Missouri Course Access and Virtual School Program (MOCAP)
EdisonLearning Course Descriptions - With Instruction

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Course Name	Course Description
Advanced Music Theory A/B	Advanced Music Theory immerses students in the world of music and the technical details of how music works. The course is designed to provide students with a comprehensive and engaging look at music theory and the notation and structure important to its development. Students learn about various aspects of music theory, including the different types of musical staffs, notes, scales, and chords. Students are also exposed to the use of harmony to produce melodic structure. At the completion of this course, students will have gained knowledge of and appreciation for music theory.
Algebra I A/B	What are algebraic expressions? How are they structured, and how can they be combined to create equations and inequalities? How do you know that the solutions you find are correct? In Algebra 1, students create expressions from verbal descriptions, manipulate and transform them, and create visual models. Requiring students to explain each step helps them understand mathematical processes. Exploring functions, sequences, and their corresponding graphs helps students determine the best ways to represent each. Students examine functions graphically, numerically, symbolically, and verbally, and learn how to translate between these different forms. Students' depth of understanding increases as they complete proofs and describe data, fitting functions to their data. Students then extend their knowledge of linear and exponential relationships and apply their new understanding to create quadratic and exponential expressions as models of real-life phenomena.
Algebra I Foundations A/B	In this course, students gain a strong foundation of essential algebra skills. First, operations with real numbers are extended to modeling with variables and expressions. Next, students explain each step as they solve linear equations and inequalities which helps them understand mathematical processes. Linear functions are represented visually as students graph linear equations and describe characteristics including slope and intercepts. Students' depth of understanding increases as they solve problems with systems of equations and inequalities. Next, properties of exponents are studied and then applied to operations with polynomials. Students manipulate the structure of polynomials by factoring and then use this knowledge to solve and graph quadratic

	equations. Next, the course covers a study of probability as students work with theoretical and experimental probability, as well as independent and dependent events. The course ends with work involving rational and radical expressions.
Algebra II A/B	Extending their knowledge of linear, exponential, and quadratic functions to polynomial, rational, and radical functions, students in Algebra 2 model situations and solve equations, discovering how the rules they learned in arithmetic continue to apply as they work with polynomials. Students focus on the properties and factors of polynomials, learning to find the zeros of a polynomial and graph it as a function. Students use complex numbers to solve quadratic equations and exponential expressions, and learn how to rewrite rational expressions in different forms and solve simple rational and radical equations. The trigonometric concepts students learned previously are expanded as they focus on the unit circle and apply these concepts to models of periodic phenomena. Students then extend their knowledge of function families to model functions defined as square roots or cube roots, as well as piecewise-defined functions. A detailed look at exponential and logarithmic functions is applied to showing intercepts and end behavior. Students collect data through sample surveys, experiments, and simulations, and learn about the role of randomness in this process. Quantitative reasoning is emphasized as students compare the differences between sample surveys, experiments, and observations, and explain how randomization relates to each one.
Algebra II Foundations A/B	In this course, students discover how the skills they learned in Algebra 1 further apply to a variety of topics. Students begin the course with a review of linear equations and inequalities in one and two variables. Next, students apply their knowledge of systems of equations to work with matrices. Next, a deeper dive into polynomials is covered as students factor, perform operations, and compare and contrast graphs. Students explore further characteristics and types of functions including inverse, exponential, logarithmic, and root functions. Next, knowledge of real solutions is extended to the complex number system. Students graph and create equations for conic sections. Statistics and probability are covered as students solve problems involving mutually exclusive and inclusive events, find measures of central tendency and variation, find binomial probabilities, and recognize normally distributed data. After students apply their knowledge of functions to sequences and series, the course ends with an introduction to trigonometric topics, including the unit circle, law of sines and cosines, graphs of periodic functions, and solving trigonometric equations.
American History A/B	This course takes students on a journey through the key events that have shaped America as a nation, from the end of the Civil War in 1865 to the height of the Cold War in 1980. The journey begins with Reconstruction, a period of great transition and opportunity to heal a broken nation. Students witness the great migration westward and explore how the Industrial Revolution and waves of immigration fueled the flames of the American spirit. Students learn how the core values of the founding fathers eventually prevailed and led to the women's suffrage and civil rights movements. The course closely examines the impact of war, with units covering the role of the United States in World War I, World War II, the Korean War, and the Vietnam War. Throughout

	their journey, students encounter the great political, industrial, military, and human rights leaders who shaped America into a beacon of hope.
American History Foundations A/B	This course takes students on a journey through the key events that have shaped America as a nation, from the end of the Civil War in 1865 to the height of the Cold War in 1980. The journey begins with Reconstruction, a period of great transition and opportunity to heal a broken nation. Students witness the great migration westward and explore how the Industrial Revolution and waves of immigration fueled the flames of the American spirit. The course details the challenges America faced and how equality was elusive for populations of Native Americans, African Americans, immigrants, and women. Students learn how the core values of the founding fathers eventually prevailed and led to the women's suffrage and civil rights movements. The course closely examines the impact of war, with units covering the role of the United States in World War I, World War II, the Korean War, and the Vietnam War. Throughout their journey, students encounter the great political, industrial, military, and human rights leaders who shaped America into a beacon of hope.
American History Honors A/B	In American History, students will study the framework of cultural, political, and social issues that have touched and impacted American society. Focusing on reading as an historian, students will begin with the necessary skills needed for reading primary and secondary resources. They will incorporate these skills as they delve into the course material. Picking up with Reconstruction and concluding with globalization in the Twenty-First Century, students will uncover how cooperation, innovation, and spirit have shaped the United States into the country it is today.
Anatomy & Physiology A/B	In this course, students survey the different systems of the human body, with an emphasis on the relationship between structure and function. The course begins by teaching the language of anatomy and familiarizing students with the building blocks of the human body. Students get to know their bodies inside and out, from the skin that covers and protects the entire body to the skeleton and the attached muscles that provide support and create movement. Students explore all the systems of the body and how they work together.
Art History & Appreciation	Where do artists find their inspiration? How can you tell a Rembrandt from a Renoir? Art History and Appreciation surveys artwork and architecture from different periods in human history. Students learn how artists use their abilities to observe and interpret reality and create unique artistic styles and works. Part 1 focuses on the art and architecture in Europe, Africa, and the Americas, while Part 2 moves east to Asia and Oceania. In each part of the course, students note the development of different art movements, the variation in artistic techniques, and the influence of significant artists and designers. Lessons explain the tools, skills, and techniques artists use to create their works. Students also learn how to differentiate between art movements in significant periods of history. At the end of this course, students can recognize different artistic styles, movements, and techniques, and identify specific pieces of artwork by period and origin.

Augmented & Virtual Reality Applications	This course introduces students to the technologies the underpin AR/VR systems. The course walks through 7 applications of AR/VR and how they will change and impact numerous aspects of our lives and the economy.
Biology A/B	The science of Biology is large, complex and constantly changing. This course provides students with a broad and interactive experience covering the main topics of biological science. Topics range from cell reproduction to the diversity of life. Students also learn about the chemical components of life, the process of energy conversion, and life's functions. The course explores genetics and evolution, incorporating the latest scientific research. Finally, the course covers ecology to raise students' awareness of the many challenges and opportunities in the modern biological world. Throughout the course, students complete lab activities that reinforce the material and provide the opportunity to apply their knowledge through interactive experiments and activities.
Biology Foundations A/B	The science of Biology is large, complex, and constantly changing. This course provides students with a broad and interactive experience covering the main topics of biological science. Students begin by learning the basic principles of science. Students examine the basic structure of the cell and processes that occur in nature. Topics range from energy processes to cell reproduction to the diversity of life. Students also learn about the methods by which traits are passed down from one generation to the next in the subject of genetics. Students examine the role of DNA in the production of proteins. Students then compare the structure of different classes of organisms, including the systems of the human body. Students also examine the mechanics of evolution, incorporating the latest scientific research. Finally, the course covers ecology to raise students' awareness of the many challenges and opportunities in the modern biological world.
Calculus A/B	Students examine the foundational components of limits, derivatives, integrals, and series and apply this knowledge to problems in economics and physics. Derivatives are used to find lines tangent to curves and integrals. Students learn specific rules of differentiation and explore real-world applications, including related rates and optimization. Students explore the graphs of functions and their first and second derivatives to determine relationships. Functions increase in complexity to include logarithmic and exponential components. Various methods of finding the area under a curve are examined and applied, and each method is supported graphically. Integration is used to revolve solids about an axis. At the conclusion of the course, students are able to apply their knowledge to physics problems related to speed, velocity, acceleration, and find the volume of an object with curved sides, such as a barrel.
Chemistry A/B	The science of Biology is large, complex, and constantly changing. This course provides students with a broad and interactive experience covering the main topics of biological science. Topics range from cell reproduction to the diversity of life. Students also learn about the chemical components of life, the process of energy conversion, and life's functions. The course explores genetics and evolution, incorporating the latest scientific research. Finally, the course covers ecology to raise students' awareness of the many challenges and opportunities in the modern biological world. Throughout the course,

	students complete lab activities that reinforce the material and provide the opportunity to apply their knowledge through interactive experiments and activities.
Chemistry Foundations A/B	Chemistry challenges students to apply their studies in previous sciences to new theories, models, and problems. Students begin with an exploration of the history and importance of chemical principles and the basic structure of matter. Then they learn the various models of the atom and how they combine to make compounds in chemical reactions. Students apply the principles of conservation of mass in chemical equations and mass balance processes. Next, students explore relationships among liquids, gases, and solids; and investigate the role of energy in these relationships as well as the changes from one phase to another. Students then examine the various types of mixtures and how solutions are made. They also explore how different factors affect the rate of a reaction. Finally, they will learn about the interactions between acids and bases.
Earth Science A/B	This course explores how a number of sciences, including geology, physics, chemistry, and biology impact the world and universe around us. In this interactive and engaging course, students study air, water, and the physical processes that shape the physical world, and how human civilization has affected the balance of nature. Students learn about the modern science behind topics from the Earth's history, such as continental drift, ice ages, fossil dating, and geological timescale. Students will also look at processes that affect life today, such as weathering and erosion, the rock cycle, weather patterns, and climate. They will explore regular phenomena, the cause of the seasons and natural disasters. The students will examine the formation, acquisition and use of natural resources, as well as alternative energy sources. The students will also look at Earth as a small part of a larger universe in an exploration of astronomy. They will examine the Solar System and the stars and galaxies beyond it.
Earth Science Foundations A/B	Earth Science explores how geology, physics, chemistry, and biology impact the world and universe. In this course, students study air, water, and the processes that shape the physical world, as well as how human civilization has impacted the balance of nature. Students learn about the modern science behind topics such as the formation of rocks and how rock can be used to establish a geological timeline. Students examine the motions of Earth and how that leads to seasonal changes. Students explore the theory of plate tectonics and continental drift, and how that leads to the creation of mountains, volcanoes, and earthquakes. Students learn about the forces that shape the surface of Earth through weathering and erosion. Next, students examine the structure of the atmosphere and how weather patterns form, as well as severe weather systems. Student then turn the focus to the ocean and the unique nature of that ecosystem. Finally, students explore the different alternatives to meeting society's energy needs.
Economics A/B	Economics is a comprehensive survey of the ways in which human decisions impact the world every day. Microeconomic concepts including supply and demand, business transactions, the fundamentals of work, and others offer students a glimpse into the effect of personal economic decisions upon the world. Macroeconomic concepts such as the fiscal policy of governments, trade, natural resource use, and other big picture topics offer a more broad view of the world's economic systems. In its entirety, this

	course illuminates the ways in which people from around the world are connected to one another and their natural surroundings every day.
Economics with Financial Literacy	Economics with Financial Literacy examines elements of personal finance through the lens of economic principles. Students explore financial concepts and processes that they will encounter throughout their lives such as personal credit, debt management, budgeting, taxes, and other essential aspects of personal financial wellness. While working through these concepts and others, students gain an understanding of their own role in an ever-changing economy.
English 6 A/B	Students read to enhance their understanding of different genres and to enhance their own writing. Students practice the writing process in each part of the course as they plan, organize, compose and edit four projects. Students are introduced to several types of poetry, learn to recognize poetic devices, evaluate the effectiveness of poet's message and ultimately compose their own poetry.
English 7 A/B	Students read and analyze literature from poetry to novels and folklore to myth, using what they learn to enhance their own writing. The course begins with the steps of the writing process and continue with students learning active reading and research skills that enable them to recognize bias and the techniques of persuasion in different genres, including biographical writing, then write persuasive essays based on their own beliefs or opinions.
English 8 A/B	Students continue their exploration of various genres, using active reading techniques such as note-taking and drawing conclusions from texts Students review the steps of the writing process, making connections between the stages of writing, the genre they are studying, and a well-formed final product.
English I A/B	Learning to become an effective communicator includes knowing how to receive, evaluate, comprehend, and respond to verbal and nonverbal communication. Students learn effective communication in the context of fiction and nonfiction writing as well as in one on one and group discussions. Students strengthen their writing skills by varying syntax and sentence types, and through the correct use of colons, semicolons, and conjunctive adverbs. Students learn to keep their audience, task and purpose in mind while maintaining a formal style and objective tone, and use style manuals and reference materials to appropriately cite sources and ensure that their writing meets the conventions of formal English.
English I Foundations A/B	This course exposes students to a variety of influential pieces of literature written by diverse authors. Throughout the course, students find that, although language and customs have changed, people today have many of the same experiences, ideas, and feelings that people also had thousands of years ago. With that knowledge, students can relate to and learn from both ancient and modern authors and can then share what they learn with those around them. Each lesson gives students an opportunity to practice different skills, including reading, analysis, and writing. Students also learn how to use various tools to understand and value literature and its relevance to their own lives. At the completion of this course, students have both a knowledge of and appreciation for world literature and have developed their skills in reading comprehension, analysis, grammar, writing, and vocabulary.

English II A/B	In this course, students explore the evolution of language in fiction and nonfiction, assess rhetorical and narrative techniques, identify and refine claims and counterclaims, and ask and answer questions to aid in their research. Students also evaluate and employ vocabulary and comprehension strategies to determine the literal, figurative, and connotative meanings of technical and content area words and phrases.
English II Foundations A/B	How can the written language be changed according to context, audience, and purpose? In this course, students explore the evolution of language in fiction and nonfiction, assess rhetorical and narrative techniques, identify and refine claims and counterclaims, and ask and answer questions to aid in their research. Students also evaluate and employ vocabulary and comprehension strategies to determine the literal, figurative, and connotative meanings of technical and content-area words and phrases.
English III A/B	This course gives students the opportunity to explore the American identity by reading American texts that span the period from the late eighteenth century through the late twentieth century. During this journey through American literature, students will examine a variety of texts, including documents, speeches, poems, short stories, and novels. As they read these texts, students learn about the themes, characteristics, and concepts that delineate the American identity and examine how literature both reflects and defines these ideas. This work culminates in a project in which students research the American literary canon throughout history and then choose a modern text that they believe should be part of the literary canon. By the end of the course, students should be able to describe the defining characteristics of American literature and explain how those characteristics have evolved over time.
English III Foundations A/B	English 3 gives students the opportunity to explore the American identity by reading American texts that span the period from the late eighteenth century through the late twentieth century. During this journey through American literature, students will examine a variety of texts, including documents, speeches, poems, short stories, and novels. As they read these texts, students learn about the themes, characteristics, and concepts that delineate the American identity and examine how literature both reflects and defines these ideas. This course emphasizes critical reading and writing skills by focusing on reading comprehension and analysis as well as different purposes and styles of writing, peer evaluation, and the steps of the writing process.
English IV A/B	Students look critically at the world around them by reading a range of texts that explore past and present social, political, and cultural issues. As they read, students are challenged to analyze how central ideas and themes are crafted and presented, assess the author's purpose for writing, and consider how to break down and evaluate information in a thoughtful manner. Throughout this course, students will think about how people see the world from different perspectives while also considering the common themes, hardships, and triumphs that unite humanity.
English IV Foundations A/B	In English 4, students look critically at the world around them by reading a range of texts that explore past and present social, political, and cultural issues. As they read, students are challenged to analyze how central ideas and themes are crafted and presented, assess the author's purpose for writing, and consider how to break down and evaluate information in a thoughtful manner. Throughout this course, students will

	think about how people see the world from different perspectives while also considering the common themes, hardships, and triumphs that unite humanity. This course emphasizes critical reading and writing skills by focusing on reading comprehension and analysis as well as different purposes and styles of writing, peer evaluation, and the steps of the writing process.
Environmental Science	Environmental Science is sometimes referred to as Ecology and is the study of the relationships and interdependence of organisms and their connection to the nonliving, or abiotic, factors in the natural world. This course provides students with a profile of the living relationships, abiotic factors, human influences, and current state of Earth's ecosystems. The course begins with a review of science as a process and the general components of Earth's structure that impact life. It then progresses through a study of the living groups and their relationships to one another, focusing on the balance achieved by nature through these relationships. The course explores populations and provides examples of unchecked growth and rapid extinction in the context of their effects on ecosystems. The course dedicates a unit to aquatic ecosystems and organisms, and the results of human impact. After covering the influence of energy extraction, production, and use, the course ends by examining the positive influence humans can have on the environment through conservation and sound management practices.
Fitness A/B	Fitness is all about ways to lead an active, healthy life. The course provides up-to-date information to help students establish healthier lifestyles and better understand the close relationship between physical activity, nutrition, and overall health. This course supports and encourages students to develop an individual optimum level of physical fitness, acquire knowledge of physical fitness concepts, and understand the importance of a healthy lifestyle. At the end of this course, students have a knowledge of and appreciation for fitness and its impact on everyone.
Foundations of Engineering A/B	Science provides the world with knowledge of the natural world. Scientists determine many principles that explain how the world works. Engineering on the other hand is more concerned with solving problems faced by society. Engineers develop products, machinery, or devices that society needs for their daily life, or create the processes that make those products. In the Foundations of Engineering course, the student will learn the basic principles of four fields of engineering, chemical, mechanical, electrical, and computer engineering. Chemical engineering focuses on the creation of processes used to make foods, health and beauty aids, etc. Mechanical engineering deals with the creation of machinery that make work easier, or that support heavy loads. Electrical engineering covers the creation of products that use electricity to function. Computer engineering is one of the newest engineering fields and develops new hardware and software used in computers.
French I A/B	This course is a comprehensive and engaging introduction to French language and culture. After mastering the French alphabet and numbers, students study French culture, events, and people. By the end of the course, students have a foundation in the study of French, are able to engage in French conversation, and have built a solid foundation for further French language study.

French II A/B	The students continue their virtual tour through France and other French-speaking countries and regions. This second-level French course takes a historical perspective in teaching the language, covering historical events and historical figures. By the end of this course, students have gained a deeper knowledge of and appreciation for the French culture and language.
French III A/B	This course continues to build students' vocabulary, grammar, and communication skills with the objective of improving student achievement in reading, writing, and speaking French. Students apply what they have learned in previous French courses to French conversation. At the end of this course, students are able to express themselves in French.
French IV A/B	In this level-four French course, students apply the knowledge they gained in previous French courses to become true Francophones. Students explore exciting eras of French history, from the Crusades to the Renaissance to the modern day, learning about famous authors and historical figures along the way. The course provides students with an advanced knowledge of and deep appreciation for the French language and culture. At the end of this course, students are able to speak, read, and write in French with basic fluency.
General Math A/B	General Math motivates students while helping them establish a strong foundation for success in developmental and consumer mathematics. The course leads students through basic mathematics and its applications, focusing on whole numbers, integers, decimals, and percentages. Students make sense of the mathematics they encounter each day, including wages, banking, interest, credit, and consumer costs. At the end of this course, students have a knowledge of and appreciation for mathematics and problem-solving that prepare them for the future.
Geography A/B	This course explores the world's geographical divisions and the differences between Earth and the other planets in the solar system. In addition to Earth's geographical divide, the course explores how the cultural divide between countries impacts international relations. Through the study of geography, students analyze energy usage and explore ways to make the most of the planet without abusing its resources. The study of world geography through historical, cultural, physical, and economic lenses offers students a different perspective and understanding of the world.
Geometry A/B	What are the different ways a figure can be transformed? What is the difference between similarity and congruence? In Geometry, students formulate mathematical arguments and create geometric constructions. Working with triangle construction to prove theorems, students employ their reasoning abilities to show similarity and congruence, and use trigonometric ratios to find missing measures in triangles. Solving problems concerning three-dimensional figures gives students the opportunity to examine formulas. Students apply their knowledge of geometric shapes by using measures and properties to describe real-life objects, and connect algebra to geometry by graphing figures on the coordinate plane. Students then move to circles, exploring their properties and theorems. Next is the study of probability, in which students interpret data by using independence and conditional probability, and apply the rules of probability to determine compound events and evaluate outcomes of decisions.

Geometry Foundations A/B	In this course, students gain a strong foundation in geometry as they formulate mathematical arguments and create geometric constructions. The course begins with a study of points, lines, planes, segments, and angles. Next, relationships between angles, parallel, perpendicular, and transversal lines are explored through equations and constructions. An in-depth coverage of triangles begins as students explore congruent triangles, special parts including bisectors, medians, and altitudes, and triangle theorems. Students then explore more shapes and calculate area, perimeter, and mid-segments. The course also covers similarity as students work with similarity tests for triangles, ratios, and scale drawings. Next, the trigonometric ratios are used to solve problems with right triangles. This leads to a study of trigonometry as students learn about the unit circle, special triangles, and the laws of sine and cosine. An in-depth study of circles follows, including sectors, inscribed angles, special arcs, and tangents. Students extend their knowledge to three-dimensional figures and solve for surface area and volume. The course ends with a look at transformations and tessellations.
Health	Imagine the healthiest people you know. What are their secrets? While some health traits are genetically determined, the truth is we all have the ability to make positive changes to better our physical health. In Health 1, you will learn how to promote better health by decreasing stress and finding a fuller vision of your life. Explore different lifestyle choices that can influence your overall health, from positively interacting with others to choosing quality health care and making sensible dietary choices. You will have the opportunity to build your own plan for improvement and learn how to create the type of environment that will ensure your overall health, happiness, and well-being.
Health & Fitness	Imagine the healthiest people you know. What are their secrets? While some health traits are genetically determined, the truth is everyone has the ability to make positive changes to better our physical health. In Health and Wellness, you will explore different lifestyle choices that can influence your overall health, from positively interacting with others to choosing quality health care and making sensible dietary choices. Wellness involves being healthy in body and mind. You will learn how to make positive choices that reduce stress and improve your mental and emotional health. You will also examine the choices and influences that can negative impact your overall wellness. You will have the opportunity to build your own plan for improvement and learn how to create the type of environment that will ensure your overall health, happiness, and well-being.
Life Science	This survey of the biological sciences introduces students to the structure and function of living things and the natural relationships that exist on Earth. The course begins with the definition of life and a discussion of how living things are classified and organized by scientists. Students then work through material that presents the molecular building blocks of organisms, both microscopic and macroscopic views of life, the diversity and universality of species, and the characteristics of various groups of life. The course culminates with a unit on evolution, asking students to apply what they have learned about the natural world to the complex relationships and environmental factors that have shaped the ever-changing species sharing the world today.

Life Skills	Life Skills is a comprehensive career-development course for high school students making the transition to life after high school. The course shows students the steps for choosing a career, conducting a job search, selecting the right college, applying to college, and getting financial aid. This course prepares young adults for a successful life after high school, from maintaining a healthy body and a safe home to finding and keeping a job. At the end of this course, students have a knowledge of and appreciation for these important life skills.
Macroeconomics	This course deals with the economies of nations and regions. Students will learn how these economies function and measure up against one another by exploring concepts including gross domestic product (GDP), unemployment rates, and price indices. At the end of this course, students will be able to understand the world economy and recognize the events and people who have contributed to the understanding of macroeconomics.
Math 6 A/B	Each skill provides a stepping stone to the next. Students learn how to find the prime factors of composite numbers then use this ability to work with fractions. To build a foundation for learning algebra, students study the properties of addition and multiplication and the order of operations. Students extend their knowledge by graphing solutions on number lines and the coordinate plane.
Math 7 A/B	This course teaches skills essential to adult life and lays the groundwork for future mathematic classes. Students convert words to expressions and vice versa. They compute tax, percentage of error, commission and interest by using rates, ratios, and proportions, graph ordered pairs; and graph and write linear equations. They learn to find areas and perimeters, scale drawings and composite figures composed of simple figures and compute the volumes and surface areas of solids. The students use graphs, charts and diagrams to read, interpret, and display the data.
Math 8 (Pre-Algebra) A/B	How do you write, simplify, and solve equations? How can you display data so it can be easily interpreted and understood? In Algebra, students learn how to translate phrases into expressions, and sentences into equations and inequalities, expressing them in their simplest forms. Students find solutions to equations by graphing them on number lines or on the coordinate plane. Students learn the value of finding the best tool for the job as they acquire different strategies to use in various situations, such as finding the slope of a line, solving a system of equations or inequalities, or factoring polynomials. Building on this knowledge, students apply transformations to polynomial functions, explore inverses and one-to-one functions, and examine exponential and logarithmic functions. Work in statistics includes organizing and analyzing data; making stem-and-leaf plots; finding mean, mode, and median; making box-and-whisker plots; and recognizing misleading graphs. At the completion of this course, students are prepared for additional math courses in middle and high school.
Math 8 A/B	This course helps students see the power of mathematics in everyday life. The course begins with a review of percentages and proportions, applying these concepts to conversion factors and emphasizing English and metric measurements. Work with linear equations includes computing rates of change, finding intercepts, graphing linear functions, and describing the action of a line. Number patterns and sequences foster a

	study of arithmetic and geometric means as students learn to find missing terms in sequences. An investigation of the Cartesian plane teaches students how to work with scale drawings, dilations, and graphs. Students learn about the properties of triangles, the Pythagorean theorem, and the properties of parallel lines cut by a transversal. With pie charts, bar graphs, histograms, scatter plots, and other linear models, students explore probability and make predictions and correlations. Students apply the concepts of independent and dependent events, odds, combinations, permutations, and factorials to situations from playing cards to determining the number of different outfits they have in their closets.
Microeconomics	This course deals with the economies of nations and regions. Students will learn how these economies function and measure up against one another by exploring concepts including gross domestic product (GDP), unemployment rates, and price indices. At the end of this course, students will be able to understand the world economy and recognize the events and people who have contributed to the understanding of macroeconomics.
Music Appreciation	Have you ever wondered why some notes sound great together and others don't? Or how musicians translate the symbols of sheet music into the music you hear? Music theory—the study of how music works—is essential to any aspiring composer or performer. Students develop their knowledge through listening exercises, drawing and identifying notation, creating basic compositions, and analyzing music samples. In the second part of the course, students focus on music appreciation as they survey the development of music, beginning in ancient Greece and ending with modern western music. Students learn how to distinguish music from different periods and describe how music relates to its historical, cultural, and social context. By the completion of this course, students have a strong foundational understanding of music, preparing them to learn how to play an instrument or continue to more advanced music studies.
Music Appreciation	Have you ever wondered why some notes sound great together and others don't? Or how musicians translate the symbols of sheet music into the music you hear? Music theory—the study of how music works—is essential to any aspiring composer or performer. Students develop their knowledge through listening exercises, drawing and identifying notation, creating basic compositions, and analyzing music samples. In the second part of the course, students focus on music appreciation as they survey the development of music, beginning in ancient Greece and ending with modern western music. Students learn how to distinguish music from different periods and describe how music relates to its historical, cultural, and social context. By the completion of this course, students have a strong foundational understanding of music, preparing them to learn how to play an instrument or continue to more advanced music studies.
Physical Education A/B	Physical Education analyzes the ways that individuals can improve their physical fitness using a variety of different exercises and maintaining an overall healthy lifestyle. Throughout the course students will examine a variety of fitness tools and ways to incorporate these tools in their daily lives. Furthermore, students will explore individual sports and the physics behind them. While looking at the variety of sports more closely students will develop an understanding of teamwork and fair play. Lastly,

	the physical education course will encourage students to get out and make the proper decisions when it comes to their own physical fitness.
Physical Science A/B	This course is an interactive and engaging course that introduces students to the sciences of chemistry and physics. The course begins with a unit on the nature of science and a review of measurement. Students will explore the principles of experimental design. Students apply these skills to the science of physics by describing the concepts of motion, force, work, and energy. Students apply their knowledge of these topics through problems, explanations, graphs, and virtual lab activities. The course proceeds with the study of chemical principles, exposing students to topics such as the properties of matter, the structure of the atom, the formation of bonds, and the properties of solutions. They will examine how humans apply these processes in using resources and the pollution that often results.
Physical Science Foundations A/B	Physical Science is an interactive and engaging course that covers the sciences of chemistry and physics. The course begins with a unit on the nature of science and a review of measurement and its importance. The course proceeds with the study of chemical principles, exposing students to topics such as the properties of matter, the structure of the atom, the formation of bonds, and the properties of solutions. The course then moves to the science of physics, describing the topics of motion, force, work, and energy. Students apply their knowledge of these topics through problems, explanations, graphs, and virtual lab activities.
Physics A/B	This course is designed to provide students with an overview of traditional physics and the latest, most modern research in the field today. Beginning with Newtonian mechanics, students learn that every object is acted upon by multiple predictable forces. The course moves on to investigate the laws of thermodynamics, covering fluid mechanics and the relationship between matter and energy. The course also explores the various models used to explain and apply the universal forces of electricity and magnetism. Students learn the characteristics of waves and the basics of optics before the final set of lessons on atomic physics. Here, students review the characteristics of the atom and its elemental particles and apply their knowledge to modern physics. Topics in this course will be reinforced through interactive, online lab assignments.
Pre-Algebra A/B	Pre-Algebra helps students make a successful transition from arithmetic to algebra by focusing on basic concepts of arithmetic and the applications of mathematics. Students learn how to perform operations with integers, fractions, and decimals. Students expand this knowledge to create expressions and to solve basic linear equations and inequalities. Students use their knowledge of fractions to work with ratios, rates, and proportions. Next, students explore how to display visual representations of numbers with bar graphs, histograms, and circle graphs. They take this skill and apply it to algebra as they plot points and basic equations on the coordinate plane. Next, students complete an exploration of measures of central tendency, data displays, and simple probabilities. The course ends with a study of essential topics for future mathematics courses, including unit conversion, angle classification, area, and volumes of geometric figures. The course highlights the math skills needed to be successful in everyday life and prepares students for future mathematics courses.

Pre-Calculus A/B	This course helps students gain the knowledge they need for success in calculus and other high level math courses. Students focus on a variety of functions, including their solutions, characteristics, and graphs. They explore the inverse relationship between exponential and logarithmic functions. Students learn how to use advanced methods to solve systems of equations. Next, students work with trigonometric functions as they graph, find values with the unit circle, verify identities, and solve trigonometric equations. Students then work with series and sequences and relate certain types of functions to arithmetic and geometric sequences. Students end the course by learning about vectors, conic sections, and polar coordinates. By the end of this course, students gain knowledge and appreciation for higher-level math concepts and their applications.
Psychology	In this course, students discover how their senses, perceptions, emotions, and intelligence influence the way they think, feel, and learn. Students will learn about the field of psychology, including the concepts and tools used to assess intelligence, sensation and perception, memory, motivation and emotion, and learning. At the end of this course, students gain both knowledge of and appreciation for psychology and how it affects everyone.
Science 6 A/B	Science 6th Grade surveys the physical and life sciences through engaging, interactive activities and media-rich content. Students begin by surveying the branches of science, noting the important milestones in the development of scientific study, and discovering the contributions of some influential scientists.
Science 7 A/B	After learning common measurement systems and the essentials of lab safety, students are ready to apply the scientific method to everyday situations. Students learn about matter and energy and about electromagnetic waves and the electromagnetic spectrum. Earth becomes the focus as students study the different geologic eras in Earth's history, examine fossil record and discover the clues it provides about the histories of numerous species and how they adapted to their environments.
Science 8 A/B	Science 8th Grade focuses on both the large and small. Beginning with the classification systems, students learn about the elements and structure of atoms, ell function, the life-giving functions of photosynthesis and respiration, the biology of their own bodies, and the genetics that make each living being unique. Students also explore classical mechanics and apply it to planetary motion and the effects of the moon.
Social Studies 6 A/B	Students explore how Earth's geography has affected human life and culture as they learn about the development of early civilizations in Asia and the Mediterranean. Students examine the great religious traditions born this time, witness the growth of dynasties in the Far East, and learn about the ideas that spawned the Renaissance.
Social Studies 7 A/B	Beginning with the New Kingdom of Egypt, students witness the growth of ancient civilizations into the classical empires that gave rise to medieval Europe. They discover how feudal Europe moved toward the Renaissance, and how its ideals of humanism and constitutional government ignited the scientific revolution and the Protestant Reformation.
Social Studies 8 A/B	Students focus on the history of North America and, in particular, the history of the United States. Students learn how colonial life led to early attempts at self-government and how European influence continues to this day. Students discover how the desire

	for land and resources led to the removal of native populations, wars with neighbors and annexations.
Sociology	The field of sociology explores the development, dynamics, and structure of societies and society's connections to human behavior. Sociology examines the ways in which groups, organizations, communities, social categories and various social institutions affect human attitudes, actions, and opportunities. In this course, students learn about the concepts and tools used to understand individuality, social structure, inequality, family structure, education, economics, politics, and social change.
Spanish I A/B	This introductory course provides a solid foundation for students to build proficiency in listening, speaking, reading and writing in Spanish, and provides students with basic skills and contextual information for using Spanish. Each unit presents new information, including useful vocabulary and grammatical structures, and introduces relevant cultural information. At the end of this course, students have the basic skills and contextual information required for using Spanish in their professional and daily lives and when traveling abroad.
Spanish II A/B	In Spanish 2, students are immersed in the Spanish language and in the cultural aspects of Spanish-speaking countries. Students build on what they learned in Spanish 1, with a study of Spanish grammar and an emphasis on increasing their skills in listening, writing, reading, and speaking in Spanish. At the end of this course, in addition to improving their Spanish language skills, students have a knowledge of and appreciation for the cultures of Spanish-speaking countries, including the events and people that have impacted the language.
Spanish III A/B	In this level-three Spanish course, students apply what they learned in previous courses to conversational Spanish. Students explore cultural aspects of Spanish-speaking countries ranging from schools and careers to sports and authors. At the end of this course, students have improved Spanish language skills and can express themselves in Spanish conversation.
Spanish IV A/B	From the Caribbean to South America and Mexico to Spain, students continue their exploration of Spanish and Latin American language and culture. The course provides students with an advanced knowledge of and deep appreciation for the many Spanish-speaking peoples and countries around the world. At the completion of this course, students will have gained the knowledge and skills to speak, read, and write in the Spanish language with basic fluency.
Technologies in Medicine	Technology in medicine analyzes the ways medical practice has been able to positively advance as technology increased. Throughout the course, students will examine the engineering behind technology that has led to creating cures for various life threatening diseases. In which case students will be looking at medicine all the way back to the cellular level where they will be able to learn the importance of DNA and RNA as well as how scientists are learning to genetically modify the strands. Furthermore, students will examine epidemiology in its entirety which will allow the students to understand how pandemics and other diseases spread over time as well as allowing students to develop an understanding of how trends work. The course as a whole will give students the tools to be able to map, data analyze, and understand how diseases spread.

Trigonometry	This course explores trigonometric functions and practical applications of trigonometry, such as solving real-life problems through engineering, physics, construction, and design. Students investigate graphs, linear functions, quadratic functions, trigonometric functions, analytical trigonometry, analytical geometry, vectors, and advanced functions. Students develop critical-thinking skills and learn problem-solving techniques to help them succeed in understanding and applying trigonometric principles. By the end of this course, students gain knowledge of and appreciation for trigonometry and problem-solving that will prepare them for future mathematics courses.
World Geography A/B	World Geography explores the world's geographical divisions and the differences between Earth and the other planets in the solar system. In addition to Earth's geographical features, the course explores how the cultural divides between countries impacts international relations. Through the study of geography, students analyze energy usage and explore ways to make the most of the planet without abusing its resources. The study of world geography through historical, cultural, physical, and economic lenses offers students a different perspective and understanding of the world.
World History A/B	In World History, students will explore the changes created by the events and people of the past, and understand how these changes impacted modern times. The material is organized sequentially, exploring history from 1400 CE to the present day. Starting with the Renaissance and Reformation, the course will highlight the cultural, economic, political, and social impact of innovation and intellectual thought. Further changes will be uncovered with the French Revolution, the Industrial Revolution, and the rise of imperialism and nationalism. The closing topics emphasize global conflicts and diplomacy, as seen in World War I, World War II, and the Cold War. Upon completion of the course, students have an appreciation for the patterns of historical change and the impact upon modern society.