 1](#)

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: C8533O/D)

[Level 3]

***Electricity 3**, C8535O (Standard)

***Electricity 3**, C8535D (Dual Enrollment)

Full Year

Two Credits

Students will continue building skills in the installation, operation, maintenance, and repair of electrical systems, with emphasis on industrial applications. They will also study lighting fixtures, overcurrent protection, service equipment, motor controls, transformers, grounding, and the National Electrical Code (NEC) Book. (Prerequisite: C8534O/D)

- **Plumbing Program of Study**
- Career: **Plumber** (SOC Code: 472152), Growth by 2028 11%, Mean Wage \$51,442, Regional Openings 273

Sequence of Courses: (*=Entry point)

[Level 1]

***Technical Drawing and Design**, C8435O (Standard), Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design**, C8435H (Honors), Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design**, C8435D (Dual Enrollment), Career Credential [Autodesk Certified User: AutoCAD](#)

Full Year

One Credit

Students will learn the basic language of technical drawing and design, and they will design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.

[Level 2]

***Architectural Drawing and Design**, C8437O (Standard), Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design**, C8437H (Honors), Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design**, C8437D (Dual Enrollment), Career Credential [Autodesk Certified User: Revit](#)

Full Year

One Credit

Students will 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: C8435O/D/H)

[Level 3]

***Plumbing 1**, C8551O (Standard), Career Credential [OSHA 10 Hour and Workplace Readiness Skills](#)

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. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills. High-quality work-based learning (HQWBL) will provide experiential learning opportunities related to students' career goals and/or interests, integrated with instruction, and performed in partnership with local businesses and organizations.

[Level 3]

***Plumbing 2**, C8552O (Standard), Career Credential [NCCER Core & Level 1](#)

Full Year

Two Credits

Students will practice mathematics skills related to the plumbing profession. They will read, interpret, and create drawings of piping systems. Students will learn to safely assemble, install, and repair pipes, fittings, and fixtures of heating, water, and drainage systems, according to specification and plumbing codes. (Prerequisite: C8551O)

Design/Pre-Construction Career Pathway

- **Architectural Design Program of Study**
- Career: **Architect** (SOC Code: 171011), Growth by 2028 6%, Mean Wage \$88,752, Regional Openings 49

Sequence of Courses: (*=Entry point)

[Level 1]

***Technical Drawing and Design**, C8435O (Standard), Career Credential [Autodesk Certified User:](#)

[AutoCAD](#)

***Technical Drawing and Design**, C8435H (Honors), Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design**, C8435D (Dual Enrollment), Career Credential [Autodesk Certified User:](#)

[AutoCAD](#)

Full Year

One Credit

Students will learn the basic language of technical drawing and design, and they will design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.

[Level 2]

***Architectural Drawing and Design**, C8437O (Standard), Career Credential [Autodesk Certified User:](#)

[Revit](#)

***Architectural Drawing and Design**, C8437H (Honors), Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design**, C8437D (Dual Enrollment), Career Credential [Autodesk Certified](#)

[User: Revit](#)

Full Year

One Credit

Students will 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: C8435O/D/H)

[Level 3]

***Advanced Drawing and Design**, C8438O (Standard)

***Advanced Drawing and Design**, C8438H (Honors)

***Advanced Drawing and Design**, C8438D (Dual Enrollment)

Full Year

One Credit

Students will use a graphic language for product design and technical illustration. They will increase their understanding of drawing techniques learned in the prerequisite courses. They will research design-related fields while identifying the role of advanced drawing and design in manufacturing and construction industry processes. They will 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: C8437O/H/D; C8436O/H/D)

- **PLTW Architectural Design Program of Study**
- Career: **Architect** (SOC Code: 171011), Growth by 2028 6%, Mean Wage \$88,752, Regional Openings 49

Sequence of Courses: (*=Entry point)

[Level 1]

***Technical Drawing and Design**, C8435O (Standard), Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design**, C8435H (Honors), Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design**, C8435D (Dual Enrollment), Career Credential [Autodesk Certified User: AutoCAD](#)

Full Year

One Credit

Students will learn the basic language of technical drawing and design, and they will design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.

[Level 2]

***Architectural Drawing and Design**, C8437O (Standard), Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design**, C8437H (Honors), Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design**, C8437D (Dual Enrollment), Career Credential [Autodesk Certified User: Revit](#)

Full Year

One Credit

Students will 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: C8435O/D/H)

[Level 3]

***Advanced Drawing and Design**, C8438O (Standard)

***Advanced Drawing and Design**, C8438H (Honors)

***Advanced Drawing and Design**, C8438D (Dual Enrollment)

Full Year

One Credit

Students will use a graphic language for product design and technical illustration. They will increase their understanding of drawing techniques learned in the prerequisite courses. They will research design-related fields while identifying the role of advanced drawing and design in manufacturing and construction industry processes. They will 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: C8437O/H/D; C8436O/H/D)

Maintenance/Operations Career Pathway

- **Heating, Ventilation, Air Conditioning (HVAC) Program of Study**
- Career: **HVAC Installer** (SOC Code: 499021), Growth by 2028 10%, Mean Wage \$53,219, Regional Openings 274

Sequence of Courses: (*=Entry point)

[Level 1]

***Technical Drawing and Design, C8435O (Standard)**, Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design, C8435H (Honors)**, Career Credential [Autodesk Certified User: AutoCAD](#)

***Technical Drawing and Design, C8435D (Dual Enrollment)**, Career Credential [Autodesk Certified User: AutoCAD](#)

Full Year

One Credit

Students will learn the basic language of technical drawing and design, and they will design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.

[Level 2]

***Architectural Drawing and Design, C8437O (Standard)**, Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design, C8437H (Honors)**, Career Credential [Autodesk Certified User: Revit](#)

***Architectural Drawing and Design, C8437D (Dual Enrollment)**, Career Credential [Autodesk Certified User: Revit](#)

Full Year

One Credit

Students will 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: C8435O/D/H)

[Level 3]

***Heating, Ventilation, Air Conditioning, and Refrigeration 1, C8503O (Standard)**, Career Credential [OSHA 10 Hour and Workplace Readiness Skills](#)

***Heating, Ventilation, Air Conditioning, and Refrigeration 1, C8503D (Dual Enrollment)**, Career Credential [OSHA 10 Hour and Workplace Readiness Skills](#)

Full Year

One Credit

Students will learn how to professionally install, repair, and maintain the operating conditions of heating, ventilation, air-conditioning, and refrigeration (HVACR) systems. Students will 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.

[Level 4]

***Heating, Ventilation, Air Conditioning, and Refrigeration 2**, C8504O (Standard), Career Credential [Environmental Protection Agency \(EPA\) and HVAC HEAT](#)

***Heating, Ventilation, Air Conditioning, and Refrigeration 2**, C8504D (Dual Enrollment), Career Credential [Environmental Protection Agency \(EPA\) and HVAC HEAT](#)

Full Year

Two Credits

Students will continue building skills in the installation, repair, and maintenance of heating and cooling systems. Students will 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: C8503D/O)

Arts, A/V Technology & Communications Career Cluster

Arts, A/V Technology & Communications				
* = Entry Point <i>Red</i> = New CCPS Course, ^=Career Credential	Visual Arts Career Pathway			Audio/Video Technology and Film
Programs of Study	Commercial Photography	Digital Graphics		Production
<u>Local Employment Outlook</u> * Growth by 2028 * Mean Wage & Salary * Regional Opening	Photographer (274021) -5% \$38,256 31	Graphic Designer (271024) 1% \$49,149 121		Film and Video Editors (274032) 6% \$47,015 7
HS Level 1	*Commercial Photography I C8607 O, H - 1	*Graphic Communications Systems C8458 O, H - 1	*Technical Drawing and Design C8435 O, H, D - 1	<i>Center of Innovation - Not Included on Expanded POS</i> *Television and Media Production I C8688 - O, H - 1
	^Workplace Readiness	^Workplace Readiness	^Autodesk Certified User: AutoCAD	^Workplace Readiness
HS Level 2	Commercial Photography II C8608 O, H - 2	Digital Visualization C8459 O, H - 1		Television and Media Production II C8689 - O, H - 2
	^Adobe Photoshop	^Adobe Illustrator		^To Be Determined
HS Level 3		Modeling and Simulation Technology C8460 O, H - 1		Television and Media Production III C8690 - O, H - 3

Visual Arts Career Pathway

- **Commercial Photography Program of Study**
- Career: **Photographer** (SOC Code: 274021), Growth by 2028 -5%, Mean Wage \$38,256, Regional Openings 31

Sequence of Courses: (*=Entry point)

[Level 1]

***Commercial Photography 1**, C8607O (Standard), Career Credential [Workplace Readiness Skills](#)

***Commercial Photography 1**, C8607H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

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.

[Level 2]

***Commercial Photography 2**, C8608O (Standard), Career Credential [Adobe Photoshop](#)

***Commercial Photography 2**, C8608O (Honors), Career Credential [Adobe Photoshop](#)

Full Year

Two Credits

Students will learn industry-relevant technical skills and will 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. (Prerequisite: C8607H/O)

- **Graphic Designer Program of Study**
- Career: **Graphic Designer** (SOC Code: 271024), Growth by 2028 1%, Mean Wage \$49,149, Regional Openings 121

Sequence of Courses: (*=Entry point)

[Level 1]

***Graphic Communications Systems**, C8458O (Standard), Career Credential [Workplace Readiness Skills](#)

***Graphic Communications Systems**, C8458H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will use a wide range of tools and materials used to reproduce information and images. Several mediums will be used, including paper, metal, plastic, and fabric. Students will also develop competencies in message design, composition and assembly, and message transfer and product conversion

[OR]

***Technical Drawing and Design, C8435O (Standard), Career Credential [Autodesk Certified User: AutoCAD](#)**

***Technical Drawing and Design, C8435H (Honors), Career Credential [Autodesk Certified User: AutoCAD](#)**

***Technical Drawing and Design, C8435D (Dual Enrollment), Career Credential [Autodesk Certified User: AutoCAD](#)**

Full Year

One Credit

Students will learn the basic language of technical drawing and design, and they will design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.

[Level 2]

***Digital Visualization, C8459O (Standard), Career Credential [Adobe Illustrator](#)**

***Digital Visualization, C8459H (Honors), Career Credential [Adobe Illustrator](#)**

Full Year

One Credit

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

[Level 3]

***Modeling and Simulation Technology, C8460O (Standard)**

***Modeling and Simulation Technology, C8460H (Honors)**

Full Year

One Credit

Students will explore the use of modeling and simulation (M&S), as well as game development concepts and software, to solve real-world problems in multiple domain areas. Activities will include developing, evaluating, and testing engineering designs, employing geospatial data, observing and analyzing physics simulations, designing games for educational purposes, and designing and creating visualization systems with three-dimensional (3D) models. Students will develop an understanding of the concepts, systems, processes, tools, and implications of the field of M&S and associated design and visualization technologies.

Business Management & Administration Career Cluster

Business Management & Administration			
* = Entry Point <i>Red</i> = New CCPS Course, ^=Career Credential	General Management Pathway		Administrative Support Pathway
Programs of Study	Business Administration		Business Office Specialist
<u>Local Employment Outlook</u> * Growth by 2028 * Mean Wage & Salary * Regional Opening	General Manager (111021) 7% \$121,039 716	Administrative Support Worker (439199) 6% \$38,459 96	
HS Level 1	*Digital Applications C6617 O - .5 C6611 O – 1 Principles of Business and Marketing C6115 O-1		
HS Level 2	Business Management C6135 O, H, D, I - 1	*Office Specialist I C6740 O - 1	*Computer Information Systems C6612 O, H, D - 1
	^Workplace Readiness ^ IB Business Management Exam (IB Students Only)	^MOS - PowerPoint	^MOS - Word
HS Level 3	Business Law C6131 O, H, D - 1	Office Specialist II C6741 O - 1	Advanced Computer Information Systems C6613 O - 1
		^MOS - Word	^MOS - Excel
HS Level 4		*Education for Employment C9084O - .5 C9085O - 1	Information Technology in a Global Society (IB) C6613 I - 1

General Management Career Pathway

- **Business Administration Program of Study**
- Career: **General Manager** (SOC Code: 111021), Growth by 2028 7%, Mean Wage \$121,039, Regional Openings 716

Sequence of Courses: (*=Entry point)

[Level 1]

***Digital Applications**, C66170 (Standard)

Semester

Half Credit

[OR]

***Digital Applications**, C66110 (Standard)

Full Year

One Credit

Students will 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. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

[OR]

***Principles of Business and Marketing**, C61150 (Standard)

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[Level 2]

***Business Management**, C6135O (Standard), Career Credential [Workplace Readiness Skills or IB Business Management Exam \(IB Students Only\)](#)

***Business Management**, C6135H (Honors), Career Credential [Workplace Readiness Skills or IB Business Management Exam \(IB Students Only\)](#)

***Business Management**, C6135D (Dual Enrollment), Career Credential [Workplace Readiness Skills or IB Business Management Exam \(IB Students Only\)](#)

***Business Management**, C6135I (International Baccalaureate), Career Credential [Workplace Readiness Skills or IB Business Management Exam \(IB Students Only\)](#)

Full Year

One Credit

Students will 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).

[Level 3]

***Business Law**, C6131O (Standard)

***Business Law**, C6131H (Honors)

***Business Law**, C6131D (Dual Enrollment)

Full Year

One Credit

Students will examine the foundations of the American legal system and learn the rights and responsibilities of citizens. Students will gain practical knowledge and life skills by exploring economic and social concepts related to laws governing business and individuals. Focus areas will include contracts, consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and careers in the legal profession. Students will also combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year. (Prerequisite: C6135O/H/D/I)

Administrative Support Career Pathway

- **Business Office Specialist Program of Study**
- Career: **Administrative Support Worker** (SOC Code: 439199), Growth by 2028 6%, Mean Wage \$38,459, Regional Openings 96

Sequence of Courses: (*=Entry point)

[Level 1]

***Digital Applications**, C66170 (Standard)

Semester

Half Credit

[OR]

***Digital Applications**, C66110 (Standard)

Full Year

One Credit

Students will 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. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

[OR]

***Principles of Business and Marketing**, C61150 (Standard)

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[Level 2]

***Office Specialist 1**, C67400 (Standard), Career Credential [MOS PowerPoint](#)

Full Year

One Credit

Students will develop skills in areas including keyboarding, word processing, office procedures, and records management.

[Level 3]

***Office Specialist 2, C6741O (Standard), Career Credential [MOS Word](#)**

Full Year

One Credit

Students will continue developing skills in areas including keyboarding, word processing, office procedures, and records management. (Prerequisite: C6740O)

[Level 4]

***Education for Employment, C9084O (Standard)**

Semester

Half Credit

[OR]

***Education for Employment, C9085O (Standard)**

Full Year

One Credit

Students will learn how to make informed career and continuing education choices as they transition from school, gain technical skills, and adapt to the workplace. Students will learn ethical behaviors and career-research, job-acquisition, workplace-communication, self-awareness, self-advocacy, customer-service, and life skills. Students explore labor market needs through an applied employment education format.

[OR]

[Level 1]

***Digital Applications, C6617O (Standard)**

Semester

Half Credit

[OR]

***Digital Applications, C6611O (Standard)**

Full Year

One Credit

Students will 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. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

[OR]

***Principles of Business and Marketing, C6115O (Standard)**

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[Level 2]

***Computer Information Systems**, C6612O (Standard) Career Credential [MOS Word](#)

***Computer Information Systems**, C6612H (Honors) Career Credential [MOS Word](#)

***Computer Information Systems**, C6612D (Dual Enrollment) Career Credential [MOS Word](#)

Full Year

One Credit

Students will 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.

[Level 3]

***Advanced Computer Information Systems**, C6613O (Standard), Career Credential [MOS Excel](#)

Full Year

One Credit

Students will apply problem-solving skills to real-life situations through advanced integrated software applications, including printed, electronic, and web publications. Students will work individually and in groups to explore advanced computer maintenance activities, website development, programming, networking, emerging technology, and employability skills. Students will also 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 will practice the maintenance, management, and troubleshooting of systems; explore legal and ethical issues; and develop employability skills. (Prerequisite: C6612O/H/D)

[Level 4]

***Information Technology in a Global Society (IB)**, C6613I (International Baccalaureate)

Full Year

One Credit

Students will develop an understanding and appreciation of the social significance of information technology and networking as they analyze and evaluate in a critical manner the impact and ethical considerations arising from the widespread use of information technology and networking. The course will focus on how information systems and networks are used to process and exchange information for control, analysis, and communications.

Education & Training Career Cluster

Education & Training			
* = Entry Point <i>Red</i> = New CCPS Course, ^= <i>Career</i> <i>Credential</i>	Teaching/Training Pathway		
Programs of Study	Early Childhood	Teachers for Tomorrow	
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Preschool Teacher (252011) 5% \$31,930 114	Secondary School Teacher (353031) 2% \$58,724 227	
HS Level 1	*Introduction to Early Childhood Education C8233 O - .5 C8234 O - 1	*Introduction to Teachers for Tomorrow C9060 O - .5 C9061 O - 1	
HS Level 2	*Early Childhood Education I C8285 O - 2	*Teachers for Tomorrow I - Elementary C9062 O, H - 1	*Teachers for Tomorrow I - Secondary C9062 C, H - 1
	^Workplace Readiness	^Workplace Readiness	^Workplace Readiness
HS Level 3	Early Childhood Education II C8286 O - 2	Teachers for Tomorrow II - Elementary C9072 O, H - 1	Teachers for Tomorrow II - Secondary C9072 C, H - 1
	^Child Development Associate	^ParaPro	^ParaPro

Teaching/Training Career Pathway

- **Early Childhood Program of Study**
- Career: **Preschool Teacher** (SOC Code: 252011), Growth by 2028 5%, Mean Wage \$31,930, Regional Openings 114

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Early Childhood Education**, C8233O (Standard)

Semester

Half Credit

[OR]

***Introduction to Early Childhood Education**, C8234O (Standard)

Full Year

One Credit

Students will be 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 will be available through the co-curricular student organization.

[Level 2]

***Early Childhood Education I**, C8285O (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

Two Credits

Students will 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 will also prepare for continuing education leading to careers in early childhood fields (e.g., medical, social services, education).

[Level 3]

***Early Childhood Education II**, C8286O (Standard), Career Credential [Child Development Associates \(CDA\)](#)

Full Year

Two Credits

Students will 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: C8285O)

- **Teachers for Tomorrow Program of Study**
- Career: **School Teacher** (SOC Code: 353031), Growth by 2028 2%, Mean Wage \$58,724, Regional Openings 227

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Teachers for Tomorrow, C9060O (Standard)**

Semester

Half Credit

[OR]

***Introduction to Teachers for Tomorrow, C9061O (Standard)**

Full Year

One Credit

Student will develop an understanding and appreciation for the teaching profession and will be introduced to careers in education. Students will be 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. Students will be introduced to the high school Virginia Teachers for Tomorrow (VTfT) program. Additional educational leadership opportunities will be offered through the student organization, Educators Rising.

[Level 2]

***Teachers for Tomorrow 1, C9062O (Standard/Elementary), Career Credential [Workplace Readiness Skills](#)**

***Teachers for Tomorrow 1, C9062C (Standard/Secondary), Career Credential [Workplace Readiness Skills](#)**

***Teachers for Tomorrow 1, C9062H (Honors), Career Credential [Workplace Readiness Skills](#)**

Full Year

One Credit

Students will build a foundation for teaching; learn the history, structure and governance of teaching; apply professional teaching techniques in the Teachers for Tomorrow classroom and field experience; and reflect on their teaching experiences. Additional educational leadership opportunities will be offered through the student organization, Educators Rising.

[Level 3]

***Teachers for Tomorrow 2, C9072O (Standard/Elementary), Career Credential [ParaPro](#)**

***Teachers for Tomorrow 2, C9072C (Standard/Secondary), Career Credential [ParaPro](#)**

***Teachers for Tomorrow 2, C9072H (Honors), Career Credential [ParaPro](#)**

Full Year

One Credit

Students will build upon their foundation for teaching; applying the history, structure and governance of teaching; apply professional teaching techniques in the Teachers for Tomorrow classroom and field experience; and reflect on their teaching experiences. Additional educational leadership opportunities are offered through the student organization, Educators Rising.

Finance Career Cluster

Finance		
* = Entry Point <i>Red</i> = New CCPS Course, ^=Career Credential	Accounting Pathway	Securities & Investments Pathway
Programs of Study	Accounting	Financial Management
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Accountant (132011) 7% \$72,868 736	Financial Manager (113031) 14% \$145,775 215
HS Level 1	*Principles of Business and Marketing C6115 O - 1	*Economics and Personal Finance C6120 O, H, E, P - 1 ^W!SE
HS Level 2	*Accounting C6320 O, H, D - 1 ^Workplace Readiness	
HS Level 3	Advanced Accounting C6321 O, H, D - 1	
HS Level 4	Business Law C6131 O, H, D - 1	

Accounting Career Pathway

- **Accounting Program of Study**
- Career: **Accountant** (SOC Code: 132011), Growth by 2028 7%, Mean Wage \$72,868, Regional Openings 736

Sequence of Courses: (*=Entry point)

[Level 1]

***Principles of Business and Marketing**, C6115O (Standard)

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[Level 2]

***Accounting**, C6320O (Standard), Career Credential [Workplace Readiness Skills](#)

***Accounting**, C6320H (Honors), Career Credential [Workplace Readiness Skills](#)

***Accounting**, C6320D (Dual Enrollment), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

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

[Level 3]

***Advanced Accounting**, C6321O (Standard)

***Advanced Accounting**, C6321H (Honors)

***Advanced Accounting**, C6321D (Dual Enrollment)

Full Year

One Credit

Students will gain knowledge of advanced accounting principles, procedures, and techniques used to solve business problems and make financial decisions. Students will 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 will analyze financial data and acquire knowledge of business ethics. (Prerequisite: C6320O/H/D)

[Level 4]

***Business Law**, C6131O (Standard)

***Business Law**, C6131H (Honors)

***Business Law**, C6131D (Dual Enrollment)

Full Year

One Credit

Students will examine the foundations of the American legal system and learn the rights and responsibilities of citizens. Students will gain practical knowledge and life skills by exploring economic and social concepts related to laws governing business and individuals. Focus areas will include contracts, consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and careers in the legal profession. Students will also combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year. (Prerequisite: C6135O/H/D/I)

Securities & Investments Career Pathway

Program of Study: **Financial Management**

Career: **Financial Manager** (SOC Code: 113031), Growth by 2028 14%, Mean Wage \$145,775, Regional Openings 215

Sequence of Courses: (*=Entry point)

[Level 1] ***Economics and Personal Finance**, C6120O(Standard), Career Credential [W!SE Financial Literacy](#)

***Economics and Personal Finance**, C6120H (Honors), Career Credential [W!SE Financial Literacy](#)

***Economics and Personal Finance**, C6120E (Online), Career Credential [W!SE Financial Literacy](#)

***Economics and Personal Finance**, C6120P (Private Placement), Career Credential [W!SE Financial Literacy](#)

Full Year

One Credit

Students will 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 will 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.

Government & Public Administration – Leadership Career Cluster

Government & Public Administration – Leadership		
* = Entry Point <i>Red</i> = New CCPS Course, ^=Career Credential	National Security Pathway	
Programs of Study	Army JROTC	Navy JROTC
HS Level 1	*Army JROTC I CAR13 O - 1	*Navy JROTC I CNA13 O - 1
HS Level 2	Army JROTC II CAR16 O, H - 1	Navy JROTC II CNA16 O, H - 1
	^Workplace Readiness	^Workplace Readiness
HS Level 3	Army JROTC III CAR18 O, H - 1	Navy JROTC III CNA18 O, H - 1
HS Level 4	Army JROTC IV CAR19 O, H - 1	Navy JROTC IV CNA19 O, H - 1

National Security Career Pathway

- **Army JROTC Program of Study**

Sequence of Courses: (*=Entry point)

[Level 1]

***Army JROTC 1, CAR130 (Standard)**

Full Year

One Credit

Students will be introduced 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 will 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 will be established and reinforced in the classroom, drill, and military ceremonies.

[Level 2]

***Army JROTC 2, CAR160 (Standard) Career Credential [ASVAB or Workplace Readiness Skills](#)**

***Army JROTC 2, CAR16H (Honors) Career Credential [ASVAB or Workplace Readiness Skills](#)**

Full Year

One Credit

Students will continue to receive instruction in the Army JROTC program and the rights and responsibilities of U.S. citizenship. Students will also 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: CAR130)

[Level 3]

***Army JROTC 3, CAR180 (Standard)**

***Army JROTC 3, CAR18H (Honors)**

Full Year

One Credit

Students will continue to receive 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 will be required in the leadership lab, drill, and military ceremonies (Prerequisite: CAR160/H)

[Level 4]

***Army JROTC 4, CAR190 (Standard)**

***Army JROTC 4, CAR19H (Honors)**

Full Year

One Credit

Students will continue to receive 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 will also receive additional instruction in military

customs and courtesies, proper uniform wear, and personal appearance guidelines. Adherence to the guidelines will be required in leadership lab, drill, and military ceremonies. (Prerequisite: CAR18O/H)

- **Navy JROTC Program of Study**

Sequence of Courses: (*=Entry point)

[Level 1]

***Navy JROTC 1**, CNA13O (Standard)

Full Year

One Credit

Students will be introduced 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 will include: 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.

[Level 2]

***Navy JROTC 2**, CNA16O (Standard) Career Credential [ASVAB or Workplace Readiness Skills](#)

***Navy JROTC 2**, CNA16H (Honors) Career Credential [ASVAB or Workplace Readiness Skills](#)

Full Year

One Credit

Students will further develop the traits of citizenship and leadership, be introduced 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 will be provided. Additional instruction in the nautical sciences will include an introduction to maritime geography, oceanography, meteorology, astronomy, and the physical sciences. (Prerequisite: CNA13O)

[Level 3]

***Navy JROTC 3**, CNA188O (Standard)

***Navy JROTC 3**, CNA18H (Honors)

Full Year

One Credit

Students will gain a deeper 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 will also gain a more in-depth knowledge of naval ships, aircraft, and an introduction to marine navigation and seamanship. Instruction will include sea power and national security, naval operations and support functions, military law, and international law and the sea. Students will be introduced to ship construction and damage control, shipboard organization and watch standing, and naval weaponry. (Prerequisite: CNA16O/H)

[Level 4]

***Navy JROTC 4, CNA19O (Standard)**

***Navy JROTC 4, CNA19H (Honors)**

Full Year

One Credit

Students will be provided instruction in theoretical and applied aspects of leadership, individual training, and evaluation of individual and team performance. The course will focus primarily on practical leadership techniques and implementation. The intent will be 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 will include seminars, reading assignments, classroom presentations, and practical work with junior cadets. Seniors will be 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 will also be 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: CNA18O/H)

Health Science Career Cluster

Health Science											
* = Entry Point Red = New CCPS Course, ^=Career Credential	Health Informatics Pathway			Support Services Pathway	Therapeutic Services Pathway						
Programs of Study	Imaging Technology	Medical Office Management		Dietetics	Dental	Emergency Medical Technician	Medical Assisting	Nurse Aide	Pharmacy Technician	Physical Therapy/ Occupational Therapy	Sports Medicine
<u>Local Employment Outlook</u> * Growth by 2028 * Mean Wage & Salary * Regional Opening	Radiologist (292034) 11% \$60,316 54	Medical Records Technician (292071) 9% \$44,580 76		Dietetic Technician (292051) 2% \$36,530 5	Dental Assistant (319091) 10% \$40,683 160	Emergency Medical Technician (292041) 6% \$36,778 56	Medical Assistant (319092) 23% \$33,935 290	Nursing Assistant (311014) 13% \$28,426 765	Pharmacy Technician (292052) 9% \$31,778 143	Physical Therapist Assistant (312021) 18% \$63,039 60	Athletic Trainer (299091) 15% \$38,717 10
HS Level 1	*Introduction to Health and Medical Sciences C8302 O, H - 1				* Health Assisting Careers C8331 O, H - 1			*Medical Terminology C8383 O, H, D – 1			
HS Level 2	Radiologic Technology I C8375 - O, H - 1	COI Health Informatics C8338 - O, H - 1	*Medical Administration C6730 O - 1	*Introduction to Nutrition for Health & Medical Sciences C8390 O, H - .5 C8390C - 1 CH8390H - I	*Dental Careers I C8328 O, H - 2	*Emergency Medical Technician I C8333 H, D - 1	*Medical Assistant I C8345 O, H - 2	*Nurse Aide I C8360 O, H - 2	*Pharmacy Technician I C8305 O - 1	*Physical Therapy Occupational Therapy I C8365 O, D - 3	*Sports Medicine I C8316 O, H - 1 C7660 O, H - 2
	^Workplace Readiness	^Workplace Readiness	^Workplace Readiness	^Workplace Readiness	^Workplace Readiness	^Workplace Readiness	^Workplace Readiness	^Workplace Readiness	^Workplace Readiness	^Workplace Readiness & and Physical Therapy Assistant	^Workplace Readiness
HS Level 3	Radiologic Technology II C8376 - O, H - 1	COI Healthcare Information Security C8339 - O, H - 1	Medical Coding & Billing I C8388 O - 1	Food Science & Dietetics C8239 O, H - 1	Dental Careers II C8329 O, H - 2	Emergency Medical Technician II C8334 H, D - 1	Medical Assistant II C8346 O, H - 2	Nurse Aide II C8362 O, H - 2	Pharmacy Technician II C8306 O - 2	Physical Therapy Occupational Therapy II C8366 O, D - 3	Sports Medicine II C8317 O, H - 1 C7662 O, H - 2
	^To Be Determined	^To Be Determined	^To Be Determined		^Credentialed Dental Assistant	^National Registry of Emergency Medical Technicians (NREMT)	^Certified Medical Assistant	^Nurse Aide	^Certified Pharmacy Technician		
HS Level 4			Medical Coding & Billing II C8389 O - 1			Emergency Medical Technician III C8335 H, D - 1					

Health Informatics Career Pathway

- **Imaging Technology Program of Study**
- Career: **Radiologist** (SOC Code: 292034), Growth by 2028 11%, Mean Wage \$60,316, Regional Openings 54

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O (standard)**

***Introduction to Health and Medical Sciences, C8302H (Honors)**

Full Year

One Credit

This course will introduce 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.

[OR]

***Health Assisting Careers, C8331O (Standard)**

***Health Assisting Careers, C8331H (Honors)**

Full Year

One Credit

Students will explore opportunities in the healthcare field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher.

[OR]

***Medical Terminology, C8383O (Standard)**

***Medical Terminology, C8383H (Honors)**

***Medical Terminology, C8383D (Dual Enrollment)**

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2]

***Radiologic Technology 1**, C8375O (Standard), Career Credential [Workplace Readiness Skills](#)

***Radiologic Technology 1**, C8375H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will gain basic understanding of the historical development and role of a radiologic technologist in various healthcare settings. Basic knowledge of human anatomy, physiology, basic disease processes, and the essentials of patient care will be obtained. Legal, ethical, and professional responsibilities associated with becoming a radiologic technologist along with the importance of good communication and critical thinking skills will be explained.

[Level 3]

***Radiologic Technology 2**, C8376O (Standard)

***Radiologic Technology 2**, C8376H (Honors)

Full Year

One Credit

Students will identify the basic components and functions associated with radiologic equipment and develop understanding of the scientific, technical factors and the physical concepts required to produce and evaluate quality images. Practice will include the use of radiation protection techniques. Students will also investigate career opportunities and the processes to obtain and maintain professional certifications within the field of imaging sciences.

- **Medical Office Management Program of Study**
- Career: **Medical Records Technician** (SOC Code: 292071), Growth by 2028 9%, Mean Wage \$44,580, Regional Openings 76

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O (standard)**

***Introduction to Health and Medical Sciences, C8302H (Honors)**

Full Year

One Credit

This course will introduce 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.

[OR]

***Health Assisting Careers, C8331O (Standard)**

***Health Assisting Careers, C8331H (Honors)**

Full Year

One Credit

Students will explore opportunities in the health care field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher.

[OR]

***Medical Terminology, C8383O (Standard)**

***Medical Terminology, C8383H (Honors)**

***Medical Terminology, C8383D (Dual Enrollment)**

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2]

***Medical Administration**, C67300 (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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.

[Level 3]

***Medical Coding & Billing 1**, C83880 (Standard)

Full Year

One 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.

[Level 4]

***Medical Coding & Billing 2**, C83890 (Standard)

Full Year

One 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: C83880)

Support Services Career Pathway

- **Dietetics Program of Study**
- Career: **Dietetic Technician** (SOC Code: 292051), Growth by 2028 2%, Mean Wage \$36,530, Regional Openings 5

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O** (standard)

***Introduction to Health and Medical Sciences, C8302H** (Honors)

Full Year

One Credit

This course will introduce 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.

[OR]

***Health Assisting Careers, C8331O** (Standard)

***Health Assisting Careers, C8331H** (Honors)

Full Year

One Credit

Students will explore opportunities in the health care field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher.

[OR]

***Medical Terminology, C8383O** (Standard)

***Medical Terminology, C8383H** (Honors)

***Medical Terminology, C8383D** (Dual Enrollment)

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2]

***Introduction to Nutrition for Health & Medical Sciences, C8390O (Standard), Career Credential**
[Workplace Readiness Skills](#)

***Introduction to Nutrition for Health & Medical Sciences, C8390H (Honors), Career Credential**
[Workplace Readiness Skills](#)

Semester

Half Credit

[OR]

***Introduction to Nutrition for Health & Medical Sciences, C8390C (Standard), Career Credential**
[Workplace Readiness Skills](#)

***Introduction to Nutrition for Health & Medical Sciences, CH8390 (Honors), Career Credential**
[Workplace Readiness Skills](#)

Full Year

One Credit

This course will 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.

[Level 3]

***Food Science & Dietetics, C8239O (Standard)**

***Food Science & Dietetics, C8239H (Honors)**

Full Year

One Credit

Students will develop through laboratory and other practical experiences a deeper appreciation for the food system and the impact of science on the food and nutrition industries. Students will explore food sources; the science and technology of food production and processing; and implications for individual and global health and wellness. Career opportunities are explored and include health care, dietetics, and food research, development, and manufacturing. (Prerequisite: C8390O/H)

Therapeutic Services Career Pathway

- **Dental Program of Study**
- Career: **Dental Assistant** (SOC Code: 913091), Growth by 2028 10%, Mean Wage \$40,683, Regional Openings 160

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O (standard)**

***Introduction to Health and Medical Sciences, C8302H (Honors)**

Full Year

One Credit

This course will introduce the student to a variety of healthcare careers and develop 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.

[OR]

***Health Assisting Careers, C8331O (Standard)**

***Health Assisting Careers, C8331H (Honors)**

Full Year

One Credit

Students will explore opportunities in the healthcare field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher

[OR]

***Medical Terminology, C8383O (Standard)**

***Medical Terminology, C8383H (Honors)**

***Medical Terminology, C8383D (Dual Enrollment)**

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2]

***Dental Careers 1, C8328O (Standard), Career Credential [Workplace Readiness Skills](#)**

***Dental Careers 1, C8328H (Honors), Career Credential [Workplace Readiness Skills](#)**

Full Year

Two Credits

Students will be introduced to the careers in dentistry, including dentist (general and specialists), hygienist, dental assistant, dental laboratory technician, and dental receptionist. Students will 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 will include 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.

[Level 3]

***Dental Careers 2, C8329O (Standard), Career Credential Credentialed [Dental Assistant](#)**

***Dental Careers 2, C8329H (Honors), Career Credential Credentialed [Dental Assistant](#)**

Full Year

Two Credits

Students will be introduced to the careers in dentistry, including dentist (general and specialists), hygienist, dental assistant, dental laboratory technician, and dental receptionist. Students will 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 will include 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.

- **Emergency Medical Technician Program of Study**
- Career: **Emergency Medical Technician** (SOC Code: 292041), Growth by 2028 6%, Mean Wage \$36,935, Regional Openings 56

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O (standard)**

***Introduction to Health and Medical Sciences, C8302H (Honors)**

Full Year

One Credit

This course will introduce 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.

[OR]

***Health Assisting Careers, C8331O (Standard)**

***Health Assisting Careers, C8331H (Honors)**

Full Year

One Credit

Students will explore opportunities in the health care field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher.

[OR]

***Medical Terminology, C8383O (Standard)**

***Medical Terminology, C8383H (Honors)**

***Medical Terminology, C8383D (Dual Enrollment)**

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2]

***Emergency Medical Technician 1, C8333H (Honors), Career Credential [Workplace Readiness Skills](#)**

***Emergency Medical Technician 1, C8333D (Dual Enrollment), Career Credential [Workplace Readiness Skills \(CTC@Hull only\)](#)**

Full Year

One Credit

Students will 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 will qualify students to enroll in EMT 2 to complete the program sequence. Students must complete a minimum of 85% 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).

[Level 3]

***Emergency Medical Technician 2, C8334H (Honors), Career Credential [National Registry of Emergency Medical Technicians \(NREMT\)](#)**

***Emergency Medical Technician 2, C8334D (Dual Enrollment), Career Credential [National Registry of Emergency Medical Technicians \(NREMT\)](#)**

Full Year

One Credit

Students will 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 will be required. 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% of the didactic and lab aspects of the course, per 12VAC5-31-1501 in the Code of Virginia. (Prerequisite: C8333H/D)

- **Medical Assisting Program of Study**
- Career: **Medical Assisting** (SOC Code: 319092), Growth by 2028 23%, Mean Wage \$33,935, Regional Openings 290

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O (standard)**

***Introduction to Health and Medical Sciences, C8302H (Honors)**

Full Year

One Credit

This course will introduce 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.

[OR]

***Health Assisting Careers, C8331O (Standard)**

***Health Assisting Careers, C8331H (Honors)**

Full Year

One Credit

Students will explore opportunities in the health care field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher.

[OR]

***Medical Terminology, C8383O (Standard)**

***Medical Terminology, C8383H (Honors)**

***Medical Terminology, C8383D (Dual Enrollment)**

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2] ***Medical Assistant 1**, C8345O (Standard), Career Credential [Workplace Readiness Skills](#)
***Medical Assistant 1**, C8345H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

Two Credits

Students will 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.

[Level 3]

***Medical Assistant 2**, C8346O (Standard), Career Credential [Certified Medical Assistant](#)

***Medical Assistant 2**, C8346H (Honors), Career Credential [Certified Medical Assistant](#)

Full Year

Two Credits

Students will 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. (Prerequisite: C8345O)

- **Nurse Aide Program of Study**
- Career: **Nursing Assistant** (SOC Code: 311014), Growth by 2028 13%, Mean Wage \$28,426, Regional Openings 765

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O (standard)**

***Introduction to Health and Medical Sciences, C8302H (Honors)**

Full Year

One Credit

This course will introduce 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.

[OR]

***Health Assisting Careers, C8331O (Standard)**

***Health Assisting Careers, C8331H (Honors)**

Full Year

One Credit

Students will explore opportunities in the health care field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher.

[OR]

***Medical Terminology, C8383O (Standard)**

***Medical Terminology, C8383H (Honors)**

***Medical Terminology, C8383D (Dual Enrollment)**

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2]

***Nurse Aide 1**, C8360O (Standard), Career Credential [Workplace Readiness Skills](#)

***Nurse Aide 1**, C8360H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

Two Credits

This course will emphasize the study of nursing occupations as related to the health care system. Students will study normal growth and development, simple body structure and function, and medical terminology and will be introduced to microbes and disease. They will receive elementary skill training in patient-nursing assistant relationships; take and record vital signs; learn cardiopulmonary resuscitation; and will [practice bathing, feeding, dressing, and transporting of patients in hospitals and nursing homes. Limited on-the-job instruction in nursing homes and hospitals will be 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.

[Level 3]

***Nurse Aide 2**, C8362O (Standard), Career Credential [Nurse Aide](#)

***Nurse Aide 2**, C8362H (Honors), Career Credential [Nurse Aide](#)

Full Year

Two Credits

Students will receive 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 will 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 will be part of the course. Upon completion of the nurse aide program, students will be eligible to take the nurse aide certification exam that leads to employment as a certified nurse aide in hospitals and nursing homes. (Prerequisite: C8360O/H).

- **Pharmacy Technician Program of Study**
- Career: **Pharmacy Technician** (SOC Code: 292052), Growth by 2028 9%, Mean Wage \$31,778, Regional Openings 143

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O (standard)**

***Introduction to Health and Medical Sciences, C8302H (Honors)**

Full Year

One Credit

This course will introduce 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.

[OR]

***Health Assisting Careers, C8331O (Standard)**

***Health Assisting Careers, C8331H (Honors)**

Full Year

One Credit

Students will explore opportunities in the health care field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher.

[OR]

***Medical Terminology, C8383O (Standard)**

***Medical Terminology, C8383H (Honors)**

***Medical Terminology, C8383D (Dual Enrollment)**

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2]

***Pharmacy Technician 1**, C8305O (Standard), Career Credential [Workplace Readiness Skills](#)

***Pharmacy Technician 1**, C8305H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will be introduced to the basic skills and knowledge needed to begin work as a pharmacy technician. The coursework will fulfill the requirements of the Board of Pharmacy and will prepare students to take the Certified Pharmacy Technician exam. 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.

[Level 3]

***Pharmacy Technician 2**, C8306O (Standard), Career Credential [Certified Pharmacy Technician](#)

***Pharmacy Technician 2**, C8306H (Honors), Career Credential [Certified Pharmacy Technician](#)

Full Year

Two Credits

Students will continue their study of the skills and knowledge needed to work as a pharmacy technician. The coursework will fulfill the requirements of the Board of Pharmacy and will prepare students to take the Certified Pharmacy Technician exam. 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: C8305O).

- **Physical Therapy/ Occupational Therapy Program of Study**
- Career: **Physical Therapist Assistant** (SOC Code: 312021), Growth by 2028 18%, Mean Wage \$63,039, Regional Openings 60

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O** (standard)

***Introduction to Health and Medical Sciences, C8302H** (Honors)

Full Year

One Credit

This course will introduce 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.

[OR]

***Health Assisting Careers, C8331O** (Standard)

***Health Assisting Careers, C8331H** (Honors)

Full Year

One Credit

Students will explore opportunities in the health care field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher.

[OR]

***Medical Terminology, C8383O** (Standard)

***Medical Terminology, C8383H** (Honors)

***Medical Terminology, C8383D** (Dual Enrollment)

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2]

***Physical Therapy Occupational Therapy 1**, C8365O (Standard), Career Credential [Workplace Readiness Skills and Physical Therapy Assistant](#)

***Physical Therapy Occupational Therapy 1**, C8365D (Dual Enrollment), Career Credential [Workplace Readiness Skills and Physical Therapy Assistant](#)

Full Year

Three Credits

Students will be introduced to the professions of physical and occupational therapy. Students will 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 will enable students to gain understanding of rehabilitative care, which is practiced throughout the continuum of care and across the life span of individuals.

[Level 3]

***Physical Therapy Occupational Therapy 2**, C8366O (Standard),

***Physical Therapy Occupational Therapy 2**, C8366D (Dual Enrollment),

Full Year

Three Credits

Students will gain 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 will be reinforced with hands-on activity labs and practical experiences. Students will 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 will 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: C8365O/D)

- **Sports Medicine Program of Study**
- Career: **Athletic Trainer** (SOC Code: 299091), Growth by 2028 15%, Mean Wage \$39,039, Regional Openings 10

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Health and Medical Sciences, C8302O (standard)**

***Introduction to Health and Medical Sciences, C8302H (Honors)**

Full Year

One Credit

This course will introduce 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.

[OR]

***Health Assisting Careers, C8331O (Standard)**

***Health Assisting Careers, C8331H (Honors)**

Full Year

One Credit

Students will explore opportunities in the health care field by developing basic skills common to several assisting careers, including 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 will be managed by the health and medical sciences education teacher.

[OR]

***Medical Terminology, C8383O (Standard)**

***Medical Terminology, C8383H (Honors)**

***Medical Terminology, C8383D (Dual Enrollment)**

Full Year

One Credit

Students will 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 will learn concepts, terms, and abbreviations for each topic.

[Level 2]

***Sports Medicine 1, C8316O (Standard), Career Credential [Workplace Readiness Skills](#)**

***Sports Medicine 1, C8316H (Honors), Career Credential [Workplace Readiness Skills](#)**

Full Year

One Credit

Students will earn a certification in First Aid/CPR/AED, and will be introduced to topics such as human anatomy and physiology, nutrition, biomechanics, medical terminology, injuries and illnesses, and legal and ethical issues in sports medicine. Students will also examine prospective careers in the sports medicine field.

[OR]

***Sports Medicine 1, C7660O (Standard), Career Credential [Workplace Readiness Skills](#)**

***Sports Medicine 1, C7660H (Honors), Career Credential [Workplace Readiness Skills](#)**

Full Year

Two Credits

This course will build upon basic knowledge of Sports Medicine with topics such as exercise physiology, biomechanics, exercise program design, and injury prevention, assessment, treatment, and management. Students prepare for a career in sports medicine and may include completing an internship.

[Level 3]

***Sports Medicine 2, C8317O (Standard)**

***Sports Medicine 2, C8317H (Honors)**

Full Year

One Credit

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: C8316O/H)

[OR]

***Sports Medicine 2, C7662O (Standard)**

***Sports Medicine 2, C7662H (Honors)**

Full Year

Two Credits

This course will build upon basic knowledge acquired in Sports Medicine I (C7660 O or H) 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: C7660O/H)

Hospitality & Tourism Career Cluster

Hospitality & Tourism			
* = Entry Point <i>Red</i> = New CCPS Course, ^=Career Credential	Restaurants & Food/Beverage Services Pathway		Travel & Tourism Pathway
	Culinary Arts		Hospitality & Tourism
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Chef (351011) 12% \$62,065 47		Reservation & Transportation Ticket Agents (434181) 2%\$31,653 25
HS Level 1	*Nutrition & Wellness C8228 - O - .5 C8229 - O - 1		*Principles of Business and Marketing C6115 O - 1
HS Level 2	*Introduction to Culinary Arts C8249 - O - .5 C8250 - O - 1		Travel, Tourism and Destination Marketing C8169 O, H - 1
	^Workplace Readiness ^ ServSafe Food Handler ^ ProStart 1 - Manchester HS Only		^Workplace Readiness
HS Level 3	*Culinary Arts I - Baking C8275 C, H, D - 2	*Culinary Arts I - Restaurant C8275 O, H, D - 2	Lodging ManagementC8159 O, H - 1
	^Workplace Readiness ^ServSafe Food Handler	^Workplace Readiness ^ServSafe Food Handler ^ ProStart 2 - Manchester HS Only	
	Baking & Pastry C8279 C - 1	Restaurant Operations C8274 O-1	
HS Level 4	Culinary Arts II – Baking C8276 C, H, D – 2	Culinary Arts II - Restaurant C8276 O, H, D - 2	Travel and Tourism Marketing C8139 O - 1
	^ServSafe Food Protection Manager	^ServSafe Food Protection Manager	
	Catering/Banquet C8272 O - 1		

Restaurants & Food/Beverage Services Career Pathway

- **Culinary Arts Program of Study**
- Career: **Chef** (SOC Code: 351011), Growth by 2028 12%, Mean Wage \$62,065, Regional Openings 47

Sequence of Courses: (*=Entry point)

[Level 1]

***Nutrition & Wellness**, C8228O (Standard)

Semester

Half Credit

[OR]

***Nutrition & Wellness**, C8229O (Standard)

Full Year

One Credit

Students will 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.

[Level 2]

***Introduction to Culinary Arts**, C8249O (Standard), Career Credential [Workplace Readiness Skills](#), [ServSafe Food Handler](#), [ProStart 1 \(Manchester HS Only\)](#)

Semester

Half Credit

[OR]

***Introduction to Culinary Arts**, C8250O (Standard), Career Credential [Workplace Readiness Skills](#), [ServSafe Food Handler](#), [ProStart 1 \(Manchester HS Only\)](#)

Full Year

One Credit

Students will 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 will also explore postsecondary education options and career opportunities within the food service industry.

[Level 3]

***Culinary Arts 1, C8275C** (Baking - Standard), Career Credential [Workplace Readiness Skills](#), [ServSafe Food Handler](#)

***Culinary Arts 1, C8275O** (Restaurant - Standard), Career Credential [Workplace Readiness Skills](#), [ServSafe Food Handler](#), [ProStart 1 \(Manchester HS Only\)](#)

***Culinary Arts 1, C8275H** (Honors), Career Credential [Workplace Readiness Skills](#), [ServSafe Food Handler](#), [ProStart 1 \(Manchester HS Only\)](#)

***Culinary Arts 1, C8275D** (Dual Enrollment), Career Credential [Workplace Readiness Skills](#), [ServSafe Food Handler](#), [ProStart 1 \(Manchester HS Only\)](#)

Full Year

Two Credits

Students will acquire with a foundational understanding of the food service industry and will be introduced to opportunities to build technical skills in food preparation and service. Students will examine the basic rules of kitchen safety and sanitation, of purchasing and receiving, and of fundamental nutrition. The curriculum incorporates math and science in culinary applications.

[OPTION]

***Baking & Pastry, C8279C** (Standard)

Full Year

One Credit

The Culinary Arts Specialization 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. The curriculum continues to place a strong emphasis on science and mathematics knowledge and skills, critical thinking, practical problem-solving, and entrepreneurial opportunities within the field of culinary arts. (Corequisite: C8275H/O/D)

[OPTION]

***Restaurant Operations, C8274O** (Standard)

Full Year

One Credit

Students will be provided the skills and knowledge to pursue careers in the food service industry. In a hands-on environment, students will apply nutritional principles, plan menus, use business and mathematics skills, select and maintain food service equipment, and adhere to safety and sanitation standards. The curriculum will place a strong emphasis on science and mathematics knowledge and skills, critical thinking, practical problem-solving, and entrepreneurial opportunities within the field of culinary arts. (Corequisite: C8275O/H/D)

[LEVEL 4]

***Culinary Arts 2, C8276C (Baking - Standard), Career Credential [ServSafe Food Protection Manager](#)**

***Culinary Arts 2, C8276O (Restaurant - Standard), Career Credential [ServSafe Food Protection Manager](#)**

***Culinary Arts 2, C8276H (Honors), Career Credential [ServSafe Food Protection Manager](#)**

***Culinary Arts 2, C8276D (Dual Enrollment), Career Credential [ServSafe Food Protection Manager](#)**

Full Year

Two Credits

Students will continue to acquire a comprehensive knowledge of the food service industry while refining their technical skills. Students will apply kitchen safety and sanitation, nutritional principles, and advanced food-preparation techniques. Students will complete work-based learning in venues such as the a la carte kitchen, the dining room, and catered functions. (Prerequisite: C8275O/H/D)

[OPTIONAL]

***Catering/Banquet, C8272O (Standard)**

Full Year

One Credit

Students will gain the skills and knowledge to pursue careers in the food service industry. In a hands-on environment, students will 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: 1) Baking and Pastry Food-Preparation Techniques; 2) Catering/Banquet Food-Preparation Techniques; 3) Restaurant Operation Techniques; and, 4) Quantity Food-Preparation Techniques. (Corequisite: C8276OH/O/D)

Travel & Tourism Career Pathway

- Program of Study: **Hospitality & Tourism**
- Career: **Reservation & Transportation Ticket Agents** (SOC Code: 434181), Growth by 2028 2%, Mean Wage \$31,653, Regional Openings 25

Sequence of Courses: (*=Entry point)

[Level 1]

***Principles of Business and Marketing**, C6115O (Standard)

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[Level 2] ***Travel, Tourism, and Destination Marketing** C8169O (Standard), Career Credential [Workplace Readiness Skills](#)

***Travel, Tourism, and Destination Marketing** C8169H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will take an in-depth look into marketing and sales in the travel and tourism field. Students will 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 will gain an understanding of career trends and opportunities. Academic skills (e.g., mathematics, science, English, history, social science) related to the content will also be a part of this course.

[Level 3]

***Lodging Management**, C8159O (Standard)

***Lodging Management**, C8159H (Honors)

Full Year

Two Credits

Students will 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 will obtain a thorough understanding of the hotel industry and the career options available. Computer/technology applications and DECA activities will enhance the course. DECA, the co-curricular student organization, offers opportunities in leadership, community, and competitive events. (Prerequisite: C8169O/H)

Human Services Career Cluster

Human Services				
* = Entry Point <i>Red</i> = New CCPS Course, ^=Career Credential	Early Childhood Development & Services Pathway	Personal Care Services Pathway		
Programs of Study	Living & Parenting	Barbering	Cosmetology	Nails
<u>Local Employment Outlook</u> * Growth by 2028 * Mean Wage & Salary * Regional Opening	Childcare Worker (399011) 8% \$20,693 395	Barber (395012) 14% \$29,191 553	Hair Stylist (395012) 14% \$29,191 553	Manicurist (395092) 17% \$22,020 111
HS Level 1	*Independent Living C8219 O - 1	*Master Barber I C8743 O - 3 ^Workplace Readiness	*Cosmetology I C8745 O, H - 3 ^Workplace Readiness	*Nail Technician I C8692 O - 1 ^Workplace Readiness
HS Level 2	*Child Development and Parenting C8231 (.5) C8232 (1) O - 1 ^Workplace Readiness	Master Barber II C8744 O - 3 ^State Board Exam	Cosmetology II C8746 O, H - 3 ^State Board Exam	Nail Technician II C8693 O - 1 ^State Board Exam
HS Level 3	Life Planning C8227 O - 1			

Career Pathway: Early Childhood Development & Services Pathway

- **Living & Parenting Program of Study**
- Career: **Childcare Worker** (SOC Code: 399011), Growth by 2028 8%, Mean Wage \$20,693, Regional Openings 395

Sequence of Courses: (*=Entry point)

[Level 1]

***Independent Living**, C82190 (Standard)

Full Year

One Credit

Students will 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.

[Level 2]

***Child Development and Parenting**, C82310 (Standard), Career Credential [Workplace Readiness Skills](#)

Semester

Half Credit

[OR]

***Child Development and Parenting**, C82320 (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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.

[Level 3]

Life Planning, C82270 (Standard)

Full Year

One Credit

Students will be introduced to life skills. Creating and maintaining healthy relationships, practicing personal nutrition, health, and wellness, and developing a life-management plan will be emphasized through relevant life applications.

Personal Care Services Career Pathway

- **Barbering Program of Study**
- Career: **Barber** (SOC Code: 395012), Growth by 2028 14%, Mean Wage \$29,191, Regional Openings 553

Sequence of Courses: (*=Entry point)

[Level 1]

***Master Barber 1**, C8743O (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

Three Credits

Students will study hair, scalp, and skin. Students will be grounded in theory as they prepare in a clinical lab setting, using mannequins and live models for manipulative practice. The program will emphasize safety and sanitation, communication, and management skills. Related areas of study include psychology, ethics, and professional image. Competency completions will prepare the students to work or apprentice in a local barbershop or beauty salon.

[Level 2]

***Master Barber 2**, C8744O (Standard), Career Credential [State Board Exam](#)

Full Year

Three Credits

Students will build on their theoretical foundation and prepare in a clinical lab setting, using mannequins and live models for manipulative practice. The program will emphasize safety and sanitation, communication, and management skills. Related areas of study will include psychology, ethics, and professional image. Competency completions will prepare the students to work or apprentice in a local barbershop or beauty salon. (Prerequisite: C8743O)

- **Cosmetology Program of Study**
- Career: **Hair Stylist** (SOC Code: 395012), Growth by 2028 14%, Mean Wage \$29,191, Regional Openings 553

Sequence of Courses: (*=Entry point)

[Level 1]

***Cosmetology 1**, C8745O (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

Three Credits

Students will study hair, skin, and nails and their related care. Students will be 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 will develop skills in shampooing and conditioning hair, as well as styling and cutting hair. They will be introduced to chemical texture services and develop skills in manicure and pedicure procedures.

[Level 2]

***Cosmetology 2**, C8746O (Standard), Career Credential [State Board Exam](#)

Full Year

Three Credits

Students will 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 will be 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/H)

- **Nails Program of Study**
- Career: **Manicurist** (SOC Code: 395092), Growth by 2028 17%, Mean Wage \$22,020, Regional Openings 111

Sequence of Courses: (*=Entry point)

[Level 1]

***Nail Technician 1**, C8692O (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will learn to manicure, pedicure, install, and maintain artificial nails, and apply concepts associated with bacteriology, sanitation, nail disorders, anatomy and physiology, and safety.

[Level 2]

***Nail Technician 2**, C8693O (Standard), Career Credential [State Board Exam](#)

Full Year

One Credit

Students will 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.
(Pre-requisite: C86920)

Information Technology Career Cluster

Information Technology								
* = Entry Point, <i>Red</i> = New CCPS Course, ^=Career Credential, ^=Career Credential	Web & Digital Communications Pathway	Network Systems Pathway		Information Support & Services Pathway	Programming & Software Development Pathway			
Programs of Study	Web Development	Cyber Security		Computer Networking	Computer Software/Hardware	Computer Programming		Computer Science
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Web Developer (151134) 11% \$79,571 70	Information Security Analyst (151122) 33% \$94,219 109		Network Systems Administrator (151142) 8% \$84,949 176	Computer Support Specialist (151151) 9% \$49,657 229	Computer Programmer (151131) -4% \$95,493 91		Software Developer - Applications (151132) 24% \$102,894 476
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, H - 1		*Computer Networking Hardware Operations I C8542 O, D, E, H - .5	*Computer Systems Technology I C8622 O, D, H - 1	*Programming C6640 O, H, D - 1	*Database Design and Management (Oracle) C6660 O, H, D - 1	*Information Technology Fundamentals C6670 O - 1
	^Adobe Dreamweaver	^Workplace Readiness		^Workplace Readiness	^Workplace Readiness ^CompTIA A+ (Part 1)	^Workplace Readiness	^Workplace Readiness	^MOS - PowerPoint
HS Level 3	Advanced Design, Multimedia, and Web Technologies C6631 O, H, D - 1	Cybersecurity Operations C6304 O, H, D - 1	Cybersecurity Systems Technology C8628 O, H, D - 1	Computer Networking Hardware Operations II C8543 O, D, E , H - .5	Computer Systems Technology II C8623 O, D, H - 2	Advanced Programming C6641 O, H, D - 1	Java Programming (Oracle) C6661 O, H, D - 1	*Programming C6640 O, H, D - 1
	^Adobe Premiere	^CompTIA Security+	^CompTIA Security+		^CompTIA A+ (Part 2)			^Workplace Readiness
HS Level 4		Advanced Cybersecurity Operations C6306 O, H, D - 1	Cybersecurity Systems Technology, Advanced C8629 O, H , D - 2	Computer Networking Hardware Operations III C8544 O, D, E , H - .5			Database Design and Management with PL/SQL (Oracle) C6662 O, H, D - 1	
HS Level 5				Computer Networking Hardware Operations IV C8545 O, D, E, H - .5				
				^CompTIA Net+				

Web & Digital Communications Career Pathway

- **Web Development Program of Study**
- Career: **Web Developer** (SOC Code: 151134), Growth by 2028 11%, Mean Wage \$79,571, Regional Openings 70

Sequence of Courses: (*=Entry point)

[Level 1]

***Digital Applications**, C66170 (Standard)

Semester

Half Credit

[OR]

***Digital Applications**, C66110 (Standard)

Full Year

One Credit

Students will 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. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

[Level 2]

***Design, Multimedia, and Web Technologies**, C66300 (Standard), Career Credential [Adobe Dream Weaver](#)

***Design, Multimedia, and Web Technologies**, C6630H (Honors), Career Credential [Adobe Dream Weaver](#)

***Design, Multimedia, and Web Technologies**, C6630D (Dual Enrollment), Career Credential [Adobe Dream Weaver](#)

Full Year

One Credit

Students will develop proficiency in designing and creating desktop-published projects, multimedia presentations/projects, and Web sites, using industry-standard application software. Students will apply principles of layout and design in completing projects. Students will create portfolios that include a résumé and a variety of desktop-published, multimedia, and web site projects produced in the course.

[Level 3]

***Advanced Design, Multimedia, and Web Technologies**, C66310 (Standard), Career Credential [Adobe Premiere](#)

***Advanced Design, Multimedia, and Web Technologies**, C6631H (Honors), Career Credential [Adobe Premiere](#)

***Advanced Design, Multimedia, and Web Technologies**, C6631D (Dual Enrollment), Career Credential [Adobe Premiere](#)

Full Year

One Credit

Students will develop advanced skills for creating desktop-published, interactive multimedia, and Web-site projects. Students will work with sophisticated hardware and software, applying skills to real-world projects. (Prerequisite: C6630O/H/D)

Network Systems Career Pathway

- Program of Study: **Cyber Security**
- Career: **Information Security Analyst** (SOC Code: 151122), Growth by 2028 33%, Mean Wage \$94,219, Regional Openings 109

Sequence of Courses: (*=Entry point)

[Level 1]

***Digital Applications**, C6617O (Standard)

Semester

Half Credit

[OR]

***Digital Applications**, C6611O (Standard)

Full Year

One Credit

Students will 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. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

[Level 2]

***Cybersecurity Fundamentals**, C6302O (Standard), Career Credential [Workplace Readiness Skills](#)

***Cybersecurity Fundamentals**, C6302H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

This course will focus 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.

[Level 3] ***Cybersecurity Operations**, C6304O (Standard), Career Credential [CompTIA Security+](#)

***Cybersecurity Operations**, C6304H (Honors), Career Credential [CompTIA Security+](#)

***Cybersecurity Operations**, C6304D (Dual Enrollment), Career Credential [CompTIA Security+](#)

Full Year

One Credit

Students will learn the many aspects of computer support and network administration. Students will learn networking concepts, from usage to components, and create peer-to-peer network systems and client server networks. Students will learn how to install, configure, and connect network cards; install operating systems; create, set up, and manage accounts; load software; and, 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: C6302O/H)

[OR]

***Cybersecurity Systems Technology, C8628O (Standard), Career Credential [CompTIA Security+](#)**

***Cybersecurity Systems Technology, C8628H (Honors), Career Credential [CompTIA Security+](#)**

***Cybersecurity Systems Technology, C8628D (Dual Enrollment), Career Credential [CompTIA Security+](#)**

Full Year

One Credit

Students will 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 will develop skills in computer networking and resource sharing. In addition, students will 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: C6302O/H)

[Level 4]

***Advanced Cybersecurity Operations, C6306O (Standard)**

***Advanced Cybersecurity Operations, C6306H (Honors)**

***Advanced Cybersecurity Operations, C6306D (Dual Enrollment)**

Full Year

One Credit

Students will learn the aspects of network administration, focusing on the management and support of network users and systems. The topics covered will 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 will 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 will be 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: C6304O/H/D)

[OR]

***Cybersecurity Systems Technology Advanced, C8629O (Standard)**

***Cybersecurity Systems Technology Advanced, C8629H (Honors)**

***Cybersecurity Systems Technology Advanced, C8629D (Dual Enrollment)**

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, and Network security, standards, and protocols. Students will gain a basic understanding of emerging technologies including unified communications, mobile, cloud, and virtualization technologies.

- **Computer Networking Program of Study**
- Career: **Network Systems Administrator** (SOC Code: 151142), Growth by 2028 8%, Mean Wage \$84,949, Regional Openings 176

Sequence of Courses: (*=Entry point)

[Level 1]

***Digital Applications, C66170** (Standard)

Semester

Half Credit

[OR]

***Digital Applications, C66110** (Standard)

Full Year

One Credit

Students will 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. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

[Level 2]

***Computer Networking Hardware Operations 1, C8542O** (Standard), Career Credential [Workplace Readiness Skills](#)

***Computer Networking Hardware Operations 1, C8542H** (Honors), Career Credential [Workplace Readiness Skills](#)

***Computer Networking Hardware Operations 1, C8542D** (Dual Enrollment), Career Credential [Workplace Readiness Skills](#)

***Computer Networking Hardware Operations 1, C8542E** (Online), Career Credential [Workplace Readiness Skills](#)

Semester

Half Credit

This course will prepare students for entry-level careers in the Network Systems pathway. Students will develop skills needed to become network technicians, PC support specialist, information systems operators, and network security analyst. It will provide a hands-on introduction to networking using tools and hardware commonly found in residential and commercial environments. Labs include PC installation, Internet connectivity, wireless connectivity, file and print sharing, and the installation of game consoles, scanners, and cameras.

[Level 3]

***Computer Networking Hardware Operations 2**, C8543O (Standard)

***Computer Networking Hardware Operations 2**, C8543H (Honors)

***Computer Networking Hardware Operations 2**, C8543D (Dual Enrollment)

***Computer Networking Hardware Operations 2**, C8543E (Online)

Semester

Half Credit

This course will prepare students for jobs as network technicians and will help 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 will also familiarize 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. Network monitoring and basic troubleshooting skills will also be taught in context. (Prerequisite: C8542O/H/D)

[Level 4]

***Computer Networking Hardware Operations 3**, C8544O (Standard)

***Computer Networking Hardware Operations 3**, C8544H (Honors)

***Computer Networking Hardware Operations 3**, C8544D (Dual Enrollment)

***Computer Networking Hardware Operations 3**, C8544E (Online)

Semester

Half Credit

This course will familiarize 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: C8543O/H/D)

[Level 5]

***Computer Networking Hardware Operations 4**, C8545O (Standard), Career Credential [CompTIA Net+](#)

***Computer Networking Hardware Operations 4**, C8545H (Honors), Career Credential [CompTIA Net+](#)

***Computer Networking Hardware Operations 4**, C8545D (Dual Enrollment), Career Credential [CompTIA Net+](#)

***Computer Networking Hardware Operations 4**, C8545E (Online), Career Credential [CompTIA Net+](#)

Semester

Half Credit

This course will introduce 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: C8544O/H/D)

Information Support & Services Career Pathway

- **Computer Software/Hardware Program of Study**
- Career: **Computer Support Specialist** (SOC Code: 151151), Growth by 2028 9%, Mean Wage \$49,657, Regional Openings 229

Sequence of Courses: (*=Entry point)

[Level 1]

***Digital Applications**, C66170 (Standard)

Semester

Half Credit

[OR]

***Digital Applications**, C66110 (Standard)

Full Year

One Credit

Students will 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. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

[Level 2]

***Computer Systems Technology I**, C8622O (Standard), Career Credential [Workplace Readiness, and CompTIA A+ \(Part 1\)](#)

***Computer Systems Technology I**, C8622H (Honors), Career Credential [Workplace Readiness, and CompTIA A+ \(Part 1\)](#)

***Computer Systems Technology I**, C8622D (Dual Enrollment), Career Credential [Workplace Readiness, and CompTIA A+ \(Part 1\)](#)

Full Year

One Credit

Students will 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 will develop skills in computer networking and resource sharing. In addition, students will explore the relationships between internal and external computer components.

[Level 3]

***Computer Systems Technology I**, C8623O (Standard), Career Credential [CompTIA A+ \(Part 2\)](#)

***Computer Systems Technology I**, C8623H (Honors), Career Credential [CompTIA A+ \(Part 2\)](#)

***Computer Systems Technology I**, C8623D (Dual Enrollment), Career Credential [CompTIA A+ \(Part 2\)](#)

Full Year

Two Credits

This advanced course will provide students with training in procedures for optimizing and troubleshooting concepts for computer systems, subsystems, and networks. Students explore: 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: C8622O/H/D)

Programming & Software Development Career Pathway

- **Computer Programming Program of Study**
- Career: **Computer Programmer** (SOC Code: 151131), Growth by 2028 -4%, Mean Wage \$95,493, Regional Openings 91

Sequence of Courses: (*=Entry point)

[Level 1]

***Digital Applications**, C66170 (Standard)

Semester

Half Credit

[OR]

***Digital Applications**, C66110 (Standard)

Full Year

One Credit

Students will 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. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

[Level 2]

***Programming**, C66400 (Standard), Career Credential [Workplace Readiness](#)

***Programming**, C6640H (Honors), Career Credential [Workplace Readiness](#)

***Programming**, C6640D (Dual Enrollment), Career Credential [Workplace Readiness](#)

Full Year

One Credit

Students will explore programming concepts, use algorithmic procedures, implement programming procedures with one or more standard languages, and master programming fundamentals. Coding will be used throughout the course. Graphical user interfaces may be used as students design and develop interactive multimedia applications, including game programs. In addition, students will employ HTML or JavaScript to create Web pages. Students develop their employability skills through a variety of activities.

[OR]

***Database Design and Management (Oracle), C6660O (Standard), Career Credential [Workplace Readiness](#)**

***Database Design and Management (Oracle), C6660H (Honors), Career Credential [Workplace Readiness](#)**

***Database Design and Management (Oracle), C6660D (Dual Enrollment), Career Credential [Workplace Readiness](#)**

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.

[Level 3]

***Advanced Programming, C6641O (Standard)**

***Advanced Programming, C6641H (Honors)**

***Advanced Programming, C6641D (Dual Enrollment)**

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 will 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: C6640O/H/D)

[OR]

***Java Programming (Oracle), C6661O (Standard)**

***Java Programming (Oracle), C6661H (Honors)**

***Java Programming (Oracle), C6661D (Dual Enrollment)**

Full Year

One Credit

Students will 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/H/D)

[Level 4]

***Database Design and Management with PL/SQL (Oracle), C6662O (Standard)**

***Database Design and Management with PL/SQL (Oracle), C6662H (Honors)**

***Database Design and Management with PL/SQL (Oracle), C6662D (Dual Enrollment)**

Full Year

One Credit

Students will 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. Students may have the opportunity to combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the year. (Prerequisite: C6661O/H/D)

- **Computer Science Program of Study**
- Career: **Software Developer - Applications** (SOC Code: 151132), Growth by 2028 24%, Mean Wage \$102,894, Regional Openings 476

Sequence of Courses: (*=Entry point)

[Level 1]

***Digital Applications**, C66170 (Standard)

Semester

Half Credit

[OR]

***Digital Applications**, C66110 (Standard)

Full Year

One Credit

Students will 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. Student skills may be enhanced by participation in work-based learning activities and/or the Future Business Leaders of America (FBLA).

[Level 2]

***Information Technology Fundamentals**, C66700 (Standard), Career Credential [MOS PowerPoint](#)

Full Year

One Credit

This course will introduce students to the essential technical and professional skills required to pursue programs leading to professional careers and information technology certifications. The course will introduce skills related to digital technology, including: digital applications; maintenance, upgrading, and troubleshooting; and, networking fundamentals. Students will also explore ethical issues related to computers and Internet technology and examine web page and game design.

[Level 3]

***Programming**, C66400 (Standard), Career Credential [Workplace Readiness Skills](#)

***Programming**, C6640H (Honors), Career Credential [Workplace Readiness Skills](#)

***Programming**, C6640D (Dual Enrollment), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will explore programming concepts, use algorithmic procedures, implement programming procedures with one or more standard languages, and master programming fundamentals. Coding will be used throughout the course. Graphical user interfaces may be used as students design and develop interactive multimedia applications, including game programs. In addition, students will employ HTML or JavaScript to create Web pages. Students develop their employability skills through a variety of activities.

Law, Public Safety, Corrections & Security Career Cluster

Law, Public Safety, Corrections & Security		
* = Entry Point <i>Red</i> = New CCPS Course, ^=Career Credential	Law Enforcement Services Pathway	Legal Services Pathway
Programs of Study	Criminal Justice	Legal Administration
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Forensic Science Technician (194092) 13% \$58,285 10	Paralegal (232011) 0% \$50,897 244
HS Level 1	*Criminal Justice I C8702 H, D - 1 ^Workplace Readiness	*Business Law C6131 O, H, D - 1
HS Level 2	Criminal Justice II C8703 H, D - 2	Legal Administration C6735 O - 1 ^Workplace Readiness
HS Level 3	Forensic Technology C8409 H - 1	
HS Level 4	Emergency Medical Telecommunications C8337 O, H - 1 ^Certified Emergency Telecommunicator Examination	

Law Enforcement Services Career Pathway

- **Criminal Justice Program of Study**
- Career: **Forensic Science Technician** (SOC Code: 194092), Growth by 2028 13%, Mean Wage \$58,285, Regional Openings 10

Sequence of Courses: (*=Entry point)

[Level 1]

***Criminal Justice 1**, C8702H (Honors), Career Credential [Workplace Readiness Skills](#)

***Criminal Justice 1**, C8702D (Dual Enrollment), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will be introduced to law, public safety, corrections, and security practices. Students will examine contemporary issues in the criminal justice system and explore crime scene investigation, criminal investigation, court procedures, policing, and juvenile justice. This course will provide a foundation for careers as lawyers, as forensics specialists, and as law enforcement and corrections officers.

[Level 2]

***Criminal Justice 2**, C8703H (Honors)

***Criminal Justice 2**, C8703D (Dual Enrollment)

Full Year

Two Credits

Students will apply knowledge learned in Criminal Justice I through practical scenarios involving crime scene investigation, criminal investigation, and crisis intervention. Students will explore trends in in correctional standards and in identifying and preventing terror threats. Students will prepare for careers as lawyers, forensics specialists, and law enforcement and corrections officers. (Prerequisite: C8702H/D)

[Level 3]

***Forensic Technology**, C8409H (Honors)

Full Year

One Credit

This course will introduce students to forensic science careers in toxicology, serology, controlled substances, latent fingerprints, firearm/tool mark, DNA and document analysis, among others.

[Level 4]

***Emergency Medical Telecommunications**, C8337O (Standard), Career Credential [Certified Emergency Telecommunicator Examination](#)

***Emergency Medical Telecommunications**, C8337H (Honors), Career Credential [Certified Emergency Telecommunicator Examination](#)

Full Year

One Credit

Emergency Medical Telecommunications is designed to provide the beginning telecommunicator with an understanding of situations encountered in an emergency communications environment. The student will be able to summarize issues involving the telecommunicator's role and responsibilities as a member of the health and public safety environment. The student will be also be able to summarize issues involving resources available to a telecommunicator, the importance of maintaining confidentiality, and liability and legal issues involving emergency telecommunicators and their agencies. The student will be able to describe the process of stress management, inside and outside a communications department/center. The student will develop the entry-level skills needed in a telecommunications environment for rescue, fire, and police.

Legal Services Career Pathway

- **Legal Administration Program of Study**
- Career: **Paralegal** (SOC Code: 232011), Growth by 2028 0%, Mean Wage \$50,897, Regional Openings 244

Sequence of Courses: (*=Entry point)

[Level 1]

***Business Law**, C6131O (Standard)

***Business Law**, C6131H (Honors)

***Business Law**, C6131D (Dual Enrollment)

Full Year

One Credit

Students will examine the foundations of the American legal system and learn the rights and responsibilities of citizens. Students will gain practical knowledge and life skills by exploring economic and social concepts related to laws governing business and individuals. Focus areas will include contracts, consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and careers in the legal profession. Students will also combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year. (Prerequisite: C6135O/H/D/I)

[Level 2]

***Legal Administration**, C6735O (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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. (Prerequisite: C6131O/H)

Manufacturing Career Cluster

Manufacturing				
* = Entry Point <i>Red</i> = New CCPS Course, ^=Career Credential				
Programs of Study	Precision Machining Technology (PMT)	Advanced Engineering & Manufacturing	Mechatronics	Production Workers - All Other
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Machinist (514041) 0% \$49,981 132	Production Supervisor (511011) -3% \$64,113 165	Electrical and Electronic Engineering Technician (173023) 3% \$71,071 48	Production Worker (519199) -6% \$31,381 76
HS Level 1	*Precision Machining Technology I C8539 D - 3	*Manufacturing Systems I C8425 O, H - 1	*Mechatronics I C8554 O, H, D - 1	*Materials & Processes C8433 O - 1
		^Workplace Readiness	^Workplace Readiness	
HS Level 2	Precision Machining Technology II C8540 D - 3	Manufacturing Systems II C8427 O, H - 1	Mechatronics II C8555 O, H, D - 1	Construction Technology C8431 O - 1
	^NIMS (National Institute for Metalworking Skills Level I)			^Workplace Readiness
HS Level 3		*Materials & Processes C8433 O - 1	Mechatronics III C8556 O, H, D - 1	Manufacturing Systems 1 C8425 O, H - 1
HS Level 4		Electronics/Industrial Robotics Technology C8547 O, H, D - 1		

Production and/or Manufacturing Production Process Development Career Pathway

- **Precision Machining Technology Program of Study**
- Career: **Machinist** (SOC Code: 514041), Growth by 2028 0%, Mean Wage \$49,981, Regional Openings 132

Sequence of Courses: (*=Entry point)

[Level 1]

***Precision Machining Technology 1**, C8539D (Dual/Concurrent Enrollment)

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. *(This course is held at Brightpoint Community College – Chester Campus.)*

[Level 2]

Precision Machining Technology 2, C8540D (Dual/Concurrent Enrollment), Career Credential [NIMS \(National Institute for Metal Working Skills\) Level 1](#)

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. *(This course is held at Brightpoint Community College – Chester Campus.) (Prerequisite: C8539D)*

- **Advanced Engineering and Manufacturing Program of Study**
- Career: **Production Supervisor** (SOC Code: 511011), Growth by 2028 -3%, Mean Wage \$64,113, Regional Openings 165

Sequence of Courses: (*=Entry point)

[Level 1]

***Manufacturing Systems 1**, C8425O (Standard), Career Credential [Workplace Readiness Skills](#)

***Manufacturing Systems 1**, C8425H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will be provided 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 will participate in individual and team activities to create products that demonstrate critical elements of manufacturing.

[Level 2]

Manufacturing Systems 2, C8427O (Standard)

Manufacturing Systems 2, C8427H (Honors)

Full Year

One Credit

Students will develop an in-depth understanding of automation and its applications in manufacturing. Activities center on flexible manufacturing processes and computer integrated manufacturing (CIM). Students will work in teams to solve complex interdisciplinary problems that stem from the major systems in automated manufacturing. (*Prerequisite: C8425O/H*)

[Level 3]

Materials & Processes, C8433O (Standard)

Full Year

One Credit

Students will 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.

[Level 4]

Electronics/Industrial Robotics Technology, C8547O (Standard)

Electronics/Industrial Robotics Technology, C8547H (Honors)

Electronics/Industrial Robotics Technology, C8547D (Dual Enrollment)

Full Year

One Credit

Students will be provided 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. (Prerequisites: C8556O/H/D or C8427O/H)

- **Mechatronics Program of Study**
- Career: **Electrical and Electronic Engineering Technician** (SOC Code: 173023), Growth by 2028 3%, Mean Wage \$71,071, Regional Openings 48

Sequence of Courses: (*=Entry point)

[Level 1]

***Mechatronics 1**, C8554O (Standard), Career Credential [Workplace Readiness Skills](#)

***Mechatronics 1**, C8554H (Honors), Career Credential [Workplace Readiness Skills](#)

***Mechatronics 1**, C8554D (Dual Enrollment), Career Credential [Workplace Readiness Skills](#)

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.

[Level 2]

Mechatronics 2, C8555O (Standard)

Mechatronics 2, C8555H (Honors)

Mechatronics 2, C8555D (Dual Enrollment)

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. (Prerequisite: C8554O/H/D)

[Level 3]

Mechatronics 2, C8556O (Standard)

Mechatronics 2, C8556H (Honors)

Mechatronics 2, C8556D (Dual Enrollment)

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. (Prerequisite: C8555O/H/D)

[Level 4]

Electronics/Industrial Robotics Technology, C8547O (Standard)

Electronics/Industrial Robotics Technology, C8547H (Honors)

Electronics/Industrial Robotics Technology, C8547D (Dual Enrollment)

Full Year

One Credit

Students will be provided 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. (*Prerequisites: C8556O/H/D or C8427O/H*)

- **Production Workers Program of Study – All Other**
- Career: **Production Worker** (SOC Code: 519199), Growth by 2028 -6%, Mean Wage \$31,381, Regional Openings 76

Sequence of Courses: (*=Entry point)

[Level 1]

***Materials & Processes, C8433O (Standard)**

Full Year

One Credit

Students will 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.

[Level 2]

Construction Technology, C8431O (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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. Students will 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.

[Level 3]

***Manufacturing Systems 1, C8425O (Standard)**

***Manufacturing Systems 1, C8425H (Honors)**

Full Year

One Credits

Students will be provided 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 will participate in individual and team activities to create products that demonstrate critical elements of manufacturing.

Marketing Career Cluster

Manufacturing				
* = Entry Point <i>Red</i> = New CCPS Course, ^= <i>Career Credential</i>				
Programs of Study	Precision Machining Technology (PMT)	Advanced Engineering & Manufacturing	Mechatronics	Production Workers - All Other
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Machinist (514041) 0% \$49,981 132	Production Supervisor (511011) -3% \$64,113 165	Electrical and Electronic Engineering Technician (173023) 3% \$71,071 48	Production Worker (519199) -6% \$31,381 76
HS Level 1	*Precision Machining Technology I C8539 D - 3	*Manufacturing Systems I C8425 O, H - 1 ^Workplace Readiness	*Mechatronics I C8554 O, H, D - 1 ^Workplace Readiness	*Materials & Processes C8433 O - 1
HS Level 2	Precision Machining Technology II C8540 D - 3 ^NIMS (National Institute for Metalworking Skills Level I)	Manufacturing Systems II C8427 O, H - 1	Mechatronics II C8555 O, H, D - 1	Construction Technology C8431 O - 1 ^Workplace Readiness
HS Level 3		*Materials & Processes C8433 O - 1	Mechatronics III C8556 O, H, D - 1	Manufacturing Systems 1 C8425 O, H - 1
HS Level 4		Electronics/Industrial Robotics Technology C8547 O, H, D - 1		

Merchandising Career Pathway

- **Fashion Marketing Program of Study**
- Career: **Merchandise Displayer** (SOC Code: 271026), Growth by 2028 -4%, Mean Wage \$30,358, Regional Openings 89

Sequence of Courses: (*=Entry point)

[Level 1]

***Principles of Business and Marketing**, C6115O (Standard)

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[OR]

***Marketing Exploration**, C8110O (Standard)

***Marketing Exploration**, C8110H (Honors)

Full Year

One Credit

Students will gain an understanding of the importance of marketing in today's society. They will 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.

[Level 2]

***Fashion Marketing**, C8140O (Standard), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will gain basic knowledge of the apparel and accessories industry and skills necessary for successful employment in apparel businesses. Students will 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 will also be studied.

[Level 3]

***Advanced Fashion Marketing, C81450 (Standard)**

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: C81400)

Marketing Communications Career Pathway

- **Digital Marketing Program of Study**
- Career: **Public Relations Specialist** (SOC Code: 273031), Growth by 2028 6%, Mean Wage \$65,358, Regional Openings 139

Sequence of Courses: (*=Entry point)

[Level 1]

***Principles of Business and Marketing**, C6115O (Standard)

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[OR]

***Marketing Exploration**, C8110O (Standard)

***Marketing Exploration**, C8110H (Honors)

Full Year

One Credit

Students will gain an understanding of the importance of marketing in today's society. They will 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.

[Level 2]

***Digital and Social Media Marketing**, C8125O (Standard), Career Credential [Workplace Readiness Skills](#)

***Digital and Social Media Marketing**, C8125H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

This course will introduce students to digital and social media marketing. Students will explore principles, strategies, tools, and tactics related to consumers, branding, advertising, and promotions. Students will explore how success is measured in a digital and social media marketing campaign. This course will emphasize ethics, laws, and security. Students also investigate business and marketing plans as well as careers in digital and social media marketing.

[Level 3]

***Cybersecurity in Marketing, C8126O (Standard)**

Full Year

One Credit

Students will learn 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 will also be investigated.

[Level 4]

***Advanced Cybersecurity in Marketing, C8127O (Standard)**

Full Year

One Credit

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: C8126O)

Marketing Management Career Pathway

- **Global Marketing Program of Study**
- Career: **Marketing Manager** (SOC Code: 112021), Growth by 2028 3%, Mean Wage \$156,602, Regional Openings 80

Sequence of Courses: (*=Entry point)

[Level 1]

***Principles of Business and Marketing**, C6115O (Standard)

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[OR]

*** Marketing Exploration**, C8110O (Standard)

*** Marketing Exploration**, C8110H (Honors)

Full Year

One Credit

Students will gain an understanding of the importance of marketing in today's society. They will 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.

[Level 2]

***Opportunities in Global Trade**, C8135O (Standard), Career Credential [Workplace Readiness Skills](#)

***Opportunities in Global Trade**, C8135H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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 will blend 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 will be a part of this course. Computer/technology applications supporting this course will be studied.

[Level 3]

***Advanced Opportunities in Global Trade, C8136O (Standard)**

***Advanced Opportunities in Global Trade, C8136H (Honors)**

Full Year

One Credit

The class will build upon concepts learned in Opportunities in Global Trade. Economic and international trade concepts will be reviewed, and the world environment of international trade will be further explored. Students will expand their knowledge about the impact of culture on international trade and continue their study of the legal and political aspects of international marketing. Computer/technology applications supporting international marketing will be explored. (Prerequisite: C8135O/H)

- **Marketing Management Program of Study**
- Career: **Marketing Manager** (SOC Code: 112021), Growth by 2028 3%, Mean Wage \$156,602, Regional Openings 80

Sequence of Courses: (*=Entry point)

[Level 1]

***Principles of Business and Marketing**, C6115O (Standard)

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[OR]

*** Marketing Exploration**, C8110O (Standard)

*** Marketing Exploration**, C8110H (Honors)

Full Year

One Credit

Students will gain an understanding of the importance of marketing in today's society. They will 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.

[Level 2]

***Marketing**, C8120O (Standard), Career Credential [Workplace Readiness Skills](#)

***Marketing**, C8120H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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.

[Level 3]

***Strategic Marketing, C8130O (Standard)**

***Strategic Marketing, C8130H (Honors)**

Full Year

One Credit

Students will build on the knowledge gained in a prior marketing course. Students will 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 will enhance the course. DECA, the co-curricular student organization, will offer opportunities in leadership, community, and competitive events. (Prerequisite: C8120O/H)

[Level 4]

***Marketing Management, C8132O (Standard)**

***Marketing Management, C8132H (Honors)**

Full Year

One Credit

Students who plan to attend college with a concentration in marketing, business, or management and/or who have plans to manage or own a business 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. (Prerequisite: C8130O/H)

- **Sports Marketing Program of Study**
- Career: **Marketing Manager** (SOC Code: 112021), Growth by 2028 3%, Mean Wage \$156,602, Regional Openings 80

Sequence of Courses: (*=Entry point)

[Level 1]

***Principles of Business and Marketing**, C61150 (Standard)

Full Year

One Credit

Students will discover the roles of business and marketing in the free enterprise system and the global economy. Students will 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.

[OR]

*** Marketing Exploration**, C8110O (Standard)

*** Marketing Exploration**, C8110H (Honors)

Full Year

One Credit

Students will gain an understanding of the importance of marketing in today's society. They will 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.

[Level 2]

***Sports and Entertainment Marketing**, C8175O (Standard), Career Credential [Workplace Readiness Skills](#)

***Sports and Entertainment Marketing**, C8175H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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 will also support career development skills and explores career options.

[Level 3]

***Sports and Entertainment Management, C8177O (Standard)**

***Sports and Entertainment Management, C8177H (Honors)**

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: C8175O/H)

APPLICABLE TO ALL MARKETING PATHWAYS

[LEVEL 4/5]

***Entrepreneurship Education, C9093O (Standard), Career Credential [Workplace Readiness Skills](#)**

***Entrepreneurship Education, C9093H (Honors), Career Credential [Workplace Readiness Skills](#)**

Full Year

One Credit

This course will introduce 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.

[LEVEL 5/6]

***Advanced Entrepreneurship Education, C9094O (Standard)**

***Advanced Entrepreneurship Education, C9094H (Honors)**

Full Year

One Credit

Students will be introduced to advanced strategies for entrepreneurship, building upon concepts introduced in Entrepreneurship. The focus of the course will be on development of a business plan and business management. Students will establish, market, and maintain the business. (Prerequisite: C9093O/H)

Science, Technology, Engineering & Mathematics Career Cluster

Science, Technology, Engineering & Mathematics					
* = Entry Point Red = New CCPS Course, ^=Career Credential	Engineering & Technology Pathway				
Programs of Study	Engineering Design, PLTW		Engineering Design		Aerospace Engineering
<u>Local Employment Outlook</u> * Growth by 2028 * Mean Wage & Salary * Regional Opening	Industrial Engineer (172112) 1% \$94,451 48			Engineer, All Other (172199) 11% \$99,916 13	
HS Level 1	*Introduction to Engineering Design, PLTW C8439 O - 1	*Engineering Explorations C8450 O, H - 1	*Technical Drawing and Design C8435 O, H, D - 1	*Introduction to Engineering Design, PLTW C8439 O - 1	*Engineering Explorations C8450 O, H - 1
	^Autodesk Certified User: Inventor		^Autodesk Certified User: AutoCAD	^Autodesk Certified User: Inventor	
HS Level 2	Principles of Engineering, PLTW C8441 O, H - 1	Engineering Analysis & Applications C8451 O, H, - 1	Engineering Drawing and Design C8436 O, D, H - 1	Principles of Engineering, PLTW C8441 O, H - 1	Engineering Analysis & Applications C8451 O, H - 1
	^Autodesk Certified User: AutoCAD	^Workplace Readiness	^Autodesk Certified User: Inventor	^Autodesk Certified User: AutoCAD	^Workplace Readiness
HS Level 3	Computer Integrated Manufacturing, PLTW C8442 O - 1	Engineering Concepts & Processes C8452 O, H, D - 1	Advanced Drawing and Design C8438 O, D, H - 1	Digital Electronics, PLTW C8440 O, H - 1	*Aerospace Technology I C8487 O, H - 1
HS Level 4	Engineering Design and Development, PLTW C8443 O - 1			Aerospace Engineering, PLTW C8428 O, H - 1	Unmanned Aircraft Systems C8910 O, H - 1
					^FAA Part 107
HS Level 5					Aerospace Technology II C8488 O, H - 1

Engineering & Technology Career Pathway

- **Engineering Design Program of Study, PLTW**
- Career: **Industrial Engineer** (SOC Code: 172112), Growth by 2028 1%, Mean Wage \$94,451, Regional Openings 48

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Engineering Design (PLTW)**, C84390 (Standard), Career Credential [Autodesk Certified User: Inventor](#)

Full Year

One Credit

Students will 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.)

[Level 2]

***Principles of Engineering (PLTW)**, C8441O (Standard), Career Credential [Autodesk Certified User: AutoCAD](#)

***Principles of Engineering (PLTW)**, C8441H (Honors), Career Credential [Autodesk Certified User: AutoCAD](#)

Full Year

One Credit

Students will explore the engineering profession and the fundamental aspects of engineering problem solving. Students will 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: C84390)

[Level 3]

***Computer Integrated Manufacturing (PLTW)**, C8442O (Standard), Career Credential [Autodesk Certified User: AutoCAD](#)

Full Year

One Credit

Students will be 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: C84390)

[Level 4]

***Engineering Design and Development (PLTW), C8443O (Standard)**

Full Year

One Credit

Students will explore the engineering profession and the fundamental aspects of engineering problem solving. Students will 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: C8439O)

- **Engineering Design Program of Study**
- Career: **Industrial Engineer** (SOC Code: 172112), Growth by 2028 1%, Mean Wage \$94,451, Regional Openings 48

Sequence of Courses: (*=Entry point)

[Level 1]

***Engineering Explorations, C8450O (Standard)**

***Engineering Explorations, C8450H (Honors)**

Full Year

One Credit

Students will examine technology and engineering fundamentals in relation to solving real-world problems. Students will investigate engineering history, including major engineering achievements, and they examine the principle engineering specialty fields and their related careers. Students will practice engineering fundamentals, using mathematical and scientific concepts, and they apply the engineering design process through participation in hands-on engineering projects. Students will communicate project-related information through team-based presentations, proposals, and technical reports.

[OR]

***Technical Drawing and Design, C8435O (Standard), Career Credential [Autodesk Certified User:](#)**

[AutoCAD](#)

***Technical Drawing and Design, C8435H (Honors), Career Credential [Autodesk Certified User: AutoCAD](#)**

***Technical Drawing and Design, C8435D (Dual Enrollment), Career Credential [Autodesk Certified User:](#)**

[AutoCAD](#)

Full Year

One Credit

Students will learn the basic language of technical drawing and design, and they will design, sketch, and make technical drawings, models, or prototypes of real design problems. The course is especially recommended for future engineering and architecture students.

[Level 2]

***Engineering Analysis & Applications, C8451O (Standard), Career Credential [Workplace Readiness Skills](#)**

***Engineering Analysis & Applications, C8451H (Honors), Career Credential [Workplace Readiness Skills](#)**

Full Year

One Credit

Students will 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: C8450O/H)

[OR]

***Engineering Drawing and Design, C8436O (Standard), Career Credential [Autodesk Certified User: Inventor](#)**

***Engineering Drawing and Design, C8436H (Honors), Career Credential [Autodesk Certified User: Inventor](#)**

***Engineering Drawing and Design, C8436D (Dual Enrollment), Career Credential [Autodesk Certified User: Inventor](#)**

Full Year

One Credit

Students will use a graphic language for product design, technical illustration, evaluation of designs, and engineering drawings. They will increase their understanding of drawing techniques learned in the prerequisite course. Students will use computers, calculators, and descriptive geometry and adhere to established standards to solve design problems. They will work in teams to design solutions for an identified need. (Prerequisite: C8435O/H/D)

[Level 3]

***Engineering Concepts & Processes, C8452O (Standard)**

***Engineering Concepts & Processes, C8452H (Honors)**

***Engineering Concepts & Processes, C8452D (Dual Enrollment)**

Full Year

One Credit

This course will focus 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 will continue to apply their engineering skills to determine what postsecondary education engineering pathway they may 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: C8451O/H)

[OR]

***Advanced Drawing and Design, C8438O (Standard)**

***Advanced Drawing and Design, C8438H (Honors)**

***Advanced Drawing and Design, C8438D (Dual Enrollment)**

Full Year

One Credit

Students will use a graphic language for product design and technical illustration. They will increase their understanding of drawing techniques learned in the prerequisite courses. They will research design-related fields while identifying the role of advanced drawing and design in manufacturing and construction industry processes. They will 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: C8437H/O/D, C8436H/O/D)

- **Aerospace Engineering Program of Study**
- Career: **Engineer, All Other** (SOC Code: 172199), Growth by 2028 11%, Mean Wage \$99,916, Regional Openings 13

Sequence of Courses: (*=Entry point)

[Level 1]

***Introduction to Engineering Design (PLTW)**, C8439O (Standard), Career Credential [Autodesk Certified User: Inventor](#)

Full Year

One Credit

Students will 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.)

[OR]

***Engineering Explorations**, C8450O (Standard)

***Engineering Explorations**, C8450H (Honors)

Full Year

One Credit

Students will examine technology and engineering fundamentals in relation to solving real-world problems. Students will investigate engineering history, including major engineering achievements, and they examine the principle engineering specialty fields and their related careers. Students will practice engineering fundamentals, using mathematical and scientific concepts, and they apply the engineering design process through participation in hands-on engineering projects. Students will communicate project-related information through team-based presentations, proposals, and technical reports.

[Level 2]

***Principles of Engineering (PLTW)**, C8441O (Standard), Career Credential [Autodesk Certified User: AutoCAD](#)

***Principles of Engineering (PLTW)**, C8441H (Honors), Career Credential [Autodesk Certified User: AutoCAD](#)

Full Year

One Credit

Students will explore the engineering profession and the fundamental aspects of engineering problem solving. Students will 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: C8439O)

[OR]

***Engineering Analysis & Applications**, C8451O (Standard), Career Credential [Workplace Readiness Skills](#)

***Engineering Analysis & Applications**, C8451H (Honors), Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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: C8450O/H)

[Level 3]

***Digital Electronics (PLTW)**, C8440O (Standard)

***Digital Electronics (PLTW)**, C8440H (Honors)

Full Year

One Credit

Students will 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: C8439O)

[OR]

***Aerospace Technology 1**, C8487O (Standard)

***Aerospace Technology 1**, C8487H (Honors)

Full Year

One Credit

This course will offer an introduction to the aerospace industry through a hands-on approach and exploration of topics such as flight, space, and supporting technologies. Students will 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.

[Level 4]

***Unmanned Aircraft Systems**, C8910O (Standard), Career Credential [FAA Park 107](#)

***Unmanned Aircraft Systems**, C8910H (Honors), Career Credential [FAA Park 107](#)

Full Year

One Credit

Unmanned Aircraft Systems prepares students to fly drones under the Federal Aviation Administration's (FAA) Part 107 guidelines. Students get an overview of the national airspace system, FAA regulations, and the design and operation of small drones. Students monitor weather, address loading and performance of drones, and coordinate flight operation logistics. They perform administrative tasks, train to fly, and, finally, fly small unmanned aircraft systems (SUAS). Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills.

[Level 4/5]

***Aerospace Engineering (PLTW), C8428O (Standard)**

***Aerospace Engineering (PLTW), C8428H (Honors)**

Full Year

One Credit

Students will be 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)

[OR]

***Aerospace Technology 2, C8488O (Standard)**

***Aerospace Technology 2, C8488H (Honors)**

Full Year

One Credit

This course will provide an advanced exploration of flight, space travel, and supporting technologies through a practical approach centered on problem solving. Students explore concepts in aircraft operations; aircraft design, flight safety, and maintenance; airport infrastructure; and all unmanned aircraft systems (UAS). (Prerequisite: C8487O/H)

Transportation, Distribution & Logistics Career Cluster

Transportation, Distribution & Logistics		
* = Entry Point Red = New CCPS Course, ^=Career Credential	Facility & Mobile Equipment Maintenance Pathway	
Programs of Study	Automotive Technology	Automotive Collision Repair & Refinish
Local Employment Outlook * Growth by 2028 * Mean Wage & Salary * Regional Opening	Automotive Service Technician (F) (493023) -2% \$48,388 330	Automotive Body & Related Repairers (F) (493021) 5% \$45,461 57
HS Level 1	*Automotive Technology I C8502 O, H, D - 1	*Auto Body Technology I C8676 O, H - 1
	^Workplace Readiness	^Workplace Readiness
HS Level 2	Automotive Technology II C8507 O, H, D - 2	Auto Body Technology II C8677 O, H - 2
HS Level 3	Automotive Technology III C8508 O, H, D - 3	Auto Body Technology III C8678 O, H - 3
	^Automotive Service Excellence & State Safety Inspector	^Automotive Service Excellence
HS Level 4		

Facility & Mobile Equipment Maintenance Career Pathway

- **Automotive Technology Program of Study**
- Career: **Automotive Service Technician** (SOC Code: 493023), Growth by 2028 -2%, Mean Wage \$48,388, Regional Openings 330

Sequence of Courses: (*=Entry point)

[Level 1]

***Automotive Technology 1, C8502O (Standard)**, Career Credential [Workplace Readiness Skills](#)

***Automotive Technology 1, C8502H (Honors)**, Career Credential [Workplace Readiness Skills](#)

***Automotive Technology 1, C8502D (Dual Enrollment)**, Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will 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).

[Level 2]

***Automotive Technology 2, C8507O (Standard)**

***Automotive Technology 2, C8507H (Honors)**

***Automotive Technology 2, C8507D (Dual Enrollment)**

Full Year

Two Credits

Students will 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: C8502O/H/D)

[Level 3]

***Automotive Technology 3, C8508O (Standard)**, Career Credential [Automotive Service Excellence and Virginia State Inspector](#)

***Automotive Technology 3, C8508H (Honors)**, Career Credential [Automotive Service Excellence and Virginia State Inspector](#)

***Automotive Technology 3, C8508D (Dual Enrollment)**, Career Credential [Automotive Service Excellence and Virginia State Inspector](#)

Full Year

Three Credits

Students will prepare 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: C8507C/H/D)

- **Automotive Collision Repair & Refinish Program of Study**
- Career: **Automotive Body & Related Repairers** (SOC Code: 493021), Growth by 2028 5%, Mean Wage \$45,461, Regional Openings 57

Sequence of Courses: (*=Entry point)

[Level 1]

***Auto Body Technology 1, C8676O (Standard)**, Career Credential [Workplace Readiness Skills](#)

***Auto Body Technology 1, C8676H (Honors)**, Career Credential [Workplace Readiness Skills](#)

Full Year

One Credit

Students will be taught damage analysis, estimating, customer service, non-structural analysis, damage repair, and welding. Students will 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 aligned with the Automotive Service Excellence (ASE) Education Foundation collision repair and refinish program standards.

[Level 2]

***Auto Body Technology 2, C8677O (Standard)**

***Auto Body Technology 2, C8677H (Honors)**

Full Year

Two Credits

Students will 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 aligned with the Automotive Service Excellence (ASE) Education Foundation collision repair and refinish program standards. (Prerequisite: C8676O)

[Level 3]

***Auto Body Technology 3, C8678O (Standard)** Career Credential [Automotive Service Excellence](#)

***Auto Body Technology 3, C8678H (Honors)** Career Credential [Automotive Service Excellence](#)

Full Year

Three Credits

This course will allow 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: C8677O/H)

Specialty Centers



Chesterfield County
Public Schools

Imagine Tomorrow!

Specialty Centers

Clover Hill High: the Math and Science High School

At the Math and Science High School at Clover Hill, students are engaged in a world-class curriculum for high ability learners. Here students learn to think critically and problem solve in a robust liberal arts program with relevant and dynamic instruction. Along with advanced instruction in mathematics, science and scientific research, students develop skills and tools essential for success. 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. The Math and Science High School is ***Where STEM meets Critical Thinking.***

Center Objectives

- Develop skills in self-directed learning, problem solving and critical thinking while engaging in classes focused on real world applications for success beyond high school.
- Conduct authentic and original research through M/S Biology, M/S Chemistry, Historical Research and the AP Capstone Diploma Program.
- Construct a deep understanding of English, science, math and social studies, so students discover deep connections between disciplines and develop a broader appreciation with an applicable grasp of the natural world and human experience.
- Develop effective communication and work with others who think differently because it is essential to developing ideas and direction.
- Pursue your goals in any field (medicine, law, journalism, engineering, etc.)

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	MS109H English 9	MS110H English 10	MS113H AP Literature	MS112H English 12, EN114H AP Eng. Lang, DE112H DE Composition, DE 113H DE British Literature
Mathematics	MS316H Integrated PreCalc1 or MS317H Adv Integrated PreCalc 1	MS317 H Integrated PreCalc2 or MS318H/MS328H Adv Integrated PreCalc 2 & Math Modeling	MS319H/MS328H Integrated PreCalc3 & Math Modeling, MA361H AP AB Calculus or MA362H AP BC Calculus	MS354 Linear Algebra w/Multivariate Calculus, MA362H AP BC Calculus, or MA376HAP Statistics
Science	MS430H Biology (w/Research Project)	MS440H Chemistry (w/ completion of Research Project from 9 th grade)	MS555H AP Physics I	MS469H AP Physics C, MS476/477H Organic Chemistry, or DE436H DE Biology or AP Science
Social Studies	MS209H World History I	MS220H AP European History	SS214H AP US History, DE211H DE US History, or MS211H US History	MS213H AP US Government
World Language/ Electives	Student Choice	Student Choice	Student Choice, Elective, CCPS Tech Center	Student Choice, Elective, CCPS Tech Center
Electives	Student Choice or Health/ PE 9	Student Choice or Health/ PE 10	Research: MS027H Historical Research (either 11 th or 12 th grade year) Advanced Research Sequence: TR920H AP Seminar	Research: MS027H Historical Research (either 11 th or 12 th grade year) Advanced Research Sequence: TR921H AP Research
Electives	Student Choice	Student Choice	Student Choice	Student Choice
*An additional elective may be taken if Health & PE9/Health & PE10 is taken online during summer or during the school year				
**Econ/Personal Finance 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.				
*****Participate in CCPS's original AP Capstone Diploma Program				
*****Attend the Chesterfield Technical Center with free elective space Junior/Senior Year.				

COURSES

MS109H MATH/SCIENCE ENGLISH 9

Full year

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.

MS110H MATH/SCIENCE ENGLISH 10

Full year

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.

MS025H HISTORICAL RESEARCH

Full year

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.

MS027H ADVANCED HISTORICAL RESEARCH

Full year

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.

(Prerequisite: MS025H Historical Research)

MS316H, MS317H, MS318H INTEGRATED PRECALCULUS 1, 2, & 3

Full year

One credit

These three courses comprise a five-semester sequence and are followed by enrollment in MSM328 Mathematical Modeling. Using an integrated approach, these courses explore major topics in geometry, Algebra II, trigonometry and mathematical analysis. (*Prerequisite: MA320H Algebra 1 Honors*)

S322H AND MS323H ADVANCED INTEGRATED PRECALCULUS 1 & 2

Full year

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. (*Prerequisites: MA330H Honors Geometry*)

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. (*Prerequisites: MS318H OR MS323H*)

MS113H MATH/SCIENCE AP ENGLISH LITERATURE

Full year

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.

MS112H MATH/SCIENCE ENGLISH 12*Full year**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.

MS481H BIOETHICS AND APPLIED ETHICAL ANALYSIS*Semester Half credit*

This course will emphasize analyzing the thinking and decision-making of all parties and stress showing how 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.

MS482H PHILOSOPHY AND ETHICAL REASONING*Semester Half credit*

Students will be introduced to diverse ways of examining human problems by reading and discussing major philosophical 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.

MS600H PARADIGMS OF SCIENCE, SOCIETY AND LITERATURE*Full year**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: SC430C/H Biology, SC440C/H Chemistry, EN109C/H English 9 and EN110C/H English 10, SS209C/H World History 1)

MS368H LINEAR ALGEBRA AND MULTIVARIATE CALCULUS*Full year**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: MA362H AP Calculus BC)*

MS945H MATHEMATICS OF THE ARTS*Full year**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.

MS209H MATH/SCIENCE WORLD HISTORY/GEOGRAPHY TO 1500*Full year**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.

MS210H MATH/SCIENCE WORLD HISTORY/GEOGRAPHY 1500 TO THE PRESENT*Full year**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.

MS220H MATH/SCIENCE AP EUROPEAN HISTORY*Full year**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.

MS211H A/UNITED STATES HISTORY*Full Year**One Credit*

This course will chronicle the history of the United States from the first European exploration of the Americas to the present. While focusing on political and economic history, this course will include a study of American culture. Through document-based questions students will refine their critical thinking skills to write better analytical, reflective and evaluative essays along with synthesize information about national, international, political, economic movements and historical personages. As part of this course, debates will center on important issues faced by the U.S. and will require students to apply, synthesize and evaluate the impact of the U.S. on world affairs to write analytical essays. Additionally, students will continue to learn the elements of the research writing process to develop the ability to demonstrate more complex critical thinking and problem-solving skills.

MS920H ART EXPLORATION: AESTHETICS AND HISTORY (PREHISTORY TO MIDDLE AGES)*Full year**One credit*

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 analysis of cultural expression.

MS921H ART EXPLORATION: AESTHETICS AND HISTORY (RENAISSANCE TO MODERN)*Full year**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.

MS430H MATH/SCIENCE BIOLOGY*Full year**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.

MS440H MATH/SCIENCE CHEMISTRY*Full year**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: MS430H Math/Science Biology*)

MS555H MATH/SCIENCE AP PHYSICS 1*Full year**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: MS440H Math/Science Chemistry*)

MS469H MATH/SCIENCE AP PHYSICS C*Full year**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: MS555H Math/Science AP Physics 1*)

MS476H, MS477H 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 Math/Science Chemistry*)

MS026H SCIENTIFIC RESEARCH

Full year

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

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, 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.

Cosby High School: 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:
 - Science and mathematics
 - Teamwork and communication
 - Critical thinking and problem solving
 - Professionalism and ethics

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	HS English 9	HS English 10	English 11	English 12
Mathematics	Geometry or higher	Algebra II or higher	Trig or higher	Calculus
				Math Elective
Science	HS Biology	HS Chemistry	AP Science/ Physics	AP Science/ Physics
Social Studies	World History or AP Human Geography	World History II or AP World	US/VA History	US/VA Government
Health	Health 9	Health 10	Personal Finance	-
Physical Education	Physical Education 9	Physical Education 10	-	-
World Languages	✓	✓	✓	✓
Specialty Requirement	Health Science Explorations 1			-
Electives		Health Science Explorations 2	Student Choice	Student Choice
Career Investigations	✓	✓	✓	✓
"✓" means the requirement could be completed in any of those years.				
"- " means not applicable				

COURSES

HS109H HEALTH SCIENCE ENGLISH 9

Full year

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 nonfiction 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

Full year

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: HS109H Health Science English 9*)

HS090H HEALTH SCIENCE EXPLORATIONS 1

Full year

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

Full year

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: HS090H Health Science Explorations 1; can be substituted with another HS elective*)

HS430H HEALTH SCIENCE BIOLOGY

Full year

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: MA320C/H Algebra 1)*

HS440H HEALTH SCIENCE CHEMISTRY

Full year

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: HS430H Health Science Biology)*

ELECTIVES**HS460H FORENSIC CHEMISTRY**

Full year

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: SC440C/H Chemistry)*

HS464H GENETICS AND CELL BIOLOGY

Full year

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: SC430C/H Biology and SC440C/H Chemistry)*

HS465H PSYCHOBIOLOGY

Full year

One Credit

Psychobiology is the subarea of psychology that takes a biological approach to understanding behavior. Psychobiologists study the biological events - genetics, neural, endocrine - that underlie each and every one of our thoughts, feelings and actions. Research in this area focuses on the relationship between brain and behavior but often extends to physiological processes elsewhere in the body (e.g. stomach, glands). This course will explore what is currently known about the biological basis of emotional responses, mental illness, memory, states of consciousness, sensory perception, thought and language and several neurological disorders. Students will also participate in hands-on labs and dissections to further explore the biology of behavior. (*Prerequisites: Biology (SC430), Chemistry (SC440), and current science teacher's recommendation*)

C8390C INTRODUCTION TO NUTRITION FOR HEALTH AND MEDICAL SCIENCE**C8390H HONORS INTRODUCTION TO NUTRITION FOR HEALTH AND MEDICAL SCIENCE**

Full year

One credit

This course begins with an overview of basic nutrition to include types of nutrients, separating foods into food groups and building a healthy plate. We discuss the importance of a balanced diet, different diet trends, nutrition throughout the lifecycle and nutrition around the world. This class uses hands-on activities and labs to relate course material to real life applications to teach students how to live a healthy lifestyle through high school and beyond.

C8316O SPORTS MEDICINE**C8316H HONORS SPORTS MEDICINE**

Full year

One credit

Sports Medicine is a comprehensive course that teaches students about medical conditions and injuries as they relate to athletes and a physically active population. The year begins with an overview of Sports medicine to include careers in the field, how to handle emergency situations and environmental considerations. The majority of the course covers musculoskeletal anatomy and physiology at each joint. We cover common sports related injuries at each joint as well as how to diagnose, treat and rehabilitate these injuries. Along with this, we learn bracing and taping techniques and how to create an appropriate rehabilitation program for many of these injuries.

HS4800 MEDICAL LAW AND ETHICS**HS480H HONORS MEDICAL LAW AND ETHICS**

One Semester

Half 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.

HS5400 MEDICAL SPANISH

One Semester

Half 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 healthcare industry.

HS9210 ANATOMY AND DRAWING

Full year

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.

HS025H HEALTH SCIENCE RESEARCH

Full year

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.

JAMES RIVER HIGH: LEADERSHIP AND INTERNATIONAL RELATIONS

The Center for Leadership & International Relations provides a rigorous and multifaceted curriculum that encourages students to be curious, open-minded and willing to take intellectual risks.

Center Objectives

- Nurture and develop critical and creative thinking, problem solving, decision making, group process and team-building and conflict resolution skills
- Instill in students a strong appreciation of global affairs and influences
- Enable students to positively impact the community through action and service
- Provide unique, authentic learning experiences through a service learning Capstone Project and an externship

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	Leadership English 9	Leadership English 10	Leadership English 11	Leadership AP Literature
Mathematics	Algebra I, Geometry or higher	Geometry, Algebra II or higher	Algebra II/ Trig or higher	Trig, Calculus, or higher
Science	Biology or Earth Science	Biology or Chemistry	Chemistry or Physics	Physics or Science Elective
Social Studies	Leadership AP Human Geography	Leadership AP World History: Modern	Leadership AP US History	Leadership AP Government (full year) OR Leadership AP Government (semester) AND Leadership AP Comparative Government (semester)
Health	Health 9	Health 10	-	-
Physical Education	Physical Education 9	Physical Education 10	-	-
World Languages	✓	✓	✓	✓
Specialty Requirement	Communications for Leadership and International Relations	AP Seminar: Leadership & International Relations Perspectives	AP Research: Ethics & Decision Making	Leadership in Action: Capstone Project & Internship
Electives	Student Choice	Student Choice	Student Choice	Student Choice
Service Hours	30 Hours	30 Hours	30 Hours	30 Hours
Leadership Enrichment Activity Points	3 LEAPs	3 LEAPs	3 LEAPs	3 LEAPs
Externship	-	-	-	40+ hours
“✓” means the requirement could be completed in any of those years.				
“-” means not applicable				

COURSES

LS109H ENGLISH 9

Full year

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.

LS110H ENGLISH 10

Full year

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.

LS111H ENGLISH 11

Full year

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.

LS113H AP ENGLISH LITERATURE

Full year

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.

LS209H AP HUMAN GEOGRAPHY

Full year

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.

LS216H AP WORLD HISTORY: MODERN

Full year

One credit

Students investigate significant events, individuals, developments and processes from 1200 to the present. Students develop and use the same skills, practices and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning about comparison, causation and continuity and change over time. The course provides six themes that students explore throughout the course in order to make connections among historical developments in different times and places: humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization and technology and innovation.

LS214H AP UNITED STATES HISTORY

Full year

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.

LS213H AP US GOVERNMENT

Full year

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.

SS215H AP U.S. GOVERNMENT

Semester

Half 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, and it is designed to be paired with *SS313H AP Comparative Government and Politics*.

SS313H AP COMPARATIVE GOVERNMENT AND POLITICS

Semester

Half credit

This 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. This course allows Center students to explore how leaders across the globe collaborate and communicate, and it should be paired with *SS215H AP U.S. Government*.

REQUIRED ELECTIVES

LS171H COMMUNICATIONS FOR LEADERSHIP AND INTERNATIONAL RELATIONS

Full year

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 and debates.

TR920H AP SEMINAR: LEADERSHIP AND INTERNATIONAL RELATIONS PERSPECTIVES

Full year

One credit

Develop and practice the skills in research, collaboration and communication that you'll need in any academic discipline. You'll investigate topics in a variety of subject areas, write research-based essays and design and give presentations both individually and as part of a team. This course evaluates the historical and philosophical background to leadership, modern theories and followership. Current events are presented and explored within a global context.

TR921H AP RESEARCH: ETHICS AND DECISION MAKING

Full year

One credit

AP Research allows students to deeply explore an academic topic, problem, issue or idea of individual interest. Students design, plan and implement a yearlong investigation to address a research question. In this course, students 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

Full year

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 externship or internship and research, create and implement a service learning Capstone Project.

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

Full year

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

Full year

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.

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.

Center Objectives

- 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

CURRICULUM: ENGINEERING STUDIES PROGRAM

Bolded courses are required for engineering curriculum; italicized courses required for high school graduation

Sample Four-Year Curriculum for Completion of the Governor's Academy for Engineering Studies Program with Advanced Diploma				
	Grade 9	Grade 10	Grade 11	Grade 12
English	<i>English 9</i>	<i>English 10</i>	<i>English 11 or DE English or AP English</i>	<i>English 12 or DE English or AP English</i>
Social Studies	<i>World History I or AP Human Geography</i>	<i>World History II or AP World History</i>	<i>US & Virginia History or DE US History or AP US History</i>	<i>US & Virginia Government or AP Government</i>
Mathematics	Engineering Geometry	Engineering Algebra 2 & Trig	<i>Math / Trig Analysis or DE Pre-Calculus</i>	<i>AP Calculus or HS Calculus</i>
Laboratory Science	Engineering Physics	Engineering Biology	Engineering Chemistry	AP or DE Biology AP or DE Chemistry AP Physics C
Health & Physical Education	<i>Health & PE 9* (may be taken online)</i>	<i>Health & PE 10* (may be taken online)</i>		
Economics and Finance	<i>Economics and Personal Finance Course by graduation (may be taken online)</i>			
World Language	<i>World Language **</i>	<i>World Language **</i>	Student-choice elective if World Language requirement met	
Required Engineering Design Pathway Course	Engineering Explorations	Engineering Analysis & Applications	Junior Seminar	Senior Seminar
Second Pathway Elective Course(s) Student Choice***	• Architecture Design/Pre-Construction Pathway: Tech Drawing and Design, Architectural Drawing, Advance Drawing and Design • Programming & Software Development Pathway: Programming, AP Computer Science Principles, AP Computer Science <i>(At least one course within second pathway of student choice required by graduation)</i>			
Elective	Open Elective *	Open Elective *	Open Elective(s)	Open Elective(s)

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

Full year

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

Full year

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

Full year

One credit

Application of engineering design process in real-world, project-based learning. (*Prerequisite: C8451H Engineering Analysis and Applications*)

PE072H SENIOR ENGINEERING SEMINAR

Full year

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: PE071H Junior Engineering Seminar*)

PE450H ENGINEERING PHYSICS

Full year

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

Full year

One credit

Laboratory-based course with a focus on research design concepts within the context of biotech engineering. (*Prerequisite: Algebra 1*)

PE440H ENGINEERING CHEMISTRY

Full year

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

Full year

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: PE330H Engineering Geometry*)

ENGINEERING ELECTIVES**C8435D COLLEGE TECHNICAL DRAWING AND DESIGN**

Full year

One credit

Introductory class focusing on the basic language of drawing and design, including technical drawings, models and/or prototypes of real design problems.

C8437D COLLEGE ARCHITECTURAL DRAWING AND DESIGN

Full year

One credit

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: C8435D Technical Drawing and Design*)

C8438D COLLEGE ADVANCED DRAWING AND DESIGN

Full year

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: C8437D Architectural Drawing and Design*)

C6640H PROGRAMMING

Full year

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

Full year

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: C6640H Programming*)

C3185H AP COMPUTER SCIENCE A

Full year

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: C6640H Programming*)

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, broadcast journalist, digital journalist, video production, graphic design, advertising, photography, public relations director/manager, news anchor, reporter, editor, researcher, broadcast, sports communication, sound and video technicians, film and video editors, digital filmmaking, camera operators, marketing, content/copywriting, social media specialist, communications director/manager

Mass Communication program

- Technology Connections
- Writing and Production 1
- Writing and Production 2
- Research

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	MC English 9H	MC English 10H	MC English 11H or AP English*	12 AP English or Dual Enrollment*
Mathematics	Geometry/Algebra II or higher	Algebra II/Trig or higher	Trig or higher	Math
				Elective
Science	Biology	Chemistry	Physics	AP Science
Social Studies	MC World History I or AP Geography**	MC World History I or AP World History**	AP or Dual Enrollment US/VA History	AP or Dual Enrollment US/VA Government
Health Physical Education	Health 9 Physical Education 9	Health 10 Physical Education 10	Elective	Elective
World Languages	✓	✓	✓	✓
Specialty Requirement	MC Technology Connections	MC Writing and Production 1	MC Writing and Production 2	MC Research and Production
Electives	Student Choice**	Student Choice**	Student Choice**	Student Choice**
Career Investigations	✓	✓	✓	✓
Students take Mass Comm. English, Social Studies, and two electives within the specialty center. */**Options for AP and Dual Enrollment English placement begins in grade 9. **Electives must be related to mass communications: journalism, yearbook, publications, creative writing, graphic design, photography, film/video, video production, communications, Ethics and Culture in Film, public speaking, International Affairs				

COURSES

MC0090 TECHNOLOGY CONNECTIONS 9

MC009H HONORS TECHNOLOGY CONNECTIONS 9

Full year

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.

MC0100 WRITING AND PRODUCTION 1

MC010H HONORS WRITING AND PRODUCTION 1

Full year

One credit

Students will learn how to write and design for print and web journalism and advertising using Adobe Photoshop, Illustrator and InDesign skills. Students will learn how to write and create visually appealing layouts, ads and campaigns.

MC0110 WRITING AND PRODUCTION 2**MC011H HONORS WRITING AND PRODUCTION 2**

Full year

One credit

Students will learn how to write, shoot, voice and edit video using Adobe Premiere. They will produce news videos, public service announcements and a short documentary.

MC0110 MASS COMMUNICATIONS RESEARCH AND PRODUCTION**MC011H HONORS MASS COMMUNICATIONS RESEARCH AND PRODUCTION**

Full year

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 writing and design talents to produce marketing materials for community-based nonprofits.

MC109C/H MASS COMMUNICATIONS ENGLISH 9**MC110C/H MASS COMMUNICATIONS ENGLISH 10****MC111C/H MASS COMMUNICATIONS ENGLISH 11****MC112C/H MASS COMMUNICATIONS ENGLISH 12**

Full year

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 MASS COMMUNICATIONS WORLD HISTORY 9**MC210C/H MASS COMMUNICATIONS WORLD HISTORY 10**

Full year

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.

MANCHESTER HIGH: SPANISH IMMERSION

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

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	English 9	English 10	English 11 or AP English Language	English 12 or AP English Literature or DE English
Mathematics	Immersion Geometry	Immersion Algebra II	Algebra III/ Trig or higher	Math Elective
Science	Biology	Chemistry	Physics	AP Science
Social Studies	World History I or AP Human Geography	World History I or AP World	US/VA AP History	US/VA/AP Government
Health	Immersion Health 9	Immersion Health 10	-	-
Physical Education	Immersion Physical Education 9	Immersion Physical Education 10	-	-
World Languages	Immersion I	Immersion 2	AP Spanish Language	AP Spanish Literature
Specialty Requirement	-	-	Spanish Humanities 1	Spanish Humanities 2
Electives	Student Choice	Student Choice	Spanish for Professionals	Spanish Culture through Film
Community Service & Cultural Experience Hours	5 Related Hours	10 Related Hours	15 Related Hours	20 Related Hours
“✓” means the requirement could be completed in any of those years.				
“-” means not applicable				

COURSES

SI542H SPANISH IMMERSION 1

Full year

One credit

Students will continue to develop their 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. (*Prerequisite: WL541C Spanish 1*)

SI543H SPANISH IMMERSION 2

Full year

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: SI542H Spanish Immersion 1*)

SI544H SPANISH IMMERSION 3/AP SPANISH LANGUAGE

Full year

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: SI543H Spanish Immersion 2*)

SI545H SPANISH IMMERSION 4/AP SPANISH LITERATURE

Full year

One credit

Students will read and analyze literary works from 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: SI544H Spanish Immersion 3/AP Spanish Language*)

SI709H IMMERSION HEALTH AND PE 9

Full year

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.

SI710H IMMERSION HEALTH AND PE 10

Full year

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: SI709H Immersion Health and PE 9*)

SI330H IMMERSION GEOMETRY

Full year

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: MA320C/H*)

Algebra 1)

SI340H IMMERSION ALGEBRA 2

Full year

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: SI330H Immersion Geometry*)

SI045H SPANISH IMMERSION FIELD EXPERIENCE

Full year

One credit

This course is designed for Immersion students who are participating in additional study of community-based experiences. Experiences may include approved international immersion study, pre-approved domestic immersion study, service learning courses at local elementary schools, internships in one of the county's work-study programs, etc. (*Prerequisite: SI543H Spanish Immersion 2*)

ES0280 ESL TUTORS

Full year

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. (*Prerequisite: SI544H Spanish Immersion 3/AP Spanish Language*)

SI169H SPANISH CULTURE AND LANGUAGE THROUGH FILM

Full year

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: SI543H Spanish Immersion 2*)

SI250H SPANISH HUMANITIES 1

Full year

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: SI543H Spanish Immersion 2*)

SI251H SPANISH HUMANITIES 2

Full year

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: SI543H Spanish Immersion 2*)

SI050H SPANISH FOR PROFESSIONALS

Full year

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: SI543H Spanish Immersion 2*)

IS5760 INTERNATIONAL STUDY ABROAD

Summer Course

One credit

This course gives students the ability to travel abroad and immerse themselves in the Spanish language and culture. Students stay with a host family and attend classes during their summer program. Students also attend field trips to local museums and historical landmarks that directly relate to other Spanish Immersion courses. Students will be awarded a CEFR rating at the end of their program. Any student earning a B1 or higher will be eligible for the seal of biliteracy. This course will be conducted entirely in Spanish. (*Prerequisite: SI543H Spanish Immersion 2*)

MATOACA HIGH: CENTER FOR INFORMATIONAL TECHNOLOGY

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 pathway
- Engage in the school and local community
- Envision IT. Make IT Happen.

Career Pathways

- Cybersecurity
- Computer Programming
- Computer Networking/Hardware
- Computer Science
- Aerospace Engineering Pathway

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
- Business 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

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	TL English 9	TL English 10	TL English 11	English 12
			Or higher	Or Higher
Mathematics	TL Geometry or higher	TL Algebra II or higher	Trig. Analysis or higher	Math
				Elective
Science	TL Earth Science or TL Biology	TL Biology or Chemistry	Physics/ Science Elective	Science Elective
Social Studies	TL World History I	TL World History II	US/VA History	US/VA Government
Health	Health 9	Health 10	-	-
Physical Education	Physical Education 9	Physical Education 10	-	-
World Languages	✓	✓	✓	✓
Specialty Requirement	AP Computer Science Principles OR IT Fundamentals	IT Elective	Business Management (starting with class of 2027)	Honors Tech Service Learning (starting with class of 2027)
Electives	Student Choice	Student Choice	Student Choice	Student Choice
Career Investigations	✓	✓	✓	✓
Community Service Hours	10 Hours	10 Hours	10 Hours	10 Hours
“✓” means the requirement could be completed in any of those years.				
“-” means not applicable				
“TL” denotes courses for Specialty Center students only				

COURSES

C6135H BUSINESS MANAGEMENT

Full year

One credit

Students will 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).

TL221H HONORS TECHNOLOGY SERVICE LEARNING (CAPSTONE PM)

Full year

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)

C6660H HONORS DATABASE DESIGN & MANAGEMENT-ORACLE

C6660D DUAL ENROLLMENT DATABASE DESIGN & MANAGEMENT-ORACLE

Full year

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: C66100 or C66700 or MA384H) (Six credits for Brightpoint Community College)*

C6640H HONORS PROGRAMMING (ROBOTICS AND GAMING)

Full year

One credit

This is an Honors-level Introduction to Programming, Robotics and Gaming class that will explore basic programming concepts and logic procedures, as well as implement programming procedures using several different programming languages such as Python, JavaScript, Mindstorms and GameMaker.

(Prerequisites: C66100, C66700 or MA384H)

MA384H AP COMPUTER SCIENCE PRINCIPLES

Full year

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

Full year

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

Full year

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: C66100 or C66700 or MA384H*)

C6302H HONORS 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 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: C66100 or C66700 or MA384H*)

C6304H HONORS ADVANCED CYBERSECURITY SOFTWARE OPERATIONS

Full year

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

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. *(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)

Full year

One credit

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)

Full year

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)*

Unmanned Aircraft Systems, C8910

One Credit (coming in 2023-24)

Unmanned Aircraft Systems prepares students to fly drones under the Federal Aviation Administration's (FAA) Part 107 guidelines. Students get an overview of the national airspace system, FAA regulations and the design and operation of small drones. Students monitor weather, address loading and performance of drones and coordinate flight operation logistics. They perform administrative tasks, train to fly, and, finally, fly small unmanned aircraft systems (sUAS).

MEADOWBROOK HIGH: MEADOWBROOK ACADEMY FOR DEVELOPING ENTREPRENEURS

The Meadowbrook Academy for Developing Entrepreneurs is designed for students who are interested in learning to launch their own startups while in high school. This program is designed for any student, no matter the interests or passions, who are self-driven and have the desire to create and innovate in a collaborative environment! Whether you are a jewelry designer, baker, YouTuber, makeup artist, author, interested in becoming a doctor and opening your own practice - you belong at M.A.D.E!

Our students have 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. The core honors courses of the program, entrepreneurship, marketing, accounting, advanced entrepreneurship and dual enrollment business management create a pathway for students to establish the core principles of entrepreneurship to launch a business of their own! Students will also have the opportunity to collaborate and network with industry professionals, local universities, and startups to enhance their skills and open the doors to more extensive opportunities. Throughout the year student entrepreneurs develop a business plan and write a pitch to present at our annual MADE Shark Tank event for a chance to win seed money. Students will also take part in the MADE Student Business Expo.

Course Planning

Course Sequence 2022-2023 with Advanced Diploma *Honors Option Available				
Course	9th	10th	11th	12th
English	MADE English 9, Honors	MADE English 10, Honors	English 11* or AP English Language	English 12* or AP English Literature or DE College Comp
Mathematics	Geometry* or higher	Algebra II* or higher	Advanced Algebra/Trig*, Trig/Analysis*, DE Pre-Calculus or Higher	DE Pre-Calculus, Probability and Statistics, AP Stats, or AP Calculus
Science	Earth Science* or Biology*	Biology* or Chemistry*	Physics* or AP or DE Science	AP or DE Science or Science Elective
Social Studies	AP Human Geography	World History II* or AP World History	VA/US History** or AP US History	VA/US Govern. or AP Government
Health & Physical Education	Health & PE 9 (<i>Online/summer option to free space</i>)	Health & PE10 (<i>Online/summer option to free space</i>)		
World Lang.	World Language 1 or higher	World Language 2 or higher	World Language 3 or higher (or 2nd World Language 1)	Student Free Elective (or 2nd World Language 2)
Specialty Requirements	Entrepreneurship, Honors	Marketing, Honors	Accounting, Honors	Advanced Entrepreneurship, Honors
Specialty Requirements			MADE Econ & Personal Finance, Honors	DE Business Management
Courses subject to change at any time.				

Additional M.A.D.E Program Requirements			
10 CCPS community service hours	Participation in DECA (based on registered course) \$15+ Annual Dues https://www.deca.org/	MADE Shark Tank and Student Business Expo	High Intensity Work Based Learning Experience • Mentorship • Entrepreneurship

COURSES

C9093H ENTREPRENEURSHIP

Full Year

One credit

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. 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.

C8120H HONORS MARKETING

Full Year

One credit

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. Students will learn how products are developed, branded, and sold to businesses and consumers. Topics will include professionalism in the workplace, product planning and positioning, promotion, pricing, selling, economic issues, and the impact of technology on the marketplace.

ME612H HONORS ECONOMICS & 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.

C6320H HONORS 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.

C9094H ADVANCED ENTREPRENEURSHIP

Full Year

One credit

Students in this course will have the opportunity to run their own business. 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. The course caters to the individual needs of all startups in the course and is designed for students who wish to focus on advanced strategies for entrepreneurship.

(Prerequisite: C9093H Entrepreneurship)

C6135DE DUAL ENROLLMENT BUSINESS MANAGEMENT

Full Year

One credit

Presents a broad introduction to the functioning of business enterprise within the U.S. economic framework. Introduces economic systems, essential elements of business organization, production, human resource management, marketing, finance and risk management. Develops business vocabulary. Teaches management and the management functions of planning, organizing, leading and controlling. Focuses on application of management principles to realistic situations managers encounter as they attempt to achieve organizational objectives.

MEADOWBROOK HIGH: 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 (Applications & Interpretation 1 & 2)
- IB History of the Americas
- IB Government Twentieth Century Topics
- IB English 11 and 12 (English Literature)
- IB Biology 1 and 2
- IB Spanish and French
- Theory of Knowledge 1 and 2
- IB Psychology
- IB Visual Arts

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	Pre DP English 9	Pre DP English 10	IB English 11	IB English 12
Mathematics	Honors Geometry or higher	Honors Algebra 2 or higher	IB Applications & Interpretation 1	IB Applications & Interpretation 2
Science	AP Environmental Science	Pre DP Chemistry	IB Biology 1	IB Biology 2
Social Studies	AP Human Geography	Pre DP World History 2 or AP World History	IB History of the Americas	IB 20th Century Topics and Government
Health & Physical Education	Health & PE 9	Health & PE 10	-	-
World Languages	Pre DP Spanish or French	Pre DP Spanish or French	IB Spanish or French	IB Spanish or French
Specialty Requirement	-	Economics & Personal Finance	Theory of Knowledge 1	Theory of Knowledge 2
Electives	Student Choice	-	Student Choice or IB Visual Arts	IB Psychology or IB Visual Arts
Community Service Hours	-	-	Begin the IB Community Service requirement (CAS)	Finish CAS requirement
“✓” means the requirement could be completed in any of those years.				
“-” means not applicable				

COURSES

PB109H PRE DIPLOMA PROGRAM ENGLISH 9

Full year

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.

PB1105H PRE DIPLOMA PROGRAM ENGLISH 10

Full year

One credit

Writing about literature and texts becomes a major focus, as students begin making valuable connections about short texts from various cultures through time and culture. Also, fundamental elements of research will be applied directly to written and oral communications. (*Prerequisite: PB109H Pre IB Diploma English 9*)

IB111H IB ENGLISH LITERATURE 11

Full year

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. 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: IB109H Pre-IB Diploma English 9 and IB110H Pre-IB Diploma English 10*)

IB112H IB ENGLISH LITERATURE 12

Full year

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: IB111H IB English Literature 11*)

IB016H THEORY OF KNOWLEDGE 1

Full year

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. (*Prerequisite: Membership in the IB Program*)

IB017H IB THEORY KNOWLEDGE 2

Full year

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: IB016H IB Theory of Knowledge 1*)

IB303H IB APPLICATIONS & INTERPRETATION 1

Full year

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. (*Prerequisite: Algebra 2 or higher*)

IB304H IB APPLICATIONS & INTERPRETATION 2

Full year

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: IB303H IB Applications & Interpretation 1*)

PB440H PRE DIPLOMA PROGRAM CHEMISTRY

Full year

One credit

This inquiry-based, laboratory course is comprehensive, emphasizes problem-solving, and provides a thorough foundation for the college-bound student. (*Prerequisite: SC429H AP Environmental Science*)

IB432H IB BIOLOGY 1

Full year

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: SC429H AP Environmental Science, IB440H Pre Diploma Program Chemistry*)

IB433H IB BIOLOGY 2

Full year

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: SC429H AP Environmental Science, PB440H Pre Diploma Program Chemistry, IB432H IB Biology 1*)

IB211H IB HISTORY OF THE AMERICAS

Full year

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)

IB212H IB GOVERNMENT AND TWENTIETH CENTURY TOPICS

Full year

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: IB211H IB History of the Americas)*

IB241H IB PSYCHOLOGY

Full year

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. *(Corequisite: IB212H IB Government and Twentieth Century Topics)*

IB963H, IB964H IB DESIGN STUDIO

Full year

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.

IB543H IB SPANISH 3**IB544H IB SPANISH 4****IB545H IB SPANISH 5****IB546H IB SPANISH 6**

Full year

One credit per course

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. *(Prerequisites: Successful completion of WL542C/H Spanish 2 and subsequent levels)*

IB513H IB FRENCH 3

IB514H IB FRENCH 4

IB515H IB FRENCH 5

IB516H IB FRENCH 6

Full year

One credit per course

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. *(Prerequisites: Successful completion of WL512C/H French 2 and subsequent levels)*

MIDLOTHIAN HIGH: 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: Applications and Interpretation 1 and 2
- IB History of the Americas
- IB Government/Twentieth Century Topics
- IB English Language and Literature 11 and 12
- IB Biology 1 and 2
- IB Spanish, French, Latin
- Theory of Knowledge
- IB Psychology
- IB Business Management
- IB Sports, Exercise, and Health Science
- IB Visual Arts
- IB Theatre
- IB Music

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	Pre-Diploma English 9	Pre-Diploma English 10	IB English Lang & Lit 11	IB English Lang and Lit 12
Mathematics	Geometry (H) or higher	Algebra II (H) or higher	IB Math: Applications & Interpretation 1	IB Math: Applications and Interpretation 2
Science	Biology (H)	Chemistry (H)	IB Biology 1	IB Biology 2
Social Studies	AP Human Geo	AP World	IB History of the Americas	IB Government/Twentieth Century Topics
	World 1 (H)	World 2 (H)		
Physical Education and Health	Physical Education and Health 9	Physical Education and Health 10	----	----
World Languages	Spanish, French, or Latin II or above	Spanish, French, German, or Latin III or above	IB Spanish, French, German, or Latin	IB Spanish, French, German, or Latin
Specialty Requirement	---	Personal Finance	Theory of Knowledge	Theory of Knowledge
Electives	Honors Art	Honors Art	IB Design Studio 1	IB Design Studio 2
	Honors Music	Honors Music	IB Music Theory 1	IB Music Theory 2
	Drama	Drama	IB Theatre 1	IB Theatre 2
	Student Choice	Student Choice	IB Psychology, or IB Business Management, or IB Sports, Exercise, and Health Science	Student Choice
Community Service Hours	Complete IB CAS Requirements	Complete IB CAS Requirements	Complete IB CAS Requirements	
“✓” means the requirement could be completed in any of those years.				
“-” means not applicable				

COURSES

PB109H PRE DIPLOMA ENGLISH 9

Full year

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.

PB1105H PRE DIPLOMA ENGLISH 10

Full year

One credit

Writing about literature and texts becomes a major focus, as students begin making valuable connections about short texts from various cultures through time and culture. Also, fundamental elements of research will be applied directly to written and oral communications. *(Prerequisite: PB109H Pre Diploma English 9)*

IB121H IB ENGLISH LANGUAGE AND LITERATURE 11

Full year

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: PB109H Pre IB English 9, PB110H Pre IB English 10)*

IB122H IB ENGLISH LANGUAGE AND LITERATURE 12

Full year

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: IB111H IB English Language and Literature 11)*

IB303H IB MATH APPLICATIONS AND INTERPRETATION 1

Full year

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. *(Prerequisite: MA340C/H Algebra II or higher)*

IB304H IB MATH APPLICATIONS AND INTERPRETATION 2

Full year

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: IB303H IB Math 1)

IB350H IB MATH: ANALYSIS AND APPROACHES (YEAR 1)

Full year

One credit

Analysis and Approaches recognizes the need for analytical expertise in a world where innovation is increasingly dependent on a deep understanding of mathematics. This course includes topics that are both traditionally part of a pre-university mathematics course (for example, functions, trigonometry, calculus) as well as topics that are amenable to investigation, conjecture and proof, for instance the study of sequences and series, and proof by induction.

IB351H IB MATH: ANALYSIS AND APPROACHES (YEAR 2)

Full year

One credit

This is the second part of IB Math: Analysis and Approaches course sequence. This course includes topics that are both traditionally part of a pre-university mathematics course (for example, functions, trigonometry, calculus) as well as topics that are amenable to investigation, conjecture and proof, for instance the study of sequences and series, and proof by induction.

IB432H IB BIOLOGY 1

Full year

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.

IB433H IB BIOLOGY 2

Full year

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: IB432H IB Biology 1)*

IB211H IB HISTORY OF THE AMERICAS

Full year

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)

IB212H IB GOVERNMENT AND TWENTIETH CENTURY TOPICS

Full year

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: IB211H IB History of the Americas*)

IB016H THEORY OF KNOWLEDGE 1

Full year

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. (*Prerequisite: Membership in the IB Program*)

IB017H THEORY OF KNOWLEDGE 2

Full year

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. (*Prerequisite: IB016H IB Theory of Knowledge 1*)

IB543H, 544H, 545H, 546H, 550H IB SPANISH 3-7

Full year

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

Full year

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

Full year

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.

IB241H IB PSYCHOLOGY*Full year**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.

IB483H IB BUSINESS AND MANAGEMENT*Full year**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.

IB400H IB SPORTS EXERCISE & HEALTH SCIENCE*Full year**One credit*

This course involves the study of the science that underpins physical performance. This course incorporates the traditional disciplines of anatomy and physiology, biomechanics, psychology, and nutrition. Students cover a range of topics and carry out practical (experimental) investigations in both laboratory and field settings.

IB963H, IB964H IB DESIGN STUDIO*Full year**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.

IB986H IB MUSIC THEORY*Full year**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.

IB987H IB MUSIC THEORY 2*Full year**One credit*

This is the second year of a two-year sequence. 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*Full year**One credit*

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*Full year**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.

MONACAN HIGH: CENTER FOR THE HUMANITIES

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 Perspectives on the Human Experience I
- Humanities Perspectives on the Human Experience II
- Humanities Perspectives on the Human Experience III
- Humanities Perspectives on the Human Experience IV
- Humanities World Literature I
- Humanities World Literature II
- Humanities World History I
- Humanities Geometry
- Humanities Biology
- Humanities AP Literature and Composition
- Humanities AP Language and Composition
- Humanities AP European History
- Humanities AP US History
- Humanities AP Government and Politics

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	Humanities Honors World Literature I	Humanities Honors World Literature II	Humanities AP Language and Composition	Humanities AP Literature and Composition
Mathematics	Humanities Honors Geometry Or Algebra II	Algebra II Or DE Pre-calculus	DE Pre-calculus Or Trigonometry	AP Calculus Or Math Elective
Science	Humanities Honors Biology	Chemistry	AP Physics Or Physics	AP Science Or Elective
Social Studies	Humanities Honors World History I	Humanities AP Modern European History	Humanities AP US History	Humanities AP US Government and Politics
Health	Health 9*	Health 10*	-	-
Physical Education	Physical Education 9*	Physical Education 10*	-	-
World Languages	World Language**	World Language**	World Language**	World Language**
Specialty Requirement	Perspectives on the Human Experience I	Perspectives on the Human Experience II	Perspectives on the Human Experience III	Perspectives on the Human Experience IV
Electives	Student Choice*	Student Choice*	Student Choice*	Student Choice*
Community Service Hours	20 Hours	20 Hours	20 Hours	20 Hours
*Students are required to complete Health/PE 1 and 2, as well as Personal Finance/Economics. Students who wish to optimize their schedule for elective opportunities should consider completing those requirements through online and/or summer coursework.				
** Students are required to complete four years of World Language. Students who completed a world language course of study in middle school are often able to fulfill the Humanities World Language requirement at the conclusion of their 9 th grade year.				

COURSES

HM061H HUMANITIES PERSPECTIVES ON THE HUMAN EXPERIENCE I

Full year

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. *(Co-requisites: HM109H, HM209H, HM430H)*

HM062H HUMANITIES PERSPECTIVES ON THE HUMAN EXPERIENCE II

Full year

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. *(Prerequisite: HM061H) (Co-requisites: HM110H, HM220H)*

HM063H HUMANITIES PERSPECTIVES ON THE HUMAN EXPERIENCE III

Full year

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. *(Prerequisite: HM062) (Co-requisites: HM114H, HM213H)*

HM064H HUMANITIES PERSPECTIVES ON THE HUMAN EXPERIENCE IV

Full year

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. *(Prerequisite: HM063H) (Co-requisite: HM113H, HM214H)*

HM109H HUMANITIES WORLD LITERATURE I

Full year

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. *(Co-requisites: HM061H, HM209H, HM430H)*

HM110H HUMANITIES WORLD LITERATURE II

Full year

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: HM109H) (Co-requisites: HM062H, HM220H)*

HM209H HUMANITIES WORLD HISTORY I

Full year

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. *(Co-requisites: HM061H, HM109H, HM430H)*

HM330H HUMANITIES GEOMETRY

Full year

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: MA320C/H*)

HM430H HUMANITIES BIOLOGY

Full year

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. (*Co-requisites: HM061H, HM109H, HM209H*)

HM113H HUMANITIES AP LITERATURE AND COMPOSITION

Full year

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. (*Prerequisites: HM114H*) (*Co-requisites: HM064H, HM214H*)

HM114H HUMANITIES AP LANGUAGE AND COMPOSITION

Full year

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. (*Prerequisites: HM110H*) (*Co-requisites: HM063H, HM213H*)

HM213H HUMANITIES AP U.S. HISTORY

Full year

One credit

This course uses a 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. (*Prerequisites: HM220H*) (*Co-requisites: HM063H, HM114H*)

HM214H HUMANITIES AP GOVERNMENT

Full year

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. (*Prerequisites: HM213H*) (*Co-requisites: HM064H, HM113H*)

HM220H HUMANITIES AP MODERN EUROPEAN HISTORY

Full year

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. (*Prerequisites: HM209H*) (*Co-requisites: HM062H, HM110H*)

MONACAN HIGH: HEALTH PROFESSIONS AND THERAPIES CENTER

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

- Introduction to Health and Medical Sciences
- Medical Terminology
- Sports Medicine I and II
- Therapeutic Sciences
- Medical Math (semester)
- Medical Law and Ethics (semester)
- Exercise Science
- EMT
- Nutrition Therapy (semester)
- Complementary Medicine (semester)

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	HPT English 9	HPT English 10	Honors English 11 or AP Language	Honors English 12 or AP Lit or DE English
Mathematics	Geometry or higher	Algebra II or higher	Trigonometry or higher	Math Elective
Science	HPT Biology	HPT Chemistry	AP Physics	AP Science
Social Studies	World History I or AP Human Geo	World History I or AP World	US/VA History Or AP US	US/VA Government or AP Gov
Health	Health 9	Health 10	-	-
Physical Education	Physical Education 9	Physical Education 10	-	-
World Languages	✓	✓	✓	✓
Specialty Requirement	Introduction to Health and Medical Sciences*	Medical Terminology*	HPT Elective	HPT Elective
Electives	-	-	Personal Finance	Student Choice
Career Investigations	✓	✓	✓	✓
Community Service Hours	15 Health Related Hours	15 Health Related Hours	10 Health Related Hours	10 Health Related Hours
Mentorship	-	-	80/160 hours (.5/1 credit)	80/160 hours (.5/1 credit)
“✓” 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

C8302H HONORS INTRODUCTION TO HEALTH AND MEDICAL SCIENCES

Full year

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.

HT109H HONORS HPT ENGLISH 9

Full year

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.

HT430H HONORS HPT BIOLOGY

Full year

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.

HT110H HONORS HPT ENGLISH 10

Full year

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. (*Prerequisite: HT109H HPT English 9*)

C8383H HONORS MEDICAL TERMINOLOGY

Full year

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: C838H Intro to Health and Medical Sciences*)

HT440H HONORS HPT CHEMISTRY

Full year

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. (*Prerequisite: HT430H HPT Biology*) (*Corequisite: MA340C/H Algebra 2*)

HT450H HONORS HPT PHYSICS

Full year

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.

HT417H HONORS MEDICAL MATH

Semester

Half 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.

HT723H HONORS EXERCISE SCIENCE

Full year

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.

C8316H HONORS SPORTS MEDICINE I

Full year

One credit

C8317H HONORS SPORTS MEDICINE II

Full year

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. Course competencies have been constructed so as not to go beyond the professional scope of aide/assistant level.

C8333H and C8334H HONORS EMT

Full year

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.

HT030H HONORS INTRO TO THERAPEUTIC SCIENCES

Full year

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.

C8390H Introduction to Nutrition for Health and Medical Sciences

Semester

Half credit

This course is designed to build a solid foundation in the basic principles and concepts of nutrition therapy for specific diseases. The course will clarify nutrition misconceptions and help build a healthy lifestyle through nutritional awareness.

HT020H HONORS COMPLEMENTARY MEDICINE

Semester

Half 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.

HT480H Medical Law and Ethics

Semester

Half 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.

HT417H Medical Math

Semester

Half 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.

HT100H HONORS HPT MENTORSHIP or HT101H HONORS HPT MENTORSHIP

Semester

Half credit

Opportunity designed to provide students with supervised on the job work experience related to the health care 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.

THOMAS DALE HIGH: SPECIALTY CENTER FOR THE ARTS

The Specialty 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

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	AR English 9 Honors	English 10 AR English 10 Honors	English 11	English 12
Mathematics	Geometry or higher	Algebra II or higher	Algebra III/ Trig or higher	Math
				Elective
Science	Biology	Chemistry	Physics	AP Science
Social Studies	World History I	World History I or AP World	US/VA History	US/VA Government
Health	Health 9	Health 10	-	-
Physical Education	Physical Education 9	Physical Education 10	-	-
World Languages	✓	✓	✓	✓
Specialty Requirement	Dance Major 1	Dance Major 2	Dance Major 3	Dance Major 4
Specialty Center Electives	Dance Repertory Ensemble 1	Dance Repertory Ensemble 2	Dance Repertory Ensemble 3	Dance Repertory Ensemble 4
“✓” means the requirement could be completed in any of those years.				
“-” means not applicable				

COURSES

AR201H DANCE MAJOR 1

Full year

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. *(Prerequisite: Selected for admission to the Specialty Center for the Arts)*

AR202H DANCE MAJOR 2

Full year

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. *(Prerequisite: AR201H Dance Major 1)*

AR403H DANCE MAJOR 3

Full year

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 basic pedagogy. (*Prerequisite: AR202H Dance Major 2*)

AR404H DANCE MAJOR 4

Full year

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 education and careers. (*Prerequisite: AR403H Dance Major 3*)

AR203H DANCE REPERTORY ENSEMBLE 1, 2, 3, 4

(Includes Senior Capstone)

Full year

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

Full year

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. Students may substitute this course for Dance Repertory Ensemble 2, 3, or 4. (*Prerequisite: Audition only*)

AR109H HONORS ENGLISH IN THE ARTS 9

Full year

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

Full year

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

Course Planning

Courses	Grade 9	Grade 10		Grade 11	Grade 12
English	AR English 9 Honors	AR English 10 Honors		English 11	English 12
Mathematics	Geometry or higher	Algebra II or higher		Algebra III/ Trig or higher	Math Elective
Science	Biology	Chemistry		Physics	AP Science
Social Studies	World History I	World History I or AP World		US/VA History	US/VA Government
Health	Health 9	Health 10		-	-
Physical Education	Physical Education 9	Physical Education 10		-	-
World Languages	✓	✓		✓	✓
Specialty Requirement	Musician's Studio 1	Musician's Studio 2		College Music Appreciation/ College Musicianship	College Music Theory 1 & 2 (includes Capstone Project)
Electives	Music Ensemble	Music Ensemble		Music Ensemble	Music Ensemble
"✓" means the requirement could be completed in any of those years.					
"- " means not applicable					

COURSES

AR301H MUSICIAN'S STUDIO 1

Full year

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. (*Prerequisite: Selected for admission to the Specialty Center for the Arts*)

AR302H MUSICIAN'S STUDIO 2

Full year

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. (*Prerequisite: AR301H Musician's Studio 1*)

AR109H HONORS ENGLISH IN THE ARTS 9

Full year

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

Full year

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.

DE650D COLLEGE MUSIC APPRECIATION

Semester

Half 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: AR302H Musician's Studio 2*) (*Aligns to Brightpoint Community College MUS121: Three credits*)

DE651D COLLEGE MUSICIANSHIP

Semester

Half credit

Provides the ability to read and identify basic fundamentals of music notation. Teachers major and minor scales, chords and basic harmonic progressions. Covers basic training and keyboard exercises. (*Prerequisite: DE650D: College Music Appreciation*) (*Aligns to Brightpoint Community College MUS101: Three credits*)

DE653D COLLEGE MUSIC THEORY HONORS

Full year

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: DE303D College Music Appreciation and Musicianship*) (*Aligns to Brightpoint Community College's MUS111 and MUS112: Six credits*)

MUSIC ENSEMBLES

Full year

One credit

Exact course descriptions can be found in Performing Arts section of CCPS Course Offerings 2022-2023

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
- AR English 9, 10 Honors

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	AR English 9 Honors	AR English 10 Honors	English 11	English 12
Mathematics	Geometry or higher	Algebra II or higher	Algebra III/ Trig or higher	Math Elective
Science	Biology	Chemistry	Physics	AP Science
Social Studies	World History I	World History I or AP World	US/VA History	US/VA Government
Health	Health 9	Health 10	-	-
Physical Education	Physical Education 9	Physical Education 10	-	-
World Languages	✓	✓	✓	✓
Specialty Requirement	Actor's Studio 1	Actor's Studio 2	Actor's Studio 3 (Sem)	Actor's Studio 4 (Sem)
			DE Intro to Theatre (Sem)	DE Acting 1 (Sem)
Electives	Theatre Production 1 ✓	Student Choice - Performing Arts Elective	Student Choice – Performing Arts Elective	Student Choice – Performing Arts Elective
"✓" means the requirement could be completed in any of those years.				
"-" means not applicable				

COURSES

AR131H ACTOR'S STUDIO 1 HONORS

Full year

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. 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 TDHS stage productions.

(Prerequisite: Selected for admission to the Specialty Center for the Arts)

AR132H ACTOR'S STUDIO 2 HONORS

Full year

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 TDHS stage productions. *(Prerequisite: AR131H Actor's Studio 1)*

AR135H ACTOR'S STUDIO 3 HONORS

Semester

Half 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. This course also includes an introduction to directing and playwriting. Students will participate in TDHS stage productions. *(Prerequisite: AR132H Actor's Studio 2)*

AR137H ACTOR'S STUDIO 4 HONORS

Semester

Half credit

This studio course prepares the student for professional development, including acting for the camera, audition techniques, one-man performance, multimedia, 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. Students will participate in TDHS stage productions. *(Prerequisites: AR133H Actor's Studio 3/DE901D College Introduction to Theatre)*

AR101H THEATRE PRODUCTION 1 HONORS

Full year

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. *(Prerequisite: Selected for admission to the Specialty Center for the Arts)*

AR102H THEATRE PRODUCTION 2 HONORS

Full year

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. Multimedia, such as video, film and CAD programs will be utilized and highlighted at this level. *(Prerequisite: AR101H AR Theatre Production 1)*

AR103H THEATRE PRODUCTION 3 HONORS

Full year

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: AR102H AR Theatre Production 2)*

AR104H THEATRE PRODUCTION 4 HONORS

Full year

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: AR103H AR Theatre Production 3)*

AR181H OUTREACH PERFORMANCE

Full year

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. *(Prerequisite: Audition Only)*

AR109H HONORS ENGLISH IN THE ARTS 9

Full year

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

Full year

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.

DE901D COLLEGE INTRODUCTION TO THEATRE

Semester

Half credit

Surveys the principles of drama, the development of theatre production, and selected plays to acquaint the student with various types of theatrical presentations. *(Prerequisite: AR135H Honors Actor's Studio 3) (Aligns with Brightpoint Community College Introduction to Theatre: Three credits)*

DE902D COLLEGE ACTING I

Semester

Half credit

Develops personal resources and explores performance skills through such activities as theatre games, role playing, improvisation, work on basic script units, and performance of scenes. (*Prerequisite: AR137H Honors Actor's Studio 4*) (*Aligns with Brightpoint Community College Acting I: Three credits*)

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

Course Planning

Courses	Grade 9	Grade 10	Grade 11	Grade 12
English	AR English 9 Honors	AR English 10 Honors	English 11	English 12
Mathematics	Geometry or higher	Algebra II or higher	Algebra III/ Trig or higher	Math Elective
Science	Biology	Chemistry	Physics	Science Elective
Social Studies	World History I	World History I or AP World	US/VA History	US/VA Government
Health	Health 9	Health 10	-	-
Physical Education	Physical Education 9	Physical Education 10	-	-
World Languages	✓	✓	✓	✓
Specialty Requirement	Visual Arts Foundations	Art History and World Cultures	2-Dimensional and 3-Dimensional Exploration	A.P. Studio Art
Electives	Digital Media and Graphic Design 1 ✓	Student Choice	Printmaking and Ceramics	A.P. Art History
“✓” means the requirement could be completed in any of those years. “-” means not applicable				

COURSES

AR501H VISUAL ARTS FOUNDATIONS HONORS

Full year

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. *(Prerequisite: Selected for admission to the Specialty Center for the Arts)*

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: AR501H 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: AR505H 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: AR507H 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. *(Prerequisite: Three-Dimensional Exploration Honors)*

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: AR960H 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.

VA943H AP ART HISTORY

Full year

One credit

An advanced course designed to explore history, aesthetics, and culture through works of visual 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 AP STUDIO ART

Full year

One credit

An advanced art course in which the student will plan an individualized path of study with the art teacher. The student will work in-depth with selected art media of their choice while maintaining a process portfolio. A career or college-level portfolio will be created in fulfilling college board requirements for advanced placement courses. (*Prerequisites: VA913O/H Art III or art teacher recommendation*) (*Lab fee required*)