Warren County
Educational Service Center

Warren County Virtual Learning Academy Course Catalog

Secondary (Grades 7-12)

Revised June 2021

GRADE 7

ENGLISH LANGUAGE ARTS GRADE 7 (1 CREDIT) – ENGLISH 170 A/B

This thirty-six-unit course is recommended and is designed to prepare Ohio students for the Ohio AIR Grade 7 English Language Arts Assessment. The course emphasizes reading and writing skills. Students read a variety of literary texts, including stories, dramas, and poems. They analyze various points of view and the perspectives of authors. They practice determining the meaning of words and phrases through context. The course also stresses the importance of clear and coherent writing. Students build on what they already know about the writing process. They learn to establish theses and to support claims while maintaining a formal writing style. Students are encouraged to use correct spelling, correct conventions of writing, and different types of sentence structures.

MATH GRADE 7 (1 CREDIT) – MATH 170 A/B

In this course consisting of thirty-six units, students explore a variety of mathematical topics beginning with rational and irrational numbers. As the course progresses, they work with variables, formulas, Algebraic expressions, statistics, and probability. All concepts are applied to real-world settings with an emphasis on actual math problems encountered in everyday life.

SCIENCE GRADE 7 (1 CREDIT) – SCIENCE 170 A/B

In this course consisting of thirty-six units, students learn to describe interactions of matter and energy throughout the lithosphere, hydrosphere, and atmosphere. They continue to develop skills of scientific inquiry, explain how matter can change and describe how energy in its many forms is potential or kinetic. Students apply math skills to evaluate and analyze variables and data from investigations as they draw conclusions from scientific evidence. Students recognize that technology can create environmental and economic conflicts that affect the quality of life. They also realize that science and technology cannot answer all questions and cannot solve all human problems. Students acquire knowledge to explain how energy, such as sunlight entering the ecosystems, supports the life of organisms through photosynthesis and the transfer of energy through the interactions of organisms and the environment.

SOCIAL STUDIES GRADE 7 (1 CREDIT) – SOCIAL STUDIES 170 A/B

Throughout the thirty-six units of this course, students study a wide variety of events, people, and decisions that have not only affected our past but that directly influence our present and future. From Ancient Greece to the First Global Age, this course explores how the world changed and evolved. It provides a foundation for global awareness and a better understanding of the modern world.

SPANISH GRADE 7 (½ CREDIT) – SPANISH 170

In this eighteen-unit course, students are introduced, or re-introduced, to skills to begin or to resume, communication in the target language. They gain knowledge and understanding of pronunciation, vocabulary, grammar structure, and simple conversation as well as study the many cultural aspects of the target language, including music, dance, art, sports, literature, cuisine, and festivals.

GRADE 8

ENGLISH LANGUAGE ARTS GRADE 8 (1 CREDIT) – ENGLISH 180 A/B

This course is recommended and is designed to prepare Ohio students for the AIR GRADE 8 English Language Arts Assessment. Students apply the writing process to develop argumentative/persuasive/opinion, informative/expository/explanatory, and literary analysis essays. Additionally, they read, analyze, and respond to various literary genres, including argumentative texts, historical documents, poetry, short stories, dramas, and other genres that appear on the AIR Assessment. Each unit coaches' students to read each genre and to answer the questions on the AIR Assessment. At the end of every unit, students review grammar and language conventions, such as parts of sentence parts, sentence types, verb moods, capitalization, and punctuation.

MATH GRADE 8 (1 CREDIT) – MATH 180 A/B

In this course consisting of thirty-six units, students investigate the base-ten number system by reading, writing, representing, comparing and rounding whole numbers and decimals; compute with whole numbers using one and two-digit numbers; develop strategies for performing mental computations; and generate equivalent forms of fractions and decimals to estimate, add, and subtract decimals and fractions with like denominators. Students count money and make a change; examine prime and composite numbers; make simple measurement conversions of units; solve multi-step problems; and develop strategies to find perimeter, area, and volume. In geometry, students investigate, classify, and model plane figures and solids. They plot locations in the first quadrant of a coordinate system and make transformations of slides, flips, and turns; use words, tables, and graphs to analyze patterns and relationships to make predictions and solve problems; represent unknowns as variables in equations and inequalities and relate how change in one variable affects the value of a related variable. Students gather and organize data in tables, charts, and graphs and make predictions based on interpretations and appropriate display of data; use mode, median, and range to describe characteristics of data; conduct simple probability experiments and make predictions of possible outcomes ordering events as impossible, unlikely, equal, likely, and certain-to-happen; and make lists to display all possible combinations of different sets of items. There are worksheets in many of the units that provide more practice on specific topics.

SCIENCE GRADE 8 (1 CREDIT) – SCIENCE 180 A/B

In this course consisting of thirty-six units, students explore space and plate tectonics as they continue to draw conclusions from scientific evidence that support theories related to the change of the Earth's surface. They acquire knowledge to describe how positions and motions of objects in the universe cause predictable and cyclic events. Students explain that the universe is composed of vast amounts of matter and that it is held together by gravitational force. They explore equipment to study the universe, such as telescopes, probes, satellites, and spacecraft. The motion of objects, effects of forces on objects, and how waves (sound, water, and earthquake) transfer energy are explored. Students analyze how the extinction of a species occurs when the environment changes, and its adaptive characteristics are insufficient to allow survival. Students design a solution to a problem or design and build a product, given certain constraints. Technological influences on the quality of life are also explored in this course.

SOCIAL STUDIES GRADE 8 (1 CREDIT) – SOCIAL STUDIES 180 A/B

Throughout the thirty-six units of this course, students study the series of events, decisions, and ideas that shaped the development of the United States of America. From its colonial roots to the aftermath of the Civil War, the country's first centuries reveal a fascinating story and the contributions of many amazing people. Students also have the opportunity to read excerpts from some of the significant documents that form the basis of American government.

SPANISH GRADE 8 (½ CREDIT) – SPANISH 180

In this course consisting of eighteen units, students are introduced, or re-introduced, to skills to begin or to resume, communication in the target language. Students gain knowledge and understanding of vocabulary, grammar structure, pronunciation, and conversation as well as study the many cultural aspects of the target language, including music, dance, art, literature, cuisine, and traditions. Enrichment activities challenge more advanced students.

GRADES 9-12

ENGLISH LANGUAGE ARTS

ENGLISH 9TH GRADE (1 CREDIT) – ENGLISH 9 A/B

This thirty-six-unit course is designed to prepare Ohio students for the AIR English Language Arts I Assessment. The Argumentative and Informative/Essay writing course is divided into two, nine-unit sessions. The first nine units focus on creating argumentative essays. This section is broken down into an overview of arguments, transition words, introduction paragraph, body paragraphs, claims, counterclaims, and the closing paragraph. The second group of nine units hones in on how to create an informative/expository essay. Units focus on introductory paragraphs, body paragraphs, closing paragraphs, as well as an overview of the informative essay. Students are asked to use the in-text citation for both essays. This is reviewed in both sections. Starting in Unit 19, there is an introduction to literary analysis, which is the practice of looking closely at small parts to see how much they affect the whole. A literary analysis essay always discusses the significance of the reader's observations to the main idea about life (the theme). Finally, beginning in Unit 28, informational text is taught. Students read several different passages and answer questions based on these passages. Informational text is a type of nonfiction writing that is written to inform the reader about a specific topic. Students learn about the central idea being the most important point that the author wants to convey about a topic.

ENGLISH 10TH GRADE (1 CREDIT) – ENGLISH 10 A/B

This thirty-six-unit course is designed to prepare students for the AIR English Language Arts II Assessment. Students apply the writing process to develop argumentative/persuasive/opinion, informative/expository/ explanatory, and literary analysis essays. Additionally, students read, analyze, and respond to various literary genres, including argumentative texts, historical documents, poetry, short stories, dramas, and other genres that appear on the AIR Assessment. Each unit coaches' students to read a particular genre and to answer the questions that appear on the AIR Assessment. Finally, at the end of every unit, students review grammar and language conventions, including parts of sentence parts, sentence types, parallel structure, capitalization, and punctuation.

ENGLISH 11TH GRADE (1 CREDIT) – ENGLISH 11 A/B

This course consists of thirty-six units. In Units 1 through 18, students review the basics of grammar, refine writing, improve vocabulary, and delve into the world of American literature. Students apply the writing process to review paragraph writing and functional document writing, such as business letters and resumes. Students also write longer descriptive and persuasive compositions and engage in several creative writing activities. They apply research skills to develop a persuasive speech. In Units 19 through 36, students read, analyze, and respond to various genres in American literature, including poetry, short stories, nonfiction, and the novel, Ethan Frome by Edith Wharton.

ENGLISH 12TH GRADE (1 CREDIT) – ENGLISH 12 A/B

In this course of thirty-six units, students read and respond to a variety of excerpts from informational texts and primary sources. They examine the elements of poetry based on the works of Maya Angelou, Robert Frost, and others. The use of rhetoric and rhetorical techniques is also discussed. Students review the conventions of standard English and apply the writing process to produce paragraphs and essays.

GREEK MYTHOLOGY (½ CREDIT)

In this eighteen-unit course, students learn about Greek mythology through reading, writing, and research. Material covered includes excerpts from Homer's Iliad and Odyssey. The units and assignments in this course correspond with Ohio's Learning Standards for English Language Arts.

ROMAN MYTHOLOGY (½ CREDIT)

In this eighteen-unit course, students learn about Roman mythology through reading, writing, and research. Material covered includes excerpts from the Aeneid. The units and assignments in this course correspond with Ohio's Learning Standards for English/Language Arts.

POETRY (½ CREDIT)

Poetry is an eighteen-unit course. Students read selected poems that are meant to encourage and motivate further reading. Poems are read and analyzed through written assignments. Because recitation is a major part of understanding the emotions involved in poetry, students are required to submit recordings to their teacher frequently.

SHORT STORIES (½ CREDIT)

Short Stories is an eighteen-unit course. The stories are selected to encourage and to motivate students to read and enjoy literature from a wide variety of authors. Students read several short stories and use the writing process to respond to each selection. They are required to complete projects and conduct independent research. Content is aligned with grades 9-11 in the Language Arts Reading Standards.

MATHEMATICS

INTEGRATED MATH I (1 CREDIT) – INTEGRATED MATH I A/B

In this course students connect physical, verbal, and symbolic representations of the real number system. They investigate the properties of real numbers and estimate, compute, solve, and judge reasonableness of problems with real numbers including ratio, proportion, percent, integers, rational numbers, numbers expressed in scientific notation, and square roots of perfect and non-perfect squares. Students generalize patterns and sequences and apply formulas to real-world problem situations. Students examine basic geometric properties of two-dimensional and three-dimensional shapes. They graph solutions to equations; use coordinate geometry to analyze properties of two-dimensional figures and perform translations, reflections, rotations, and dilations; define basic trigonometric ratios in right triangles; and apply proportions to solve problems involving right triangle trigonometry. Students apply direct and indirect measurement techniques and tools, and derive formulas to determine perimeter, area, volume, and various attributes of plane and solid geometric figures. They use measures of center and spread to analyze data; evaluate the change of data and display it appropriately in graphs; make predictions based on samples representative of a larger population; use permutations and combinations to calculate the number of possible outcomes recognizing repetition and order; and compute the probability of compound events, independent events, and simple dependent events. Students solve and

graph linear equations, absolute value equations, and inequalities; compute with polynomials; define functions; determine slope and intercepts; draw graphs of linear equations and inequalities; solve systems of equations and explore simple nonlinear equations.

BASIC ALGEBRA I (1 CREDIT) – BASIC ALGEBRA I A/B

In this course, students connect physical, verbal, and symbolic representations of the real number system; investigate properties including closure; demonstrate fluency in computations with real numbers; solve and graph linear equations and inequalities. Students use formulas to solve problems including exponential growth and decay; add, subtract, multiply, and divide monomials and polynomials; and solve quadratic equations with real roots by graphing, formula, and factoring. Students define functions, determine slope, calculate distance, and draw graphs of linear equations using slope, y-intercept, parallel, and perpendicular lines; determine the characteristics of linear, quadratic, and exponential functions; solve systems of linear equations involving two variables graphically and symbolically; simplify and compute with rational and radical expressions; model and solve problem situations involving direct and indirect variation. In Algebra I, you will begin your journey to learn mathematical and theoretical concepts which lay the foundation to take more advanced math classes, both in high school and beyond. Mathematics knowledge is built in steps, and Algebra I is one of its building blocks. With mastery of Algebra I skills, you will have a solid foundation to pursue many different paths and further your knowledge of mathematics.

COLLEGE PREP ALGEBRA I (1 CREDIT) – CP ALGEBRA I A/B

In this course students connect physical, verbal, and symbolic representations of the real number system; investigate properties including closure; demonstrate fluency in computations with real numbers; solve and graph linear equations and inequalities. They use formulas to solve problems including exponential growth and decay; add, subtract, multiply, and divide monomials and polynomials; and solve quadratic equations with real roots by graphing, formula, and factoring. Students define functions; determine slope, calculate distance, and draw graphs of linear equations using slope, y-intercept, parallel & perpendicular lines; determine the characteristics of linear, quadratic, and exponential functions; solve systems of linear equations involving two variables graphically and symbolically; simplify and compute with rational and radical expressions; model and solve problem situations involving direct and indirect variation. They describe and interpret rates of change from graphical and numerical data; find, use, and interpret measures of center and spread to compare and draw conclusions about data; evaluate the appropriateness of data collection and analysis; and identify possible misuses of statistical data. They use counting techniques and the Fundamental Counting Principal to determine possible outcomes, compute probabilities of compound events, independent events, and simple dependent events; and make predictions based on theoretical probabilities and experimental results. Students define basic trigonometric ratios in right triangles and apply proportions to solve problems involving right triangle trigonometry.

INTEGRATED MATH II (1 CREDIT) – INTEGRATED MATH II A/B

In this course, students study the topics presented in geometry but in a modified format. On occasion, students find that problems and/or explanations have been adapted to a simpler format. Students are given extra guidance with more difficult problems. Students formally define geometric figures; describe and apply the properties of similar and congruent figures; and justify conjectures involving similarity and congruence. They recognize and apply angle relationships in situations involving intersecting lines, perpendicular lines, and parallel lines; use coordinate geometry to represent and examine the properties of geometric figures including slope, midpoint, distance, parallel, and perpendicular lines; draw and construct representations of two- and three-dimensional geometric objects using a variety of tools such as straightedge, compass, and technology. Students represent and model transformations in a coordinate plane and describe the results; prove or disprove conjectures and establish the validity of conjectures about geometric objects, their properties and relationships by counterexample, inductive and deductive reasoning, and critiquing arguments made by others. Students use right triangle trigonometric relationships to determine lengths and angle measures; use algebraic representations to model and solve problem situations and to describe and generalize geometric properties and relationships.

BASIC GEOMETRY (1 CREDIT) – BASIC GEOMETRY A/B

In thirty-six units, students study the same topics presented in other geometry courses to assure total alignment with Ohio's Learning Standards. However, content and assessments have been adapted to a more appropriate format and level of difficulty. Units include extensive examples, worksheets for practice and interactive activities to enhance learning.

COLLEGE PREP GEOMETRY (1 CREDIT) – CP GEOMETRY A/B

In this course students formally define geometric figures; describe and apply the properties of similar and congruent figures; and justify conjectures involving similarity and congruence. They recognize and apply angle relationships in situations involving intersecting lines, perpendicular lines, and parallel lines; use coordinate geometry to represent and examine the properties of geometric figures including slope, midpoint, distance, parallel, and perpendicular lines; draw and construct representations of two- and three-dimensional geometric objects using a variety of tools such as straightedge, compass, and technology. Students represent and model transformations in a coordinate plane and describe results; prove or disprove conjectures and establish the validity of conjectures about geometric objects, their properties and relationships by counterexample, inductive and deductive reasoning, and critiquing arguments made by others. Students use right triangle trigonometric relationships to determine lengths and angle measures; use algebraic representations to model and solve problem situations and to describe and generalize geometric properties and relationships; connect physical, verbal, and symbolic representations of irrational numbers; calculate and explain the difference between absolute error and relative error; interpret the relationship between two variables using multiple graphical displays and statistical measures; model problems dealing with uncertainty with area models; differentiate and explain the relationship between the probability of an event and the odds of an event.

INTEGRATED MATH III (1 CREDIT) – INTEGRATED MATH III A/B

In this course students study the topics presented in algebra but in a modified format. On occasion, students find that problems and/or explanations have been adapted to a simpler format. Students are given extra guidance with more difficult problems. In this course, students review basic algebra and geometry topics. They demonstrate fluency in operations with real numbers, vectors and matrices; represent and compute with complex numbers; use fractional and negative exponents to find solutions for problem situations; describe and compare the characteristics of the families of quadratics with complex roots, polynomials of any degree, logarithms, and rational functions. They investigate rates of change, intercepts, zeros and asymptotes of polynomial, rational, and trigonometric functions graphically and with technology; identify families of functions with graphs that have rotation symmetry or reflection symmetry about the y-axis, x-axis, or y =x. They solve problems with matrices and vectors, solve equations involving radical expressions and complex roots, solve 3 by 3 systems of linear equations, and solve systems of linear inequalities; solve quadratic expressions, investigate curve fitting, and determine solutions for quadratic inequalities; investigate exponential growth and decay and use recursive functions to model and solve problems. They compute with polynomials and solve polynomial equations using a variety of methods including synthetic division and the rational root theorem; solve inverse, joint, and combined variation problems; solve rational and radical equations and inequalities; and describe the characteristics of the graphs of conic sections. Students use permutations and combinations to calculate the number of possible outcomes recognizing repetition and order; and compute the probability of compound events, independent events, and dependent events.

BASIC ALGEBRA II (1 CREDIT) – BASIC ALGEBRA II A/B

In this course students will begin by reviewing basic algebra and geometry topics. They demonstrate fluency in operations with real numbers, vectors and matrices; represent and compute with complex numbers; use fractional and negative exponents to find solutions for problem situations; describe and compare the characteristics of the families of quadratics with complex roots, polynomials of any degree, logarithms, and rational functions. Students investigate rates of change, intercepts, zeros and asymptotes of polynomial, rational, and trigonometric functions graphically and with technology; identify families of functions with graphs that have rotation symmetry or reflection symmetry about the y-

axis, x-axis, or y = x. They solve problems with matrices and vectors, solve equations involving radical expressions and complex roots, solve 3 by 3 systems of linear equations, and solve systems of linear inequalities; solve quadratic expressions, investigate curve fitting, and determine solutions for quadratic inequalities. They investigate exponential growth and decay and use recursive functions to model and solve problems; compute with polynomials and solve polynomial equations using a variety of methods including synthetic division and the rational root theorem; solve inverse, joint, and combined variation problems; solve rational and radical equations and inequalities; and describe the characteristics of the graphs of conic sections. They analyze the behavior of arithmetic and geometric sequences and series. Students use permutations and combinations to calculate the number of possible outcomes recognizing repetition and order; compute the probability of compound events, independent events, and dependent events. They use descriptive statistics to analyze and interpret data, including measures of central tendency and variation. In some of the units, a graphing calculator will be useful. It is recommended that the graphing calculator be at least a TI-83 model.

COLLEGE PREP ALGEBRA II (1 CREDIT) – CP ALGEBRA II A/B

In this course students will begin by reviewing basic algebra and geometry topics. They demonstrate fluency in operations with real numbers, vectors and matrices; represent and compute with complex numbers; use fractional and negative exponents to find solutions for problem situations; describe and compare the characteristics of the families of quadratics with complex roots, polynomials of any degree, logarithms, and rational functions. They investigate rates of change, intercepts, zeros and asymptotes of polynomial, rational, and trigonometric functions graphically and with technology; identify families of functions with graphs that have rotation symmetry or reflection symmetry about the x-axis, y-axis, or y=x.
They solve problems with matrices and vectors, solve equations involving radical expressions and complex roots, solve 3 by 3 systems of linear equations, and solve systems of linear inequalities; solve quadratic expressions, investigate curve fitting, and determine solutions for quadratic inequalities. They investigate exponential growth and decay and use recursive functions to model and solve problems; compute with polynomials and solve polynomial equations using a variety of methods including synthetic division and the rational root theorem; solve inverse, joint, and combined variation problems; solve rational and radical equations and inequalities; and describe the characteristics of the graphs of conic sections. Students use permutations and combinations to calculate the number of possible outcomes recognizing repetition and order; compute the probability of compound events, independent events, and dependent events.

ADVANCED MATH (1 CREDIT) – ADVANCED MATH A/B

In this thirty-six-unit course, students explore pre-calculus topics. Students determine what properties hold for operations with complex numbers. They apply combinations as a method to create coefficients for the Binomial Theorem; solve problems involving derived measurements; use radian measures to solve problems involving angular velocity and acceleration; apply informal concepts of successive approximation, upper and lower bounds, and limits in measurement situations. Students use matrices to represent translations, reflections, rotations, dilations, and their compositions; derive and apply the basic trigonometric identities; relate graphical and algebraic representations of lines, simple curves, and conic sections. Students recognize and compare specific shapes and properties in multiple geometries; analyze the behavior of arithmetic and geometric sequences and series as the number of terms increases; translate between the numeric and symbolic form of a sequence or series. They describe and compare the characteristics of transcendental and periodic functions and represent the inverse of a transcendental function symbolically; solving systems of equations using matrices and graphs, with and without technology. They use mathematical induction and explore the concepts of limit; compare estimates of the area under a curve over a bounded interval by partitioning the region with rectangles; translate freely between polar and Cartesian coordinate systems; use the concept of limit to find instantaneous rate of change for a point on a graph as the slope of a tangent at a point. They use descriptive statistics to analyze and summarize data, including measures of center, dispersion, correlation, and variability; and use theoretical or experimental probability to determine probabilities in real-world situations involving uncertainty.

BUSINESS MATH I (½ CREDIT)

This eighteen-unit course, students learn to use math concepts in real-world situations. They compute wages, commissions, and tips. Several types of accounts, including checking and savings, are also discussed. Students create, interpret, and analyze different types of graphs. They calculate perimeter, area, and volume in real-world settings. Students learn about sales tax, installment plans, and finance charges for credit cards. They use comparative shopping techniques, such as finding the best buys, applying discounts, and ordering from catalogs. Car ownership, including gas mileage, depreciation, insurance, and financing, are also addressed. Students investigate the cost of home ownership, financing, property taxes, insurance, maintenance, and improvements. They explore the cost of travel, calculate gas mileage, determine lodging costs, and currency change.

BUSINESS MATH II (½ CREDIT)

In this second part of the eighteen-unit course students learn to use math concepts in real-world situations. They will use Scientific Notation, Real Number System, Ratio, Proportion, Percent, Measurements, and Probability.

COLLEGE PREP CALCULUS (1 CREDIT) – CP CALCULUS A/B

This course consists of thirty-six units and covers topics similar to those explored in an entry-level, college Calculus course, such as those offered at most colleges or universities. It is written by the Ohio Academic Content Standards and includes such topics as Limits, Rates of Change, Differentiation, Functions of Derivatives, Indefinite and Definite Integrals, Areas in a Plane, Volumes of Generated Solids, L'Hôpital's Rule, and Slope Fields. This course can be demanding at times; however, when explored with an open mind, Calculus can be an enjoyable challenge.

TRANSITION TO COLLEGE MATH (½ CREDIT)

This course covers traditional topics in college algebra and trigonometry at the freshman level and was written in accordance with the Ohio Academic Content Standards for grades 11 and 12 and includes such topics as: Systems of Linear Equations, Complex Numbers, Quadratic Functions, Logarithms, Trigonometry, Matrices, Vectors, and the Conic Sections.

INTERVENTION MATH (1 CREDIT) – INTERVENTION MATH A/B

This course consists of thirty-six units and is designed to review the basic concepts necessary for success in applying mathematics in real-life situations. The subject matter studied is familiar and motivational, integrating problem-solving and focusing on real applications of mathematical skills. This course is designed primarily for the student who seeks to improve his or her knowledge of basic mathematics. Topics studied include computations and applications of whole numbers, decimals, fractions, ratios, and percent; measurement in metric and customary units; geometric figures, finding volume and surface area; statistics, graphs, and probability; and integers, the coordinate plane, and algebraic equations.

SCIENCE

BIOLOGY (1 CREDIT) – BIOLOGY A/B

This course consists of thirty-six units. It emphasizes the concepts, principles, and theories that enable people to understand the living environment. Students study life science concepts, such as the structure, function, and processes of cells, the genetic and molecular basis of inheritance, biological evolution of various species, and the diversity and interdependence of life. Students acquire the knowledge to explain the flow of energy and

the cycling of matter through biological and ecological systems in this course. Embedded throughout the units are the basic scientific processes of inquiry, modeling investigations, and the nature of science. Students learn to trace the historical development of scientific theories, ideas, and ethical guidelines in science. This course also addresses the interdependence of science and technology, along with the study of emerging issues. This enables students to become scientifically, literate citizens.

ADVANCED BIOLOGY (1 CREDIT) – ADVANCED BIOLOGY A/B

The thirty-six units of this course emphasize the concepts, principles, and theories that enable people to understand the living environment. Students further develop their basic biological knowledge and demonstrate the application of biological concepts, such as the structure, function, and processes of cells, the genetic and molecular basis of inheritance, biological evolution of various species, and the diversity and interdependence of life. This course also provides an emphasis on the six kingdoms of the classification of living organisms, the concepts of evolution, and the diversity and interdependence of life. Embedded throughout this study are the basic scientific processes of inquiry, modeling investigations, and the nature of science. Students learn to trace the historical development of scientific theories, ideas, and ethical guidelines in science. This course also addresses the interdependence of science and technology, along with the study of emerging issues. This enables students to become scientifically, literate citizens.

PHYSICAL SCIENCE (1 CREDIT) – PHYSICAL SCIENCE A/B

Throughout the thirty-six units of this course, students learn about a variety of topics. Some broad areas offered for study include matter, energy, waves, forces, motion, and the universe. When studying the properties of matter, students learn about atoms, how matter is classified, how to use the periodic table, chemical bonding, and reactions. When exploring energy and waves, they study conservation, the transfer of energy, properties of waves, thermal energy, and electricity. Within forces and motion, students investigate and graph velocity and acceleration, interpret force diagrams and learn how forces affect motion. As students study the universe, they learn about its history, galaxy formation, and the life cycle of stars. The course includes videos, guided notes, SAS labs, and PhET Interactive Simulations.

CHEMISTRY W/LAB (1 CREDIT) – CHEMISTRY A/B

This course, consisting of thirty-six units, begins with the evolution of the atomic theory, an examination of the periodic table, intramolecular chemical bonding, and phases of matter. Students learn to write chemical formulas and to calculate formula mass. Types of reactions, gas laws, kinetics, acids, bases, fission, and fusion are also covered. PhET Interactive Simulations and Virtual ChemLab allow students to experience a laboratory setting by using virtual equipment and lab techniques.

ENVIRONMENTAL SCIENCE (1 CREDIT) – ENVIRONMENTAL SCIENCE A/B

In this course consisting of thirty-six units, students draw on their previous experience and connect Earth, space, life, and physical sciences into a coherent study of the environment. Emphasis is placed on the interactions between humans and Earth, ecosystems, biological evolution, populations, and diversity. Students also explore matter and energy relationships. Human interactions with science and technology are discussed, as well as how man has modified current ecosystems and natural systems. Students have the opportunity to use basic science processes of inquiry and scientific investigation. They apply the nature of science to examine past events, to analyze current situations, and to develop scientific predictions, idea, or theories.

PHYSICS (1 CREDIT) – PHYSICS A/B

Physics is described as the study of matter and energy, how matter and energy relate to each other, and how they affect each other over time and through space. This course, consisting of thirty-six units, is designed to develop the student's abilities in the following areas: (1) reading, understanding, and interpreting information from a wide variety of

situations, (2) using appropriate problem-solving skills, (3) using mathematical reasoning in solving problems, and (4) completing lab experiments, including data acquisition, interpreting the results, and acknowledging the uncertainties associated with the experimental outcome. Labs vary from prescribed or "cookbook," to limited investigations with some direction, and finally open-ended investigations with little or no direction. Students are required to compile a portfolio of lab reports.

FORENSIC SCIENCE (½ CREDIT)

Forensic Science consists of eighteen units. The course provides opportunities to develop and to extend scientific skills and processes through problem-based learning. Students engage in activities that relate to other subject areas, such as biology, chemistry, physics, mathematics, sociology, archaeology, anthropology, anatomy, health, and writing. Forensic Science connects these subject areas to real-life applications used in criminal investigations.

MARINE BIOLOGY (½ CREDIT)

This eighteen-unit course is the study of all things about the oceans, both living and nonliving. Marine Biology is a survey course designed for students who already have had a successful foundation in biology. The first part of the course focuses on oceanography and looks at physical aspects like tectonics, tides, and currents. The second half of the course deals with living components, starting with microscopic life and moving forward to advanced animals.

SOCIAL STUDIES

WORLD HISTORY (1 CREDIT) – WORLD HISTORY A/B

This course, consisting of thirty-six units, examines global events from 1600 to the present era and considers their ongoing impact on the world community. At the same time, it addresses economic, political, social, and cultural developments which shape our thoughts and values. The contributions of political figures, artists, writers, explorers, and scientists are also emphasized. Students develop theses and use evidence to support or to refute positions taken by other writers. Videos, articles, and primary sources are used to enhance learning throughout the course.

AMERICAN HISTORY (1 CREDIT) – AMERICAN HISTORY A/B

This thirty-six-unit course examines the history of the United States of America from 1877 to the present. It is designed to prepare students for the AIR American History Assessment. Students study the challenges that the republic has withstood and the expansion of the rights and roles of its citizens. They learn about the events that have shaped the principles, nature, and culture of the United States. The concepts of historical thinking, introduced in earlier grades, continue to develop as students analyze and draw conclusions using primary and secondary sources from multiple perspectives.

AMERICAN GOVERNMENT (½ CREDIT)

This eighteen-unit course explores the establishment and the ongoing development of American government. It is designed to prepare Ohio students for the AIR American Government Assessment. Students study how the American people govern themselves at national, state, and local levels. They examine the principles of the Constitution and the involvement of citizens in the structure and function of governing. The course emphasizes the importance of compromise, consensus, and negation within the democratic process. The government's role in the economy and change through the amendment process are other important aspects of the course.

ECONOMICS (½ CREDIT)

Throughout the eighteen units of this course, students study the terminology and the fundamentals associated with financial decision-making. How do supply, demand, and competition impact the prices for the goods and services that people desire? How do societies meet the wants and needs of their populations? What steps do governments take to protect their economies? Are taxes really necessary? Is investing in the stock market a good idea? In this course, students gain the knowledge and skill to answer these questions by learning to think like an economist.

PERSONAL FINANCE (½ CREDIT)

Personal finance empowers high school students to take control of their financial futures and set their paths for financial success. Students can acquire the tools and skills they need to make smart financial decisions and achieve their goals.

GEOGRAPHY (½ CREDIT)

In this eighteen-unit course, students have the opportunity to study the interaction between people and cultures, as well as natural and physical environments, around the globe. The course is designed to familiarize students with the world and how they, along with their community, can play a role in global interaction. Students develop an understanding of various regions and focus on several geographic topics in each region. They become aware of the impact of physical geography on the lives of humans and the positive and negative changes that result from human interaction with the environment.

PSYCHOLOGY (½ CREDIT)

This eighteen-unit course examines human development and behavior through the social science of psychology. It includes explanations of key vocabulary words and the significant contributions of psychologists and psychiatrists. Students learn about the stages of cognitive development, the transition to adulthood, and healthy relationships. They study how specific factors, such as birth order, peer pressure, and addiction, impact people's lives and personalities. The course also covers stress factors, depression, and gender identity. Videos, projects, and case studies are offered throughout the course to enhance student learning.

SOCIOLOGY (½ CREDIT)

This eighteen-unit introduction to the social science of sociology allows students to explore social relationships in a variety of settings. Students begin by understanding what sociology is and by learning how sociology applies to real life. Students examine topics to which they can relate, such as cultural diversity, adolescent development, and society's rules. Throughout this course, students gain insights into themselves, into other people in their lives, and into their world as a whole.

STUDENT LEADERSHIP (½ CREDIT)

The eighteen-unit course is designed to prepare students for leadership roles and responsibilities. Students also learn to apply leadership principles and skills to their everyday lives. They study theories and styles of leadership along with goal setting, time management, and decision making.

ELECTIVES

FINE ARTS

ART HISTORY (½ CREDIT)

In this eighteen-unit course, students learn not only to analyze and appreciate art but to enjoy it. This course presents the changes and artistic movements from the prehistoric to the modern. The course starts by studying cave art and Classical Greek art; then, it moves through history and covers the Renaissance, Colonial American, Realism, and Impressionism. It ends with the late twentieth century's New Media. All this is included and more, giving a cohesive timeline from which students may gain an accurate view of history.

HISTORY OF JAZZ (½ CREDIT)

In this eighteen-unit course, students begin with a brief lesson in basic music terminology that helps them understand the development of this American popular music genre. They study the origins of jazz in the nineteenth century and its numerous musical style developments, including, Ragtime, Swing Music, Bebop, Cool Jazz, Free Jazz, Fusion, and Modern Jazz. Students also get an in-depth look at some of the biggest names in jazz from Louis Armstrong and Duke Ellington to Miles Davis and Wynton Marsalis. Numerous video and audio recordings are used throughout the class as a resource to assist students in understanding the development of this genre of music.

HISTORY OF ROCK & ROLL (½ CREDIT)

In this eighteen-unit course, students begin with a brief lesson in basic music terminology that helps them understand the development of this American popular music genre. They then study the origins of Rock and Roll beginning in the 1950s and its numerous musical-style developments, including, Rockabilly, Motown, the British Invasion, Folk Rock, Psychedelic Rock, Hip Hop, Disco and Funk. Students also get an in-depth look at some of the biggest names in the history of Rock and Roll from Elvis and Little Richard to Led Zeppelin and Kurt Cobain. Numerous video and audio recordings are used throughout the class as a resource to assist students in understanding the development of this genre of music. Some of these videos and recordings may be considered inappropriate due to the topics covered within the music or language used within the songs. They are an integral part, however, of the history of Rock and Roll.

MUSIC APPRECIATION (½ CREDIT)

This eighteen-unit course considers music to be a reflection of the history of our world and/or country. Each country has developed specific music giving it its own humanistic value. Music gives students a chance to understand and appreciate each period of history: it influenced the past, defines the present, and affects the future. This course is designed to give students a taste of the music and culture from each designated period in the timeline of music history. The topics in this course are enhanced with video segments to help students comprehend the era in which each style of music was incorporated. Many audio pieces give the student a feel for the spectrum of music history, its composers, and/or their repertoires. Music Appreciation helps students gain a better understanding of and a new appreciation for the world of music.

RENAISSANCE ART (½ CREDIT)

This course, consisting of eighteen units, exposes students to the great artists of the Renaissance period. It teaches them the tricks and illusions that forever changed the world’s view of painting and sculpture. Students learn the elements of art and become acquainted with the principles of design. The works of the Renaissance are not studied in chronological order but in terms of the elements and how the artists implemented the elements. The techniques, employed by the Renaissance artists, still influence artists today. Through this study of artistic technique, students understand the impact of the Renaissance and appreciate its influence.

HEALTH/PHYSICAL EDUCATION

HEALTH (½ CREDIT)

This eighteen-unit course focuses on helping students to become responsible for their personal wellness. Students develop basic knowledge and understanding of body systems, body functions, and body needs. They practice and implement healthy habits and routines that properly support and care for these systems, functions, and needs.

PHYSICAL EDUCATION I (½ CREDIT)

In this eighteen-unit course, students learn about being active and improving physical fitness. Each student chooses his or her own physical activities and participates in them for fifty minutes, three days per week. Students are required to keep a log of these activities. The course also emphasizes warming up, cooling down, staying hydrated, and eating well.

PHYSICAL EDUCATION II EXTREME SPORTS (½ CREDIT)

In this eighteen-unit course, students study a sampling of extreme sports from all over the world. Mountain climbing, backpacking, snowboarding, cheese rolling and barrel riding over Niagara Falls are all included. There are also tips for purchasing proper workout gear, for eating properly and for improving individual fitness levels. The course does require participation in a physical activity chosen by the students for fifty minutes, three days per week.

TECHNOLOGY

COMPUTER APPLICATIONS (½ CREDIT)

In this eighteen-unit course, students explore the evolution of the computer and uncover the contributions of many early inventors whose creativity contributed to its development. Key terms, such as input, output, and data storage, are defined and explained. Students are introduced to various types of software, including Microsoft Word, Microsoft Excel, and Microsoft PowerPoint. The course also stresses the importance of computer security, privacy, and ethics.

INTRODUCTION TO THE INTERNET (½ CREDIT)

In this eighteen-unit course, students learn how to use the Internet for educational purposes and personal enjoyment. Key terms, such as URL, HTML, and browser, are defined and explained. Students learn the most efficient ways to search for information and techniques to evaluate the material that they find. The course includes a research project to practice these skills. Students also learn how to avoid viruses and how to stay safe online.

DIGITAL SKILLS (½ CREDIT)

This course, consisting of eighteen units, focuses on the skills and knowledge that students need to be successful, digital citizens in a global economy. The topics covered in this course provide an understanding of technology and the ability to use technology productively in their daily lives. Students learn to analyze a problem and to apply the appropriate technological approach for solving that problem.

DIGITAL CITIZENSHIP (½ CREDIT)

This course, consisting of eighteen units, explores ways to become a good digital citizen in today's world. Students are introduced to four, specific digital citizenship elements: Digital Literacy, Digital Access, Digital Rights and Responsibilities, and Digital Safety. Throughout this course, students have opportunities to watch videos, to listen to sound clips, and to complete activities. The course is aligned with national standards for technology and curriculum.

FOREIGN LANGUAGE

SPANISH

SPANISH I (1 CREDIT) – SPANISH I A/B

In this course consisting of thirty-six units, students develop knowledge and skills to begin communicating in the target language. They speak, listen to, read, and write the language in short sentences and paragraphs that contain the learned vocabulary words and phrases. Students also gain insight into the target culture by examining literature, music, laws, foods, values, traditions, and behaviors.

SPANISH II (1 CREDIT) – SPANISH II A/B

In this course consisting of thirty-six units, students participate in simple, conversational situations using sentences and groups of sentences. They create the target language by combining and recombining learned phrases and words. Students write simple messages, read texts dealing with familiar topics, and understand the main ideas when listening to conversations dealing with familiar topics or themes. Students also gain awareness, understanding of, and appreciation for cultural contributions made by people of the target language.

SPANISH III (1 CREDIT) – SPANISH III A/B

This course, consisting of thirty-six units, is offered to students interested in pursuing greater fluency in reading, writing, speaking, and understanding the target language. The students are required to recall previously learned words and phrases and to build upon them as they learn to create more native-like writing and conversation. This course also continues a more intense study of grammar and appreciation for cultural contributions made by people of the target language.

SPANISH IV (1 CREDIT) – SPANISH IV A/B

This course, consisting of thirty-six units, is offered to those students interested in becoming proficient in reading, writing, speaking, and understanding the target language. The students are required to review all grammatical structure and to recall previously learned vocabulary. They strive for a native-like, proficiency level, and continue a more intense study of cultural aspects, including art and literature. Students demonstrate their understanding of and appreciation for these cultural works by discussing them in the target language.

FRENCH

FRENCH I (1 CREDIT) – FRENCH I A/B

In this course consisting of thirty-six units, students develop the knowledge and skills to begin communicating in the target language. They speak, listen, read, and write the language in short sentences and paragraphs that contain the learned vocabulary, words, and phrases. Students also gain insight into the target culture by examining literature, music, laws, foods, values, traditions, and behaviors.

FRENCH II (1 CREDIT) – FRENCH II A/B

In this course consisting of thirty-six units, students participate in simple, conversational situations using sentences and groups of sentences. They create the target language by combining and recombining learned phrases and words. Students write simple messages, read texts dealing with familiar topics, and understand the main ideas when listening to conversations dealing with familiar topics or themes. Students also gain an awareness and understanding of, and appreciation for, cultural contributions made by people of the target language.

FRENCH III (1 CREDIT) – FRENCH III A/B

In this course consisting of thirty-six units, students initiate and sustain conversations by making statements, asking questions, and giving appropriate responses. They communicate using correct time frames on everyday topics, both orally and in writing. When writing, students compose cohesive paragraphs related to familiar topics and personal experiences. Students develop an understanding of main ideas and significant details in extended discussions and presentations, both live and recorded. They acquire new knowledge and information from texts, including short literary texts and media. Students continue to expand their knowledge and understanding of the cultural significance of the target language.

FRENCH IV (1 CREDIT) – FRENCH IV A/B

In this course consisting of thirty-six units, students speak and write in French. They learn to initiate, sustain, and bring to closure a wide variety of communicative tasks using appropriate time frames. They expand comprehension skills that allow them to acquire knowledge and information from authentic texts, including literary texts and media. Students continue to develop insight into the nature of the French language and culture.