

Chartiers Valley Online Academy

2019-2020 Program of Studies

Grades 7-12



Mission, Objectives and Beliefs

Mission

The mission of the Chartiers Valley School District, a community dedicated to shared leadership, is to graduate students who achieve personal success by providing an exceptional academic foundation in a safe, nurturing environment that inspires creativity and innovation while embracing diversity.

Objectives

All students will demonstrate annual academic growth.

All students will be engaged by passionate, progressive and empowered teachers.

All students will graduate with a post-secondary plan.

All students will demonstrate the skills necessary to compete internationally.

All students will be equipped with the skills to be creative problem solvers and resilient in our society.

Beliefs

We believe in the unique value of young people as an essential component of a thriving society.

We believe that all people have the right to a culture of respect, fairness and inclusion.

We believe that all people have the right to an environment that is safe, caring and supportive.

We believe that learning is forever.

We believe that people learn differently.

We believe that responsible citizenship is the product of an engaged and collaborative community.

We believe that technology and personal interaction are imperative to be successful in a global society.

We believe that confident, responsible and resilient people positively impact their own futures.

We believe that to exceed potential one must continually strive to surpass expectations.

We believe in embracing creativity and innovation.

We believe in the development of the complete person.

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About Us

The Chartiers Valley Online Academy is a customized educational program offered by the Chartiers Valley school District, which provides students with online and blended learning opportunities. These opportunities are designed to increase student engagement and achievement by allowing a flexible scheduling.

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It Is All About Opportunities Full-Time Online Learning Program

For the student who individual needs or circumstances prohibits them from attending school full time. The Chartiers Valley Online Academy students are held to the same high standards set in the regular classroom. In addition, the students are provided with a school counselor that will assist in course selection and career planning. Course work is available for the students to complete the entire 6 through 12 grade course work online.

Part-Time (Hybrid) Online Learning

In addition to full-time online program, we understand that student may be interested in a part-time or hybrid educational program. A flexible schedule can allow students to spend a portion of their day physically attending class and completing online courses through the academy. Student must continue to be enrolled in a combination of seven credit coursework. Chartiers Valley students who are interested in a flexible schedule should contact their building principal and the Assistant Superintendent of Curriculum.

Middle School Program

The Chartiers Valley Online Academy for 6th, 7th and 8th graders is a customized educational program which provides students with online and blended learning opportunities. Success at the junior high level requires students to further develop their organization and preparation skills in order to manage the increased academic course load. This section of the Chartiers Valley Online Academy Program of Studies explains the curricular offerings and should be carefully reviewed by both and their families.

Middle School

Instructional Leadership Team

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Academic Planning and Preparation

Grade Level Promotion Requirements

Each Student will be promoted to the next grade level based upon individual accomplishments as measured by the final grade report.

- Promotion to 7th grade requires successful completion of five or more credits in Grade 6. These credits must include four passing grades in the core curricular subjects: English, Math, Social Studies, Science and Literacy Arts.
- Promotion to 8th grade requires successful completion of five or more credits in Grade 7. These credits must include four passing grades in the core curricular subjects: English, Math, Social Studies, Science and Literacy Arts.
- Promotion to grade 9 requires successful completion of five or more credits Grade 8. These credits must include four passing grades in the core curriculum subjects: English, Math, Social Studies, Science and Literacy Arts.

Special Programs

Gifted education Program

Each identified gifted education student should meet with her/his gifted teacher to ensure selection of appropriate courses. All courses will closely align with the student's individualized education plan (GIEP)

Special Education Program

Pennsylvania special education law and regulations, Public Law 94-142, and the federal Individuals with Disabilities Act of 1997 (IDEA) requires school to provide a Free and Appropriate Public Education (FAPE) to all students with disabilities who are eligible for special education. FAPE means special education and related services designed to meet the individual educational needs of a student through an Individualized education program (IEP). The 7th and 8th grade program at the Chartiers Valley Online Academy provides direct and supportive services for children who are vision or hearing impaired, emotionally disturbed, learning disabled, speech and/ or language impaired, and for other health impairments. Our goal is to enable students to participate as fully as possible in the regular instructional environment and to transition them from school to the world of work or post-secondary education.

6th, 7th, and 8th Grade Curriculum:

The following are representative sample of the courses provide by the Chartiers Valley Online Academy, The CV Online Academy uses the resources from Waterfront Learning which is part of the Allegheny County Intermediate Unit #3. The Courses are developed and provided by the Edgenuity Learning, Edison and Pearson companies. Please contact the Building administrator or school Counselor for a complete list or go to www.waterfrontlearning.com.

ENGLISH LANGUAGE ARTS 6

This course eases students' transition to middle school with engaging, age-appropriate literary and informational reading selections. Students learn to read critically, analyze texts, and cite evidence to support ideas as they read essential parts of literary and informational texts and explore a full unit on Lewis Carroll's classic novel *Through the Looking Glass*. Vocabulary, grammar, and listening skills are sharpened through lessons that give students explicit modeling and ample practice. Students also engage in routine, responsive writing based on texts they have read. In extensive, process-based writing lessons, students write topical essays in narrative, informative, analytical, and argumentative formats. In this full-year course, students develop a mastery of reading, writing, and language arts skills.

ENGLISH LANGUAGE ARTS 7

Students grow as readers, writers, and thinkers in this middle school course. With engaging literary and informational texts, students learn to think critically, analyze an author's language, and cite evidence to support ideas. Students complete an in-depth study of Jack London's classic novel *White Fang* and read excerpts from other stories, poetry, and nonfiction. Explicit modeling and ample opportunities for practice help students sharpen their vocabulary, grammar, and listening skills. Students also respond routinely to texts they have read. In extensive, process-based writing lessons, students write topical essays in narrative, informative, analytical, and argumentative formats. In this full-year course, students develop a mastery of reading, writing, and language arts skills.

ENGLISH LANGUAGE ARTS 8

In this course, students build on their knowledge and blossom as thoughtful readers and clear, effective writers. A balance of literary and informational texts engages students throughout the course in reading critically, analyzing texts, and citing evidence to support claims. Students sharpen their vocabulary, grammar, and listening skills through lessons designed to provide explicit modeling and ample opportunities to practice. Students also routinely write responses to texts they have read, and use more extensive, process-based lessons to produce full-length essays

in narrative, informative, analytical, and argumentative formats. In this full- year course, students develop a mastery of reading, writing, and language arts skills.

MATHEMATICS 6

This course begins by connecting ratio and rate to multiplication and division, allowing students to use ratio reasoning to solve a wide variety of problems. Students further apply their understanding of multiplication and division to explain the standard procedure for dividing fractions. This course builds upon previous notions of the number system to now include the entire set of rational numbers. Students begin to understand the use of variables as they write, evaluate, and simplify expressions. They use the idea of equality and properties of operations to solve one-step equations and inequalities. In statistics, students explore different graphical ways to display data. They use data displays, measures of center, and measures of variability to summarize data sets. The course concludes with students reasoning about relationships among shapes to determine area, surface area, and volume.

MATHEMATICS 7

This course begins with an in-depth study of proportional reasoning during which students utilize concrete models such as bar diagrams and tables to increase and develop conceptual understanding of rates, ratios, proportions, and percentages. Students' number fluency and understanding of the rational number system are extended as they perform operations with signed rational numbers embedded in real-world contexts. In statistics, students develop meanings for representative samples, measures of central tendency, variation, and the ideal representation for comparisons of given data sets. Students develop an understanding of both theoretical and experimental probability. Throughout the course, students build fluency in writing expressions and equations that model real-world scenarios. They apply their understanding of inverse operations to solve multi-step equations and inequalities. Students build on their proportional reasoning to solve problems about scale drawings by relating the corresponding lengths between objects. The course concludes with a geometric analysis of angle relationships, area, and volume of both two- and three-dimensional figures.

MATHEMATICS 8

The course begins with a unit on input-output relationships that builds a foundation for learning about functions. Students make connections between verbal, numeric, algebraic, and graphical representations of relations and apply this knowledge to create linear functions that can be used to model and solve mathematical and real-world problems. Technology is used to build deeper connections among representations. Students focus on formulating expressions and equations, including modeling an association in bivariate data with a linear equation, and writing and solving linear equations and systems of linear equations. Students develop a deeper

understanding of how translations, rotations, reflections, and dilations of distances and angles affect congruency and similarity. Students develop rules of exponents and use them to simplify exponential expressions. Students extend rules of exponents as they perform operations with numbers in scientific notation. Estimating and comparing square roots of non-perfect squares to perfect squares exposes students to irrational numbers and lays the foundation for applications such as the Pythagorean Theorem, distance, and volume.

PRE-ALGEBRA

This full-year course is designed for students who have completed a middle school mathematics sequence but are not yet algebra- ready. This course reviews key algebra readiness skills from the middle grades and introduces basic Algebra I work with appropriate support. Students revisit concepts in numbers and operations, expressions and equations, ratios and proportions, and basic functions. By the end of the course, students are ready to begin a more formal high school Algebra I study.

ALGEBRA I

This full-year course focuses on five critical areas: relationships between quantities and reasoning with equations, linear and exponential relationships, descriptive statistics, expressions and equations, and quadratic functions and modeling. This course builds on the foundation set in middle grades by deepening students' understanding of linear and exponential functions and developing fluency in writing and solving one-variable equations and inequalities. Students will interpret, analyze, compare, and contrast functions that are represented numerically, tabularly, graphically, and algebraically. Quantitative reasoning is a common thread throughout the course as students use algebra to represent quantities and the relationships among those quantities in a variety of ways. Standards of mathematical practice and process are embedded throughout the course, as students make sense of problem situations, solve novel problems, reason abstractly, and think critically

***Higher Math Levels may be scheduled with the approval of the Building Principal**

LIFE SCIENCE

Examining a broad spectrum of the biological sciences, Life Science is a full-year course for middle school students that builds on basic principles of scientific inquiry and translates those skills to more complex, overarching biological themes. The course includes units that help students understand the definitions, forms, and classifications of living organisms and learn to analyze the diversity of each unique group of living organisms. Other units introduce students to the structures and functions of cells, cell theory, and cell reproduction. These larger themes are

then applied to other topics, such as genetics, Darwinian Theory, and human biology and health. An introduction of ecology draws all of these concepts together to examine the interrelationships that help to maintain life on Earth.

EARTH SCIENCE

Students enrolled in this dynamic course explore the scope of Earth sciences, covering everything from basic structure and rock formation to the incredible and volatile forces that have shaped and changed our planet. As climate change and energy conservation become increasingly prevalent in the national discourse, it will be important for students to understand the concepts and causes of our changing Earth. Earth Science is a two-semester course that provides a solid foundation for understanding the physical characteristics that make the planet Earth unique and examines how these characteristics differ among the planets of our solar system.

PHYSICAL SCIENCE

This full-year course focuses on basic concepts in chemistry and physics and encourages exploration of new discoveries in the field of physical science. The course includes an overview of scientific principles and procedures and has students examine the chemical building blocks of our physical world and the composition of matter. Additionally, students explore the properties that affect motion, forces, and energy on Earth. Building on these concepts, the course covers the properties of electricity and magnetism and the effects of these phenomena. As students refine and expand their understanding of physical science, they will apply their knowledge to complete interactive virtual labs that require them to ask questions and create hypotheses. Hands-on wet lab options are also available.

MS U.S. HISTORY

Offering an interactive and comprehensive overview of American history, this course engages and inspires students to learn about the rich and diverse history of America's native peoples, early European colonization and settlement in America, and the creation of a new nation through the American Revolution. Middle school students enrolled in this course will closely examine major changes brought about by the nation's reconstruction, industrialization, urbanization, and progressive reforms and consider the implications each of these events had on the expansion of the United States' global influence through modern times. Over the course of two semesters, interesting course content encourages students to think carefully about the challenges and opportunities facing the United States in the twenty-first century.

MS WORLD HISTORY

Providing students with an opportunity to learn the diverse history that has shaped our world, this course delves into the evolution of civilization from the rise of ancient empires through the twenty-first century. Middle school students enrolled in this exciting and informative course investigate the development of medieval societies, the effects of the Renaissance and the Reformation, and the progress made during various periods of revolution, industrialization, urbanization, and reform. Over the course of two semesters, students analyze effects of political conflicts and social issues on the continuing development and interdependence among nations in the modern world.

MS CIVICS, GOVERNMENT, & ECONOMICS

Exploring the structure of the United States government on a national, state, and local level, this course challenges students to learn and understand fundamental concepts and philosophies that led to the creation of the United States Constitution. Students enrolled in this two-semester course analyze the political process, political parties, and influences that affect them both. Engaging, interactive content introduces economic concepts and encourages students to explore government and economics on a global scale. By instilling a thorough understanding of government and economics, this course inspires students to investigate what it means to be an American citizen.

MS WORLD CULTURES & GEOGRAPHY

Designed to introduce students to the study of geography, this course helps students master important concepts in physical and human geography. Comprehensive and organized by region, this two-semester middle school course helps students understand the Earth's physical and human diversity. Students analyze population and settlement patterns and evaluate the ways that human activities modify the physical environment. While studying humans around the world, students compare development, standards of living, systems of government, and economic factors across the globe. In addition, students gain a rich understanding of global cultures and the historical factors that have shaped the world around them. All units in the course are parallel and include studies in physical and human geography, ancient cultures, regional studies, and modern issues.

General Electives

HEALTH AND PHYSICAL EDUCATION BUNDLE

This bundle includes three courses. Foundations of Personal Wellness is a full-year offering that combines health and fitness instruction. Two separate semester-long courses are also included: Healthy Living, which focuses exclusively on personal health but in a more conservative and traditional treatment than Contemporary Health, and Lifetime Fitness, which is a one-semester physical education course.

ONLINE LEARNING AND DIGITAL CITIZENSHIP*

This one-semester course provides students with a comprehensive introduction to online learning, including how to work independently, stay safe, and develop effective study habits in virtual learning environments. Featuring direct-instruction videos, interactive tasks, authentic projects, and rigorous assessments, the course prepares students for high school by providing in-depth instruction and practice in important study skills such as time management, effective note-taking, test preparation, and collaborating effectively online. By the end of the course, students will understand what it takes to be successful online learners and responsible digital citizens.

SPANISH 1

Middle school students begin their introduction to Spanish with fundamental building blocks in four key areas of foreign language study: listening comprehension, speaking, reading, and writing. Each unit consists of an ongoing adventure story, a new vocabulary theme and grammar concept, numerous interactive games reinforcing vocabulary and grammar, reading and listening comprehension activities, speaking and writing activities, and multimedia cultural presentations covering major Spanish-speaking areas in Europe and the Americas.

SPANISH 2

Students in middle school continue their introduction to Spanish with fundamental building blocks in four key areas of foreign language study: listening comprehension, speaking, reading, and writing. Each unit consists of an ongoing adventure story, a new vocabulary theme and grammar concept, numerous interactive games reinforcing vocabulary and grammar, reading and listening comprehension activities, speaking and writing activities, and multimedia cultural presentations covering major Spanish-speaking areas in Europe and the Americas.

FRENCH 1

Students in middle school begin their introduction to French with fundamental building blocks in four key areas of foreign language study: listening comprehension, speaking, reading, and

writing. Each unit consists of an ongoing adventure story, a new vocabulary theme and grammar concept, numerous interactive games reinforcing vocabulary and grammar, reading and listening comprehension activities, speaking and writing activities, and multimedia cultural presentations covering major French-speaking areas in Europe and across the globe.

FRENCH 2

Middle school students continue their introduction to French with fundamental building blocks in four key areas of foreign language study: listening comprehension, speaking, reading, and writing. Each unit consists of an ongoing adventure story, a new vocabulary theme and grammar concept, numerous interactive games reinforcing vocabulary and grammar, reading and listening comprehension activities, speaking and writing activities, and multimedia cultural presentations covering major French-speaking areas in Europe and across the globe.

GERMAN 1

Middle school students begin their introduction to German with fundamental building blocks in four key areas of foreign language study: listening comprehension, speaking, reading, and writing. Each unit consists of an ongoing adventure story, a new vocabulary theme and grammar concept, numerous interactive games reinforcing vocabulary and grammar, reading and listening comprehension activities, speaking and writing activities, and multimedia cultural presentations covering major German-speaking areas in Europe.

High School –Your Program of Choices

The High school program in the Chartiers Valley On-line Academy is a customized educational program which provides students with on-line and blended learning opportunities. Students may work with their family, teachers, counselors and principals to develop an educational program that meets the student's individual needs.

High Administration and Counselors

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High School Curriculum:

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ALGEBRA I HONORS

This full-year honors course introduces students to linear, exponential, and quadratic functions by interpreting, analyzing, comparing, and contrasting functions that are represented numerically, tabularly, graphically, and algebraically. Technology is utilized within some lessons to further support students in identifying key features as well as displaying images of the functions. The course builds upon the basic concepts of functions to include transformations of linear and non-linear functions. Students deepen their understanding of quantitative reasoning, piecewise functions, and quadratic functions through performance tasks. The additional performance-based skills allow the honors students to apply more of the concepts taught in the course. The course concludes with students analyzing data through displays and statistical analysis.

GEOMETRY HONORS

The course begins by exploring the foundational concepts of Euclidean Geometry in which students learn the terminology of geometry, measuring, proving theorems, and constructing figures. Students then expand on their knowledge of transformations and complete an assignment on identifying point symmetry as well as completing a performance task on tessellations. The course continues with an in-depth look at triangles where students prove theorems, relating congruency and similarity in terms of transformations, and connecting right triangles relationships to trigonometry. Students study set theory and apply probability through theoretical and experimental probability, two-way tables, and combinations and permutations. With lessons pertaining to quadrilaterals, students can identify the various figures based on their key features. Within the circles units, students identify angles, radii, and chords, perform a performance-based task on tangents, and then compute the circumference and area of various circles. Then students study parabolas, ellipses and hyperbolas before modeling and computing two- and three-dimensional figures.

ALGEBRA II HONORS

The course begins with a review of concepts that will assist students throughout the course, such as literal equations, problem solving, and word problems. Students then progress to a unit on functions where students compute operations of functions, compose of functions, and study inverses of functions. To build on their algebraic skills, students learn about complex numbers and apply them to quadratic functions via completing the square and quadratic formula methods. Next, students solve linear systems and apply their knowledge of the concept to three-by-three systems. An in-depth study on polynomial operations and functions allow students build their knowledge of polynomials algebraically and graphically. In the second semester, students study nonlinear functions. Students solve and graph rational and radical functions whereas the exponential and logarithmic functions focus on the key features and transformations of the functions. Expected value and normal distribution concepts expand and deepen students' knowledge of probability and statistics. Students also cover trigonometric functions and periodic phenomena.

PRE-CALCULUS HONORS

This full-year advanced math course starts with a unit on the nature of functions and complex numbers before moving into matrices, systems, and linear programming. Students then return to functions with a focus on graphing a variety of function types; this unit includes a performance task on production schemes. Students explore rational functions in depth and then conclude the first semester with right triangle and circular trigonometry. In the second half of the course, students synthesize what they have learned to graph and solve trigonometric functions. They also study vectors, conics and analytic geometry, statistics and probability, mathematical modeling, and sequences and series.

LANGUAGE ARTS 9 HONORS

This freshman honors English course invites students to explore a variety of diverse and complex texts organized into thematic units. Students will engage in literary analysis and inferential evaluation of great texts, both classic and contemporary. While critically reading fiction, poetry, drama and literary nonfiction, honors students will master comprehension, use evidence to conduct in-depth literary analysis, and examine and critique how authors develop ideas in a variety of genres. Interwoven throughout the lessons are activities that encourage students to strengthen their oral language skills, research and critically analyze sources of information, and produce clear, coherent writing. In addition to activities offered to students in core courses, honors students are given additional opportunities to create and to participate in project-based learning activities, including writing a Shakespearian sonnet and creating an original interpretation of a Shakespearian play. Honors students will read a range of classic texts, including Homer's *The Odyssey*, Shakespeare's *Romeo and Juliet*, Jack London's "To Build a Fire" and Richard Connell's "The Most Dangerous Game." Students will also read Sue Macy's full length nonfiction work *Wheels of Change: How Women Rode the Bicycle to Freedom (With a Few Flat Tires Along the Way)*, and will study a variety of short but complex texts, including influential speeches by Dr. Martin Luther King Jr., Franklin D. Roosevelt, and Ronald Reagan. Contemporary texts by Richard Preston, Julia Alvarez, and Maya Angelou round out the course.

LANGUAGE ARTS 10 HONORS

Focused on application, this sophomore honors English course invites students to explore a variety of diverse and complex world literature texts organized into thematic units. Students will engage in literary analysis and inferential evaluation of classic and contemporary works of fiction, poetry, drama, and literary nonfiction. English 10 honors students will master comprehension, use evidence to conduct in-depth literary analysis, and examine and critique how authors develop ideas in a variety of genres. Interwoven throughout the lessons are activities that encourage students to strengthen their oral language skills, develop 21st century learning skills, and produce clear, coherent writing. Honors students will read a range of classic texts, including Jonathan Swift's *Gulliver's Travels*, Sophocles *Antigone*, and William Shakespeare's *Julius Caesar*. In addition to longer, full length works, students will also study a variety of short but complex texts, including Ishmael Beah's memoir *A Long Way Gone: Memoirs of a Boy Soldier*, Chinua Achebe's "Marriage Is a Private Affair", and a variety of other readings by great authors, including Amy Tan, Elie Wiesel, and Virginia Woolf. Throughout the course are countless opportunities for students to strengthen their writing in shorter journal entries, and in longer writing assignments that provide the guidance of the eWriting software.

LANGUAGE ARTS 11 HONORS

This junior-year honors English course invites students to delve into American literature from early American Indian voices through contemporary works. Students will engage in literary analysis and inferential evaluation of great texts, including the full length novel *The Awakening* by Kate Chopin. While critically reading fiction, poetry, drama and expository nonfiction, honors students will master comprehension, use evidence to conduct in-depth literary analysis, and examine and critique how authors develop ideas in a variety of genres. Interwoven throughout the lessons are activities that encourage students to strengthen their oral language skills, research and critically analyze sources of information, and produce clear, coherent writing. To round out the course, students will read a range of short but complex texts, including Henry David Thoreau's essay "Civil Disobedience," Floyd Dell's drama *King Arthur's Socks*, and works by Emily Dickinson, Herman Melville, Nathaniel Hawthorne, Paul Laurence Dunbar, Martin Luther King, Jr., F. Scott Fitzgerald, Sandra Cisneros, Amy Tan, and Dave Eggers.

LANGUAGE ARTS 12 HONORS

This senior-year honors English course invites students to delve into British literature, from ancient texts such as the epic of *Beowulf* through contemporary works. Students will engage in a variety of rigorous lessons with a focus on academic inquiry, literary analysis, and inferential evaluation. While critically reading fiction, poetry, drama, and expository nonfiction, honors students will master comprehension, use evidence to conduct in-depth literary analysis, examine and critique how authors develop ideas in a variety of genres, and synthesize ideas across multiple texts. In addition to activities offered to students in core courses, honors students are given additional opportunities to create and participate in project-based learning activities, including creating a time travel brochure and an original interpretation of William Shakespeare's *The Tragedy of Hamlet*. Honors students will read a range of classic texts, including Robert Louis Stevenson's *The Strange Case of Dr. Jekyll and Mr. Hyde*, "Politics and the English Language" by George Orwell, and William Shakespeare's *The Tragedy of Hamlet*. In addition to full length works, students will read a variety of excerpts, including readings from Lord of the

Rings: *The Fellowship of the Ring*, The Smithsonian's *History of America in 101 Objects*, and Chaucer's *The Canterbury Tales*, as well as a variety of short fiction, speeches, and poetry

BIOLOGY HONORS

This compelling full-year course engages students in a rigorous honors-level curriculum that emphasizes the study of life and its real-world applications. This course examines biological concepts in more depth than general biology and provides a solid foundation for collegiate-level coursework. Course components include biochemistry, cellular structures and functions, genetics and heredity, bioengineering, evolution, structures and functions of the human body, and ecology. Throughout the course, students participate in a variety of interactive and hands-on laboratory activities that enhance concept knowledge and develop scientific process skills, including scientific research and technical writing.

CHEMISTRY HONORS

This rigorous full-year course provides students with an engaging honors-level curriculum that emphasizes mathematical problem solving and practical applications of chemistry. Topics are examined in greater detail than general chemistry in order to prepare students for college-level coursework. Course components include atomic theory and structure, chemical bonding, states and changes of matter, chemical and redox reactions, stoichiometry, the gas laws, solutions, acids and bases, and nuclear and organic chemistry. Throughout the course, students participate in a variety of interactive and hands-on laboratory activities that enhance concept knowledge and develop scientific process skills, including scientific research and technical writing.

PHYSICS HONORS

This rigorous full-year course provides students with an engaging honors-level curriculum that emphasizes abstract reasoning and applications of physics concepts to real-world scenarios. Topics are examined in greater detail than general physics and provide a solid foundation for collegiate-level coursework. Course components include one- and two-dimensional motion, momentum, energy and thermodynamics, harmonic motion, waves, electricity, magnetism, and nuclear and modern physics. Throughout the course, students participate in a variety of interactive and hands-on laboratory activities that enhance concept knowledge and develop scientific process skills, including scientific research and technical writing.