Crossroads Preparatory Academy

COURSE CATALOG

19-20
High School Graduation Requirements
2019-2020

<table>
<thead>
<tr>
<th>Subject Areas</th>
<th>High School Graduation Credit Requirements for the State of Missouri</th>
<th>Entry Credit Requirements for Mizzou and UMKC</th>
<th>Entry Credit Requirements for UCM, NW MO State</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language Arts</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Math</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Science</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Social Studies</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Career Electives/Practical Arts</td>
<td>1</td>
<td>n/a</td>
<td>1</td>
</tr>
<tr>
<td>PE/Health</td>
<td>1.5</td>
<td>an/a</td>
<td>1.5</td>
</tr>
<tr>
<td>Personal Finance</td>
<td>0.5</td>
<td>n/a</td>
<td>0.5</td>
</tr>
<tr>
<td>Electives</td>
<td>7</td>
<td>2 credits of the same foreign language</td>
<td>7 credits (two from same foreign language)</td>
</tr>
<tr>
<td>Total Credits Needed</td>
<td>24</td>
<td>17</td>
<td>24</td>
</tr>
</tbody>
</table>

*Students taking Career Pathway Courses through Manual Tech will need to go through the application process AND enroll with KCPS.

** Students taking Advanced Placement courses are responsible for the monetary expense of the exam unless qualifying for financial assistance.
MATHEMATICS

**Algebra I**
*Grade levels: 9*
*Prerequisites: None*
*Credits: 1.0*

Algebra I is the foundational math course for all future math courses that will be taken in high school and college. Across five modules, we will explore a variety of functions and their graphs, deepen our knowledge of statistics, then work our way into understanding linear, quadratic, and exponential functions and their graphs in depth. Algebra I is a very important foundational math course that gives students skills to pursue a variety of opportunities in many different career fields.

**Geometry**
*Grade levels: 9-10*
*Prerequisites: Algebra I*
*Credits: 1.0*

Geometry is the math course that follows Algebra I and builds upon students’ spatial reasoning combined with their mastery of Algebraic concepts. The Geometry course includes an in-depth analysis of plane, solid, and coordinate geometry as they relate to both abstract mathematical concepts as well as real-world problem situations. Topics include logic and proof, parallel lines and polygons, perimeter and area analysis, volume and surface area analysis, similarity and congruence, trigonometry, and analytic geometry. Emphasis will be placed on developing critical thinking skills as they relate to logical reasoning and argument. Students will be required to use different technological tools and manipulatives to discover and explain much of the course content.
MATHEMATICS

Algebra 2
Grade levels: 10-11
Prerequisites: Algebra I, Geometry
Credits: 1.0
Algebra II is the math course that follows Geometry. In Algebra II, fundamental skills of mathematics will be applied to such topics as functions, equations and inequalities, probability and statistics, logarithmic and exponential relationships, and quadratic and polynomial equations. Technology will be used to introduce and expand upon the areas of study listed above.

Pre-Calculus
Grade levels: 11-12
Prerequisites: Algebra I, Geometry, Algebra II, teacher approval
Credits: 1.0
Pre-Calculus weaves together previous study of algebra, geometry, and mathematical functions into a preparatory course for calculus. The course focuses on mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. Throughout the course, Common Core standards are taught and reinforced as the student learns how to apply the concepts in real life situations. Topics include fundamental concepts of Algebra, functions and graphs, polynomials and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, topics in trigonometry, systems of equations and inequalities, matrices and determinants, conic sections and analytic geometry, sequences, induction, probability, and an introduction to Calculus.
MATHEMATICS

College Prep Math (Algebra III)
Grade levels: 11-12
Prerequisites: Algebra I, Geometry, Algebra II
Credits: 1.0

Algebra III is a course meant to prepare students for higher level math courses such as College Algebra. We will review many of the concepts from Algebra II while working to build strong thinking and reasoning skills which are necessary to survival not only in college, but also in most careers. Looking at how these concepts can be used in the world outside the classroom will allow students to gain a better appreciation for how all of what they have seen so far in math comes together.
HUMANITIES/SOCIAL SCIENCES

Humanities I
Grade levels: 9
Prerequisites: None
Credits: 2.0
English I will develop scholars to perform and experience a multitude of academic tasks and skills. Scholars will read and analyze both contemporary and classical texts (i.e. William Shakespeare’s Romeo & Juliet, Karen Russell’s “St. Lucy’s Home for Girls Raised by Wolves. Temple Grandin’s Animals in Translation, etc.), practice writing evidence based claims, and learn to navigate the inquiry based process in order to conduct purposeful research for writing and presentation of arguments. Within this course it is the hope that scholars walk away with the tools necessary to become better writers, readers, critical thinkers, and advocates for what matters most to them.

Humanities II
Grade levels: 10
Prerequisites: Humanities I
Credits: 2.0
English II will develop scholars to perform and experience a multitude of academic tasks and skills through interacting with a wide variety of text genres. Scholars will read and analyze fiction, non-fiction, poetry, short narrative stories, and seminal documents, (i.e. Christopher Marlowe’s “The Passionate Shepherd to His Love,” Rebecca Skloot’s The Immortal Life of Henrietta Lacks, Letter from Birmingham Jail by Dr. MLK Jr, etc.), become proficient in writing evidence based claims, seamlessly navigate the inquiry based process in order to develop and conduct their very own research for writing and oral presentation. Within this course it is the hope that scholars walk away with the tools necessary to become better writers, readers, critical thinkers, empathetic citizens, and advocates in social justice initiatives.
HUMANITIES/SOCIAL SCIENCES

**Humanities III**
*Grade levels: 11*
*Prerequisites: Humanities I, Humanities II*
*Credits: 2.0*

English III will develop scholars in a way that they will critically think about the past and present of America’s history, peoples, and ideals that shape this nation. Scholars will read and analyze non-fiction, literary, and informational texts, along with seminal and era-specific documents, (i.e. W.E.B DuBois’ “Of Our Spiritual Strivings,” Fred Edwords’ “Why Genocide,” Tim O’Brien’s “The Things They Carried” etc.). They will work to refine their proficiency in writing evidence based claims, generate their own inquiry based research questions, and solidify their capabilities of oral presentation and debate. Within this course it is the hope that scholars walk away with the tools necessary to become better writers, readers, critical thinkers, empathetic citizens, and advocates in social justice initiatives while making the bigger connection of how they can be apart of change within their own right.

**AP Language and Composition**
*Grade levels: 11*
*Prerequisites: Humanities I, Humanities II, teacher approval*
*Credits: 1.0*

The AP English Language and Composition course aligns to an introductory college-level rhetoric and writing curriculum, which requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices. Additionally, students read and analyze the rhetorical elements and their effects in non-fiction texts, including graphic images as forms of text, from many disciplines and historical periods.
HUMANITIES/SOCIAL SCIENCES

AP US Government and Politics
Grade levels: 11
Prerequisites: Humanities I, Humanities II, teacher approval
Credits: 1.0
AP U.S. Government and Politics provides a college-level, nonpartisan introduction to key political concepts, ideas, institutions, policies, interactions, roles, and behaviors that characterize the constitutional system and political culture of the United States. Students study U.S. foundation documents, Supreme Court decisions, and other texts and visuals to gain an understanding of the relationships and interactions among political institutions, processes, and behavior. They also engage in disciplinary practices that require them to read and interpret data, make comparisons and applications, and develop evidence-based arguments. In addition, they complete a political science research or applied civics project.

AP Psychology
Grade levels: 11-12
Prerequisites: Humanities I, Humanities II, teacher approval
Credits: 1.0
This course introduces students to the systematic and scientific study of human behavior and mental processes. While considering the psychologists and studies that have shaped the field, students explore and apply psychological theories, key concepts, and phenomena associated with such topics as the biological bases of behavior, sensation and perception, learning and cognition, motivation, developmental psychology, testing and individual differences, treatment of abnormal behavior, and social psychology. Throughout the course, students employ psychological research methods, including ethical considerations, as they use the scientific method, analyze bias, evaluate claims and evidence, and effectively communicate ideas.
Speech & Debate
Grade levels: 9-12
Prerequisites: None
Credits: 0.5
Speech and Debate is a one-semester introductory course that covers a variety of styles of public speaking and formal debate. Through research and practice students will become familiar with these styles through instruction, research, and practice. Each unit will culminate in performance assignments that require students to demonstrate their abilities within the classroom setting. Opportunities to take their knowledge to competition at the local and state level may be made available to students as well through extracurricular programs.
SCIENCE

Physical Science
Grade levels: 9-10
Prerequisites: None
Credits: 1.0
This course introduces the general principles of physics and chemistry. Topics include measurement, motion, Newton's laws of motion, momentum, energy, work, power, heat, waves, sound, light, electricity, magnetism, and chemical principles. Upon completion, students will demonstrate an understanding of the physical environment and be able to apply the scientific principles to natural phenomena, specifically climate change.

Biology
Grade levels: 10-11
Prerequisites: Physical Science
Credits: 1.0
This Biology course incorporates new perspectives and understanding across major sub disciplines of biology. Genetics, cell biology, development, behavior and immunology are some of the areas covered. The concept of evolution is seen as the central organizing theme of biology. The focus of the course is on molecular biology.
As an introductory course in biology, students are prepared for college and advanced placement courses. Students will be sensitized to various moral and environmental issues being brought to the fore by research in bio-engineering and other areas of biological research. They will be provided with tools with which to make educated decisions regarding these new technologies and developments.
**Chemistry**  
*Grade levels: 11-12*  
*Prerequisites: Physical Science, Biology*  
*Credits: 1.0*

Students explore the fundamental principles of chemistry which characterize the properties of matter and how it reacts. Computer-based and traditional laboratory techniques are used to obtain, organize and analyze data. Conclusions are developed using both qualitative and quantitative procedures. Topics include, but are not limited to: measurement, atomic structure, electron configuration, the periodic table bonding, gas laws, properties of liquids and solids, solutions, stoichiometry, reactions, kinetics, equilibrium, acids and bases, and nuclear chemistry.

**Environmental Science**  
*Grade levels: 11-12*  
*Prerequisites: Physical Science, Biology*  
*Credits: 1.0*

This is an introductory course for students who wish to study topics relating to the environment, its resources, quality, and ethical issues. Environmental science is the study of the natural sciences in an interdisciplinary context that always includes consideration of people and how they have influenced various systems around us. It includes many aspects of biology, earth and atmospheric sciences, fundamental principles of chemistry and physics, human population dynamics, and an appreciation for the Earth and its natural resources.
AP Environmental Science

Grade levels: 11-12

Prerequisites: Physical Science, Biology, teacher approval

Credits: 1.0

The goal of this course is to provide you with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. Upon completion of this course, students will have the skills to understand and explain systemic environmental issues, specifically how they intersect with industries and issues related to climate change, capitalism, farming, war, racism and human rights.
World Languages

**Spanish 1**  
*Grade levels: 9-11*  
*Prerequisites: None*  
*Credits: 1.0*  
Spanish 1 is an introduction into the Spanish language through total physical response via reading, writing, speaking and listening. Students are expected to perform upwards of 75% of all tasks entirely in Spanish by the end of the school year, utilizing vocabulary, grammatical concepts, and cultural sensitivity learned throughout the course.

**Spanish 2**  
*Grade levels: 10-12*  
*Prerequisites: Spanish I*  
*Credits: 1.0*  
Spanish 2 is an introduction into the Spanish language through total physical response via reading, writing, speaking and listening. Students are expected to perform upwards of 75% of all tasks entirely in Spanish by the end of the school year, utilizing vocabulary, grammatical concepts, and cultural sensitivity learned throughout the course.

**Spanish 3**  
*Grade levels: 9-11*  
*Prerequisites: Spanish I, Spanish II*  
*Credits: 1.0*  
Spanish 3 encompasses the third level of studies in the Spanish language. The goal of Spanish 3 is to provide students with an opportunity to acquire a more advanced level of communication in the Spanish language and to better understand Spanish-speaking cultures.
World Languages

AP Spanish IV
Grade levels: 11-12
Prerequisites: Spanish I, Spanish II, Spanish III, teacher approval
Credits: 1.0
The AP Spanish Language and Culture course emphasizes communication (understanding and being understood by others) by applying the interpersonal, interpretive, and presentational modes of communication in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. The AP Spanish Language and Culture course strives not to overemphasize grammatical accuracy at the expense of communication. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish. The AP Spanish Language and Culture course engages students in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products (e.g., tools, books, music, laws, conventions, institutions); practices (patterns of social interactions within a culture); and perspectives (values, attitudes, and assumptions).
World Languages

**French I**
*Grade levels: 9-12*
*Prerequisites: administrative approval*
*Credits: 1.0*

*This is an independent study course that is taken entirely online.*
French I teaches students to greet people, describe family and friends, talk about hobbies, and communicate about other topics, such as sports, travel, and medicine. Each lesson presents vocabulary, grammar, and culture in context, followed by explanations and exercises. Vocabulary includes terms to describe school subjects, parts of the body, and people, as well as idiomatic phrases. Instruction in language structure and grammar includes the verb system, adjective agreement, formal and informal address, reflexive verbs, and past tense. Students also gain an understanding of the cultures of French-speaking countries and regions within and outside Europe, as well as insight into Francophone culture and people.

**French II**
*Grade levels: 10-12*
*Prerequisites: French I*
*Credits: 1.0*

*This is an independent study course that is taken entirely online.*
French II teaches students to communicate more confidently about themselves, as well as about topics beyond their own lives – both in formal and informal address. Each lesson presents vocabulary, grammar, and culture in context, followed by explanations and exercises. Vocabulary includes terms in cooking, geography, and architecture. Instruction in language structure and grammar includes present- and past-tense verb forms and uses, negation, and direct and indirect objects. Students deepen their knowledge of French-speaking regions and cultures by learning about history, literature, culture, and contemporary issues.
World Languages

German I
Grade levels: 9-12
Prerequisites: administrative approval
Credits: 1.0

*This is an independent study course that is taken entirely online.*

Students begin their introduction to German by focusing on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, interactive cultural presentations and task-based activities to reinforce vocabulary and grammar. There is an emphasis on providing context and conversational examples for the language concepts presented in each unit. Students will become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices and perspectives of various German-speaking countries and take frequent assessments to monitor language growth.
World Languages

**German II**

*Grade levels: 10-12*

*Prerequisites: German I*

*Credits: 1.0*

*This is an independent study course that is taken entirely online.*

Students continue their study of German by further expanding their knowledge of key vocabulary topics and grammar concepts in this course that is conducted almost entirely in German by the second semester. Students not only begin to comprehend listening and reading passages more fully, but they also are able to express themselves more meaningfully in both speaking and writing. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, interactive cultural presentations and task-based activities to reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Students will understand common vocabulary terms and phrases, use a wide range of grammar patterns in their speaking and writing, participate in conversations and respond appropriately to conversational prompts, analyze and compare cultural practices and perspectives of various German-speaking countries and take assessments to monitor growth.
World Languages

**Mandarin Chinese I**

*Grade levels: 9-12*

*Prerequisites: administrative approval*

*Credits: 1.0*

*This is an independent study course that is taken entirely online.*

Students begin their introduction to Chinese by focusing on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, interactive cultural presentations and task-based activities to reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Both Chinese characters and pinyin are presented together throughout the course and specific character practices are introduced after the first quarter. Students will become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices, products, and perspectives of various Chinese-speaking countries and take frequent assessments where their language progression can be monitored.
World Languages

Mandarin Chinese II

Grade levels: 10-12
Prerequisites: Mandarin Chinese I
Credits: 1.0

*This is an independent study course that is taken entirely online.*

Students continue their study of Mandarin Chinese by further expanding their knowledge of key vocabulary topics and grammar concepts. Students not only begin to comprehend listening and reading passages more fully, but they also are able to express themselves more meaningfully in both speaking and writing. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, interactive cultural presentations and task-based activities to reinforce acquisition of vocabulary and grammar concepts. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Character recognition and practice are a key focus of the course, and students are expected to learn several characters in each unit. Pinyin is still presented with characters to enhance listening and reading comprehension.
Career Pathway Courses

**Introduction to Drones**

*Grade levels: 9-12*

*Prerequisites: None*

*Credits: 1.0*

The objective of this course is to introduce students to the exciting new field of small unmanned aircraft systems (sUAS) or as they’re commonly referred to, Drones. This course covers a variety of multidisciplinary topics necessary to understand the fundamentals of designing, building, programming, and, most importantly, piloting drones. During this course, students will also learn the basic components and engineering that allow these aircraft to fly and why they are versatile and reliable tool of the future. They will also learn the skills to become a pilot in first person view.

**Advanced Drones**

*Grade levels: 10-12*

*Prerequisites: Introduction to Drones*

*Credits: 1.0*

This second year course continues to engage students in the exciting new field of small unmanned aircraft systems (sUAS) or as they’re commonly referred to, Drones. This course covers a variety of multidisciplinary topics necessary to understand the fundamentals of designing, building, programming, and, most importantly, piloting drones. During this course, students will also learn the basic components and engineering that allow these aircraft to fly and why they are versatile and reliable tool of the future. They will also learn the skills to become a pilot in first person view.
Career Pathway Courses

**C++/ Java**
*Grade levels: 11-12*
*Prerequisites: None*
*Credits: 3.0*
*This Course is offered through Manual Tech and you must apply and be accepted to register for this course.*
This course emphasizes programming methodology and problem-solving using Object-Oriented Programming, algorithm design, and development, data abstraction, good programming style, testing and debugging will be presented. Object-Oriented languages such as C++, Java, Python will be used in this course. As time allows, students may build custom software. Students will learn: Computer Programming in C++, and Java Supplemental programming in HTML, Python, Java Script

**Auto Collision Repair**
*Grade levels: 11-12*
*Prerequisites: None*
*Credits: 3.0*
*This Course is offered through Manual Tech and you must apply and be accepted to register for this course.*
The Auto Collision Repair program provides hands-on, individualized instruction using the latest technology available.
Students will learn to: Repair Damaged Cars, Paint, Detail, Estimate Repair Cost, Interact with customers
Career Pathway Courses

**Auto Technology**
*Grade levels: 11-12*
*Prerequisites: None*
*Credits: 3.0*
*This Course is offered through Manual Tech and you must apply and be accepted to register for this course.*
The Auto Technology program provides hands-on, individualized instruction using state-of-the-art equipment in a live automotive shop. Students will learn: Tire repair/maintenance and balance, Basic four wheel alignment, Engine performance and diagnosis, Maintenance (brake repair, tune-ups, lube and oil service, preventive maintenance) and Interaction with customers.

**AutoCAD**
*Grade levels: 11-12*
*Prerequisites: None*
*Credits: 1.0*
CAD, or computer-aided design and drafting (CADD), is technology for design and technical documentation, which replaces manual drafting with an automated process. If you think you may want to be a designer, drafter, architect, or engineer, you'll probably want to learn how to use 2D or 3D CAD programs such as AutoCAD. Successful completion of this entry-level course will result in an AutoCAD certification.
Career Pathway Courses

**Culinary Arts**
Grade levels: 11-12  
Prerequisites: None  
Credits: 3.0  
*This Course is offered through Manual Tech and you must apply and be accepted to register for this course.*

The Culinary Arts program provides hands-on, individualized instruction using state of the art equipment in a fast paced learning environment. Students will learn: Safe and sanitary food handling, Safe operation of a commercial kitchen, Restaurant management, and Food preparation skills.

**Construction Technology**
Grade levels: 11-12  
Prerequisites: None  
Credits: 3.0  
*This Course is offered through Manual Tech and you must apply and be accepted to register for this course.*

The Construction Technology program provides hands-on, individualized instruction in construction techniques and theory. Students will learn: Carpentry, Bricklaying, Cement finishing, and Residential electricity.
Career Pathway Courses

**Educator Preparation**
Grade levels: 11-12  
Prerequisites: None  
Credits: 3.0  
*This Course is offered through Manual Tech and you must apply and be accepted to register for this course.*

KCPS has developed a Grow Your Own teacher pipeline for an innovative approach to recruiting highly invested future teachers to return to KCPS schools. The program will provide KCPS high school students with insights into the nature of teaching, the problems with schooling, and the critical issues affecting the quality of urban education in America’s schools. The Pre-Professional Cadet teacher will provide instruction on the skills needed to obtain certification in the teaching field as well as supervise the practicum component of the coursework. Students will learn:  
How to facilitate instruction to students through lecturing, modeling, and using technology and other materials to supplement presentations and how to plan, prepare and deliver lesson plans and instructional materials that facilitate active learning.

**Digital Media TV Production**
Grade levels: 11-12  
Prerequisites: None  
Credits: 3.0  
*This Course is offered through Manual Tech and you must apply and be accepted to register for this course.*

Using state of the art digital television technology, students will develop the skills needed to enter the industry at entry-level positions. Students will learn the fundamentals of script writing, on-location and multi-camera studio production and nonlinear editing.
Career Pathway Courses

**Introduction to Film-making**
*Grade levels: 9-12*
*Prerequisites: None*
*Credits: 1.0*
Learn the basic elements of film production and tools to be able to turn their own ideas and stories into films. Topics covered will include camera operation, lighting design, sound engineering, directing, producing, editing and storytelling.

**Digital Media Design**
*Grade levels: 9-12*
*Prerequisites: None*
*Credits: 1.0*
While working together as a staff, students taking this course will produce the annual high school yearbook. Students will develop marketable skills such as meeting specific deadlines, taking on publication roles, designing spreads, desktop publishing, photography, and feature writing. Proofreading and editing skills will continually develop throughout the course. Students must have an interest in their school and community and will be encouraged to work on production outside of regular class hours.

**Introduction to Engineering Design**
*Grade levels: 9-12*
*Prerequisites: None*
*Credits: 1.0*
Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software, and use an engineering notebook to document their work.
Career Pathway Courses

**Computer Science Essentials**
*Grade levels: 9-12*
*Prerequisites: None*
*Credits: 1.0*

Computer Science Essentials exposes students to a diverse set of computational thinking concepts, fundamentals, and tools, allowing them to gain understanding and build confidence. Students use visual, block-based programming and seamlessly transition to text-based programming with languages such as Python® to create apps and develop websites, and learn how to make computers work together to put their design into practice. They apply computational thinking practices, build their vocabulary, and collaborate just as computing professionals do to create products that address topics and problems important to them.

**Biomedical Sciences**
*Grade levels: 11-12*
*Prerequisites: Biology, Physical Science*
*Credits: 1.0*

In the introductory course of the PLTW Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person’s life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems.
Career Pathway Courses

**AP Computer Science Principles**
*Grade levels: 9-12*
*Prerequisites: Algebra I, teacher approval*
*Credits: 1.0*

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem solving. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science.

**AP Seminar (Part 1 of AP Capstone)**
*Grade levels: 11-12*
*Prerequisites: Algebra I, teacher approval*
*Credits: 1.0*

AP Seminar is a year-long course that has students investigate real-world issues from multiple perspectives. Students learn to synthesize information from different sources, develop their own lines of reasoning in research-based written essays, and design and deliver oral and visual presentations, both individually and as part of a team.
Fine Arts – Music

**HS Band/Orchestra**  
*Grade levels: 9-12*  
*Prerequisites: None*  
*Credits: 1.0*  
Students will be able to learn intermediate to advanced level performance skills in a group rehearsal setting for strings, woodwinds, brass, and percussion instruments, and participate in public concerts.

**HS Vocal Music**  
*Grade levels: 9-12*  
*Prerequisites: None*  
*Credits: 1.0*  
Students will be able to learn intermediate to advanced level performance skills in a group rehearsal setting for soprano, alto, tenor, and baritone/bass voices, and participate in public concerts.

**AP Music Theory**  
*Grade levels: 11-12*  
*Prerequisites: None*  
*Credits: 1.0*  
AP Music Theory corresponds to two semesters of a typical introductory college music theory course covering topics such as musicianship, theory, musical materials, and procedures. Students develop the ability to recognize, understand, and describe basic materials and processes of music that are heard or presented in a score. Development of aural skills is a primary objective. Students understand basic concepts and terminology by listening to and performing a wide variety of music.
Fine Arts – Visual Arts

Visual Arts 1
Grade levels: 9-12
Prerequisites: None
Credits: 1.0
The purpose of this course is to introduce students to the languages, concepts, and practices of art through visual and art historical perspectives. Students will be engaged in discussion about the elements of art, such as content, composition, style, method and materials.

AP 2-D Art
Grade levels: 11-12
Prerequisites: Visual Arts I or Art Portfolio Design I
Credits: 1.0
The AP Studio Art Program consists of three portfolio exams—2-D Design, 3-D Design, and Drawing—corresponding to the college foundation courses. Portfolios allow flexibility of coursework while guiding students to produce college-level quality, artistic investigation, and breadth of work. The 2-D Design portfolio addresses two-dimensional design issues and involves decision making about how to use the elements and principles of art in an integrative way. Students' portfolios demonstrate skills and ideas developed, refined, and applied throughout the course to produce visual compositions. Students may choose to submit any or all of the portfolios. Portfolios are evaluated based on standardized scoring descriptors aligned with skills and understanding developed in college foundation courses.
Fine Arts – Visual Arts

**Art Portfolio Design I**
*Grade levels: 9-12*
*Prerequisites: None*
*Credits: 1.0*

Students will explore a variety of artists, art processes and materials such as drawing, painting, printmaking, two & three-dimensional design, and digital art. Student artwork will reflect aesthetics & cultural and historical contexts.

**Art Portfolio Design II**
*Grade levels: 10-12*
*Prerequisites: Art Portfolio Design I*
*Credits: 1.0*

This course is an extension of Art Portfolio Design I. Students will explore a variety of artists, art processes and materials such as drawing, painting, printmaking, two & three-dimensional design, and digital art. Student artwork will reflect aesthetics & cultural and historical contexts.
Fine Arts – Theater

**Theater 1**

*Grade levels: 9-12*

*Prerequisites: None*

*Credits: 1.0*

This course introduces students to the art and craft of theater. Designed for the Theater Arts major, this course culminates in the production of a short theatrical performance. A study of the process of theatrical production–from page to the stage–and its relevance as a form of cultural expression.

**Advanced Theater**

*Grade levels: 10-12*

*Prerequisites: Theater I*

*Credits: 1.0*

This advanced level course is designed to prepare the serious theater student for life in the theater beyond the high school arena. Through a rigorous series of creative projects, the student is challenged to work as an actor, a director, a theater technician, and a drama teacher. Students study advanced principles of acting and character analysis including an exploration of objectives, obstacles, choices and given circumstances, basic stage and rehearsal terms.
Physical Education/Health

**Beginner Physical Education**
*Grade levels: 9-12*
*Prerequisites: None*
*Credits: 1.0*

This course is designed to be used as an introduction to students in health education. This course outlines the historical development of health education as a profession and examines critical issues facing health educators today. The philosophy of health education and health promotion serve as a common cornerstone to subsequent coursework. Competencies of health educators will be examined. This course explores the foundation of health education in school, community, clinic and worksite settings.

**Advanced Physical Education**
*Grade levels: 10-12*
*Prerequisites: Beginner Physical Education*
*Credits: 1.0*

Advanced Physical Education will provide learning opportunities for students to further develop skills and knowledge related to fitness, physical competence, cognitive understanding and positive attitudes about physical activity that promote a healthy and physically active lifestyle. Students will acquire knowledge and skills in recreational, athletic and lifetime activities. The emphasis is on active participation, sportsmanship, teamwork, developing organization skills and supporting reading and writing across the curriculum.
Physical Education/Health

**Health**

*Grade levels: 9-12*

*Prerequisites: None*

*Credits: 0.5*

The Health Education Course is designed to enhance the awareness and knowledge of healthy lifestyle choices. The six adolescent risk behaviors (tobacco use, dietary patterns that contribute to disease, sedentary lifestyles, sexual behaviors, alcohol and drug use, and behaviors that result in intentional and unintentional injury) will be addressed while advocating for the students to make healthy choices for their overall health. We will also cover mental and emotional health, nutrition.
Personal Finance

Personal Finance
Grade levels: 11-12
Prerequisites: None
Credits: 0.5

Personal Finance is a course designed to help students understand the impact of individual choices on occupational goals and future earnings potential. Topics covered will include income, money management, spending and credit, as well as saving and investing.
Humanities

7th Grade Humanities
The ultimate goals for this class is to expose students to world history through the study of both nonfiction and informational literature and its related history. In the process, scholars will continue the advancement towards more mature, refined writing skills and honing habits of a proficient reader and analyst.

8th Grade Humanities
8th Grade Humanities will build off of previous humanities courses and prepare students to be successful in future reading, writing, and history courses taken in high school and college. Across five modules, students will develop critical reading, writing, and speaking skills as they engage with literature and American history. Along with numerous short historical texts, students will read a diverse set of literature including Inside Out and Back Again by Thanhha Lai, To Kill a Mockingbird by Harper Lee, Unbroken by Laura Hillenbrand, and A Mighty Long Way Carlotta Walls LaNier. The course will be rigorous and will require students to critically analyze the world (past and present) from multiple perspectives and synthesize their ideas and arguments through personal and meaningful writing tasks.
Mathematics

7th Grade Math
The focus of this course is to continue to build the foundation necessary for success in Algebra. Students will be required to justify and support their mathematical arguments as well as make connections between theoretical processes and real-world applications. In this class, students will concentrate on the following domains: (1) formulating and reasoning about expressions and equations, including modeling with linear equations, and solving linear equations and inequalities; (2) deepening the understanding of a proportion and its relationship to an equation; (3) analyzing two- and three-dimensional space and figures using angle, similarity, and congruence; (4) comparing data distributions and populations, using probability models to draw informal inferences about populations.

Pre-Algebra
Grade level: 8
Pre-Algebra will cover certain algebra, geometry, probability, number sense, and graphing topics in preparation for the Algebra I course. By the end of the course, students will have a deep understanding of algebraic expressions, equations and inequalities as well as how to represent algebraic relationships graphically. Students will be able to make predictions about events and compile data onto a graph. Students will understand how mathematics is used in everyday life and they will be able to apply the problem solving strategies covered daily in class to work through real world problems.
Mathematics

Algebra 1
Grade level: 8
Prerequisites: successful completion of 7th grade math OR Pre-Algebra
Credits toward high school graduation total: 1.0

Algebra I is the foundational math course for all future math courses that will be taken in high school and college. Across five modules, we will explore a variety of functions and their graphs, deepen our knowledge of statistics, then work our way into understanding linear, quadratic, and exponential functions and their graphs in depth. Algebra I is a very important foundational math course that gives students skills to pursue a variety of opportunities in many different career fields.
Fine Arts

**MS Band/Orchestra**
Students will be able to learn beginning to intermediate level performance skills in a group rehearsal setting for strings, woodwinds, brass, and percussion instruments, and participate in public concerts.

**MS Vocal Music**
Students will be able to learn beginning to intermediate level performance skills in a group rehearsal setting for 2 part (high and low) voices, and participate in public concerts.

**MS Art**
The purpose of this course is to introduce students to the languages, concepts, and practices of art through visual and art historical perspectives. Students will be engaged in discussion about the elements of art, such as content, composition, style, method and materials.

Physical Education

**MS Physical Education**
This course is designed to be used as an introduction to students in health education. This course outlines the historical development of health education as a profession and examines critical issues facing health educators today. The philosophy of health education and health promotion serve as a common cornerstone to subsequent coursework. Competencies of health educators will be examined. This course explores the foundation of health education in school, community, clinic and worksite settings.
Electives

**Computer Science Discoveries**  
*Grade levels: 7-8*  
Computer Science Discoveries is appropriate for 7-8th grade students and can be taught as a semester or year long introductory course (3-5 hours per week of instruction for 9+ weeks). The course takes a wide lens on computer science by covering topics such as programming, physical computing, HTML/CSS, and data. Students engage with computer science as a medium for creativity, communication, problem solving, and fun. The course inspires students as they build their own websites, apps, games, and physical computing devices.

**Exploratory Spanish**  
*Grade levels: 7-8*  
This course is a study of the language, culture and customs unique to the Spanish-Speaking world. Students will learn the course material at an introductory level via the four basic modes of communication 1) reading, 2) writing, 3) listening, and 4) speaking.