

EdisonLearning Core and Elective eCourses



2024-2025

Digital Learning Solutions and Services

EdisonLearning as your learning services provider

With over a decade of experience in successful virtual and blended learning programs, EdisonLearning helps districts establish a school environment that promotes student learning and success, including a full and rich curriculum and the ongoing training and professional development of high-performing administrators and teachers.



Core and Elective eCourses

We provide eCourse content, delivery, and certified instructors for more than 150 different core and elective courses, grades 6–12.



Career and Technical Education

Our career-focused eCourse curriculum offers pathways to prepare students for industry certifications, engage in career exploration, and learn about new technologies.



Keys to Driving

Keys to Driving is offered through EdisonLearning as a first-in-class online 30-hour driver training program to meet state-specific standards.



Dual Enrollment

Expand course offerings for students with virtual dual enrollment. Dual enrollment programs allow students to earn college credits while still in high school.



Social-Emotional Learning

Our Social-Emotional Learning and Soft Skill Development course helps students develop the skills and resiliency to feel better, accomplish more, and create the life they want.



Middle School BOOST

Middle School BOOST expands the instructional and curriculum offered to students. Talk to your EdisonLearning representative to learn more about this custom-built solution.



Instructional & Student Support Services

Our certified virtual teachers and advisors provide students with a fully supported learning environment.



Professional Learning Courses

We offer expert-designed, product-agnostic learning solutions to address the needs of school staff regardless of the software, content, or other resources schools are using.



Mosaic Instructional Planning

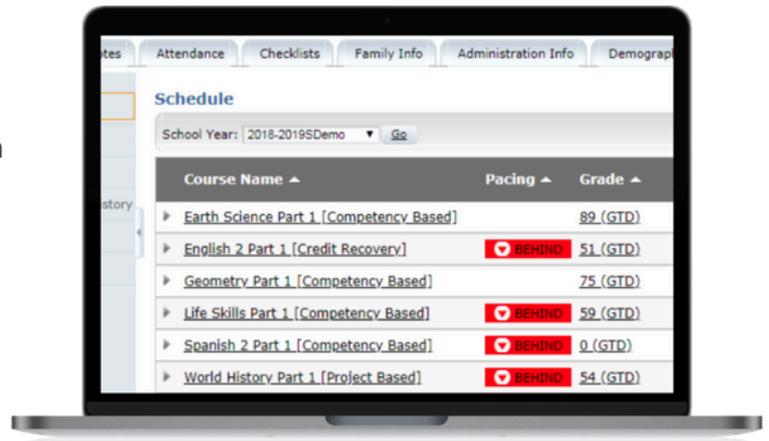
A dynamic platform for data-driven decisions. Through Mosaic IP, school administrators have the ability to support effective educators for all students.

EdisonLearning is accredited as a Learning Service Provider by the Middle States Association Commission on Elementary and Secondary Schools (MSA-CES). EdisonLearning has approval for NCAA initial eligibility for many of its high school courses. EdisonLearning has Quality Matters certification for a number of courses, indicated by the QM logo.

eSchoolware™ gives educators the data they need to gain a holistic view of each student

What Is eSchoolware™?

- EdisonLearning's proprietary learning management system
- Content delivery platform for EdisonLearning eCourses®
- Teacher and student messaging portal
- Library of over 200 reports



Student Data All in One Place

Student enrollment, attendance, and performance data are all tracked through eSchoolware™, giving educators the insight they need to plan instruction from one convenient location. eSchoolware™ provides school staff with automatic daily reporting or it can easily integrate with most student information systems through our robust API Libraries.

Streamlined Communication and Planning

The teacher portal in eSchoolware™ allows instructors to quickly access any student items needing their attention, such as messages, items that need to be graded, academic interventions, new forum posts, and grade approval requests. Green, yellow, and red indicators help teachers prioritize tasks by indicating the urgency of each item. Within any eCourse gradebook, a teacher can view granular data concerning a student's performance to gain a full picture of a student's attempts and progress.

Program Management Made Easy

eSchoolware™ offers over 200 standard reports enabling school staff to pull anything from assessment details, to interventions reports, to time in course reports, to course selection details. When schools are trying out new learning models or managing virtual learners, having the right data on hand is crucial to guide the process. With eSchoolware™, you have everything you need.

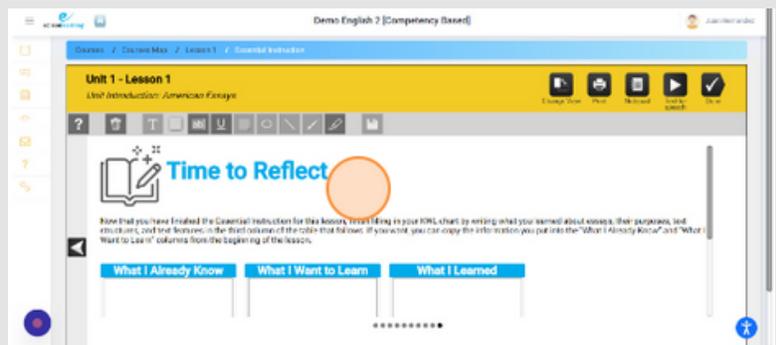
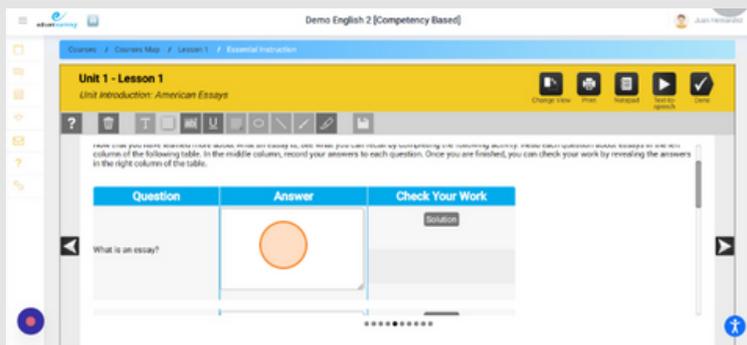
Core and Elective eCourses



We provide eCourse content, delivery, and certified instructors for more than 150 different core and elective courses, grades 6–12.

Course Features

EdisonLearning eCourses® include a host of interactive multimedia features that support the diverse needs of students as well as reinforce key concepts in the curriculum. Features such as interactive demonstrations, interactive games, videos, and labs make courses engaging and support learning. Not only can students work at their own pace and focus on the learning components of each lesson that resonate with their own particular learning style, but online courses also require that students demonstrate mastery of the current lesson's assessment in order to advance to the next lesson.



Instructional Design

Developed by highly qualified instructional designers and certified teachers based on best practices in online learning, EdisonLearning eCourses® are built upon proven methodologies to deliver engaging and effective instruction.

The courses are self-guided, enabling students to complete coursework at their own pace, while being fully supported by EdisonLearning teaching staff. The course structure is based on a modular design with lessons limited to one or two standards to help students maintain focus and motivation. Students accomplish achievable goals in each lesson, a technique which fosters success in online learning.

EdisonLearning has Quality Matters certification for a number of courses, notated by the QM logo.

CORE AND ELECTIVE COURSES FOR GRADES 6–12

Middle School Curriculum

Middle School English

Language Arts 6th Grade 

Language Arts 7th Grade

Language Arts 8th Grade 

Middle School Social Studies

Social Studies 6th Grade

Social Studies 7th Grade

Social Studies 8th Grade

World History

United States History

Civics

Middle School Science

Science 6th Grade

Science 7th Grade

Science 8th Grade

Earth Science

Life Science

Physical Science

Middle School Mathematics

Mathematics 6th Grade

Mathematics 7th Grade

Mathematics 8th Grade 

Middle School Algebra

Middle School Electives

Art History and Appreciation

Health and Fitness

Internet Safety

Music Theory and Appreciation

Physical Education

Problem Solving

Study Skills

High School Curriculum

High School English

English 1 

English 2

English 3 

English 4

Informational and Persuasive Writing

Critical Concepts

SAT® Critical Reading and Writing

High School Social Studies

American History

Early American History

Early World History

Economics

Economics with Financial Literacy

Macroeconomics

Microeconomics

Psychology

Sociology

US Government

World Geography

World History

High School Science

Anatomy and Physiology

Application of Genetics

Astronomy

Biology 

Biotechnology

Chemical Engineering

Chemistry

Earth Science 

Electrical Engineering

Environmental Science

Epidemiology

Forensics

Foundations of Engineering

Genetics

Introduction to Technological Sciences

Life Science

Mechanical Engineering

Natural Disasters

Physical Science 

Physics

Sports Medicine

Sports Science

Sports Science and Medicine

Stem Cells

Superstars of Science

Technologies in Medicine

High School Mathematics

Algebra 1 

Algebra 1 Critical Concepts

Algebra 2

Calculus

General Math

Geometry

Integrated Math 1

Integrated Math 2

Integrated Math 3

Integrated Math 4

Pre-Algebra

Pre-Calculus

Probability

SAT® Mathematics

Statistics

Trigonometry

High School World Languages

French 1

French 2

French 3

French 4

German 1

German 2

Spanish 1 

Spanish 2

Spanish 3

Spanish 4

High School Electives

Advanced Music Theory

Art History & Appreciation

Career Explorations

Computer Engineering

Computer Skills for Academic Success

Fitness

Health

Health and Wellness

Internet Safety

Life Skills

Music Theory and Appreciation

Personal Finance

Physical Education 

Physical Education 1

Physical Education 2

Science of Computing

Your Career and Money

Course Types

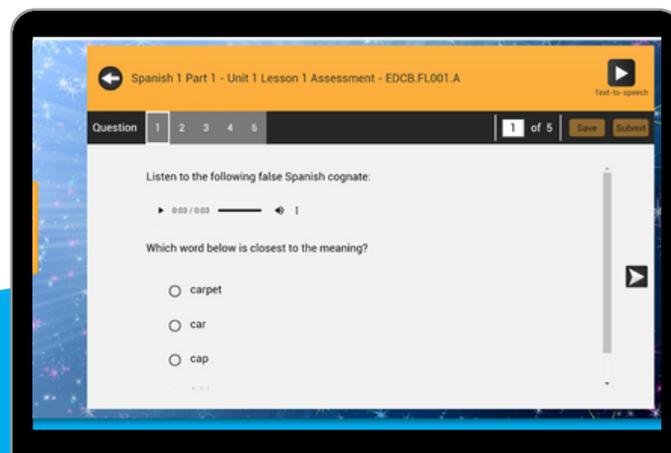
The EdisonLearning eCourses® catalog offers 6–12th grade online courses in core and elective subject areas that can be used for full virtual, credit recovery, alternative education, supplemental, or enrichment programs. EdisonLearning eCourses® are available in multiple course types to meet the needs of each learner and program.

Competency Based	A self-paced solution for students to demonstrate mastery of the concepts of a lesson before they are able to progress to the next lesson. These courses provide a self-remediating performance monitoring system.
Credit Recovery	Developed as truncated versions of their corresponding Competency-Based eCourses, these courses still require students to demonstrate mastery of the concepts addressed in a lesson before progressing to the next set of objectives. Comprehensive quizzes and unit exams ensure that students are rigorously assessed on all concepts in the course.
Foundation	Foundation eCourses contain fewer lessons than Competency-Based eCourses and are designed to prepare students to control their own learning while ensuring that students master the foundational skills and knowledge that are critical building blocks for upper-level courses.
Honors	Students are pushed to apply their understanding of the concepts in each lesson to rigorous performance-based assessments, projects, and conceptual activities. These courses are the perfect fit for students wishing to extend their understanding of a particular subject.
Critical Concepts	This course type is designed to address key skills and is perfect for boot camps or intensive remediation. The content meets students where they are, offering skills reinforcement, remediation on essential concepts they haven't yet mastered, or a subject matter refresher before students enter a higher-level math or ELA course.
Project Based	This engaging curriculum challenges students to demonstrate mastery through action projects.
Electives	Standard elective courses are available as well as social emotional learning content and certification pathway career courses.

Assessment Types

Students are evaluated through multiple assessment types, and the resulting data empowers educators to plan responsive instruction and academic interventions. EdisonLearning eCourses® include both system-graded and teacher-graded assessments with a variety of technology-enhanced question types and activities at varying levels of rigor.

Lesson Assessment	This assessment appears at the end of a lesson and tests the student's mastery of the objectives for the lesson. Lesson assessments are typically system-graded.
Quiz	This summative assessment appears at designated points throughout the course to test the student's understanding of multiple lessons and objectives. Quizzes may consist of system- or teacher-graded questions, or a combination of both.
Review	This summative assessment appears at the end of a unit or part and is meant to help students review the content before completing a summative quiz or exam. Review assessments are typically system-graded.
Exam	This summative assessment appears at the end of a unit or part and tests the student's mastery of all the concepts for that portion of the course. Exams may consist of system- or teacher-graded questions, or a combination of both.
Writing/Speaking/Project Assignments	These assessments appear at designated points throughout the course and ask the student to demonstrate their understanding of the concepts through written, spoken, or project-based work. These assessment types may consist of system- or teacher-graded questions, or a combination of both.
Participation Assignments	These assessments appear at designated points throughout the course. Students are scored based on their completion of the assignment rather than its accuracy.



Cyber Essentials

Cyber Essentials introduces the online learning environment and the skills needed for successful completion of eSchoolware™ (ESW) courses. Cyber Essentials will help guide students to be successful online learners. From utilizing the eSchoolware™ platform to the importance of digital citizenship, all students will be prepared for their online coursework.

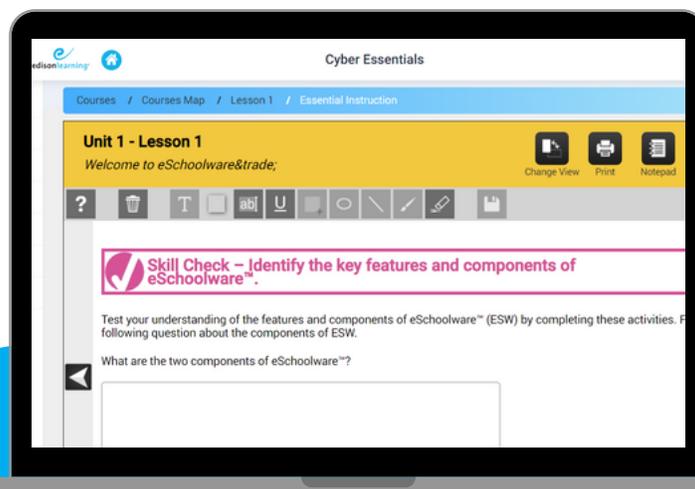
Course Description

Cyber Essentials introduces the online learning environment and the skills needed for successful completion of eSchoolware™ (ESW) courses. Cyber Essentials will help guide students to be successful online learning students. From utilizing the eSchoolware™ platform to the importance of digital citizenship, all students will be prepared for their online coursework.

The course begins with an introduction to the eSchoolware™ digital learning system, where you will access your lessons, assessments, manage your courses, contact your instructors and advisors, and access information about your progress in eCourses, including the gradebook. The features of the Student Portal, MyDay and Course Player are detailed in the next section, as well as the structure and components of ESW lessons.

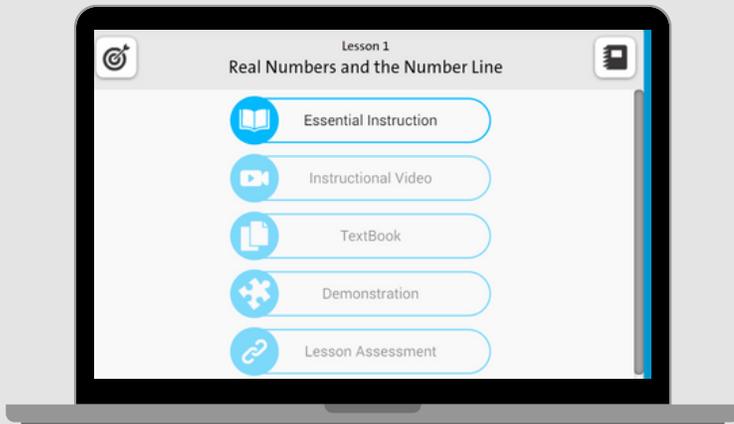
In the next sections, you will learn how accessibility is addressed in ESW courses, how to access these features, and where to find additional academic and technical help. Appropriate communication with your instructor or advisor and the roles of the learner and instructor in online learning are also covered. You will also review the types of assessments provided in eCourses, the process for uploading assignments and downloading worksheets to the ESW system, and tips for successful completion of your courses.

In the last sections, you will learn about online privacy and safety and how to protect yourself from identity theft, online predators, and cyberbullying. Finally, you will examine the critical issues of artificial intelligence, digital rights, and plagiarism, including how to avoid plagiarism and the potential ramifications of plagiarizing another person's work.



Middle School eCourses

Developed for students in grades 6–8, Middle School eCourses encourage students to interact with and respond to lesson content. Students can access drawing tools to underline, highlight, and circle key terms and important concepts. They can also respond to questions posed within lessons. Lesson assessments are delivered as games to reduce test anxiety. Supplemental materials, such as workbooks, offer students opportunities to synthesize material from the lessons via fun, low-stress puzzles and activities.



The MyDay content delivery system was designed as the result of targeted research with middle school students. Students are provided with a personalized forced progression of learning objects through their daily task lists. Mastery settings are available at an institution and student level to ensure that students have demonstrated success with the objectives of each lesson before moving on to the next. Students are assessed regularly through a variety of games and traditional summative assessments.

Course Learning Objects	
Lesson Video	The video contains information that will help to strengthen knowledge of the lesson content and focuses on key subject-specific information.
Essential Instruction	The main content of the lesson is found here. Students are encouraged to complete the embedded exercises by using interactive drawing and text tools.
Reteach	The Reteach page clarifies and further explains the information found in the Essential Instruction area.
Enrichment	The Enrichment page encourages students to take their thinking beyond the content of the lesson.
Hear More, See More, Do More	Students are directed to resources that address the content using different modalities.
Activities Workbook & Answer Key	Activities Workbook & Answer Key – Workbooks contain foundational activities and puzzles such as word searches, crosswords, and matching exercises related to the lesson’s content.
Assessments	Students are delivered their daily assessments in an interactive, visually stimulating game format. Summative assessments, such as quizzes and exams, are given in a conventional test format.
Instructor Guide	Designed for the teacher, this document reviews all of the lesson elements and provides teachers with extended activities to complete with students.

Middle School Core and Elective eCourse Details

English Language Arts Courses				
Course Name	Length	Course Type(s)	Diagnostic Assessment	Progress Assessment
Language Arts 6th Grade <small>QUINCY MIDDLE</small> QM	Year	Competency Based and Credit Recovery	✓	✓
Language Arts 7th Grade	Year	Competency Based and Credit Recovery	✓	✓
Language Arts 8th Grade <small>QUINCY MIDDLE</small> QM	Year	Competency Based and Credit Recovery	✓	✓

Social Studies Courses				
Course Name	Length	Course Type(s)	Diagnostic Assessment	Progress Assessment
Social Studies 6th Grade	Year	Competency Based and Credit Recovery	✓	✓
Social Studies 7th Grade	Year	Competency Based and Credit Recovery	✓	✓
Social Studies 8th Grade	Year	Competency Based and Credit Recovery	✓	✓
World History	Year	Competency Based	✓	✓
Civics	Year	Competency Based	✓	✓
United States History	Year	Competency Based	✓	✓

Science Courses				
Course Name	Length	Course Type(s)	Diagnostic Assessment	Progress Assessment
Science 6th Grade	Year	Competency Based and Credit Recovery	✓	✓
Science 7th Grade	Year	Competency Based and Credit Recovery	✓	✓
Science 8th Grade	Year	Competency Based and Credit Recovery	✓	✓
Earth Science	Year	Competency Based	✓	✓
Life Science	Year	Competency Based	✓	✓
Physical Science	Year	Competency Based	✓	✓

Middle School eCourse Details

Math Courses				
Course Name	Length	Course Type(s)	Diagnostic Assessment	Progress Assessment
Mathematics 6th Grade	Year	Competency Based and Credit Recovery	✓	✓
Mathematics 7th Grade	Year	Competency Based and Credit Recovery	✓	✓
Mathematics 8th Grade	Year	Competency Based and Credit Recovery	✓	✓
Middle School Algebra	Year	Competency Based		

Elective Courses				
Course Name	Length	Course Type(s)	Diagnostic Assessment	Progress Assessment
Art History and Appreciation	Semester	Competency Based		
Health and Fitness	Semester	Competency Based		
Internet Safety	9-Week	Competency Based		
Music Theory and Appreciation	Semester	Competency Based		
Physical Education	Year	Competency Based		
Problem Solving	9-Week	Competency Based		
Study Skills	9-Week	Competency Based		

The screenshot shows the Edison Learning interface for a diagnostic assessment. At the top, there are navigation icons for home, a notification bell with '23', chat, user profile, and a document. The page title is 'Mathematics 6th Grade Part 1 - Diagnostic Platform' with the ID 'EDMS.MA006.A'. A 'Save and Close' button is visible. The question is labeled 'Question 1' and has a 'Text to Speech' button. The question text is: 'Which real numbers are plotted on the following number line?'. Below the text is a number line ranging from -5 to 5 with tick marks at every integer. Three red dots are plotted on the number line at the positions for -3, 0, and 4.

Middle School Course Descriptions

English Language Arts

Language Arts 6th Grade QUALITY MATTERS QM

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: a brief narrative essay about a personal hero, a piece of creative fiction, an essay analyzing a poem, and a research project. As they read the coming-of-age novel *Roll of Thunder, Hear My Cry*, by Mildred D. Taylor, students focus on the elements of fiction and examine elements of the author's craft. In a tour of folktales, students embark on a journey to South America, Africa, Asia, the Middle East, and even ancient Greece and Rome. Students are introduced to several types of poetry, learn to recognize poetic devices, evaluate the effectiveness of a poet's message, and, ultimately, compose their own poetry. As they explore nonfiction and informational texts, students build on concepts they learned in the elementary grades to develop higher-level critical thinking skills. A study of advertising and persuasive techniques helps students become more informed consumers. Students strengthen speaking and listening skills through predicting, questioning, summarizing, clarifying, and synthesizing. Students learn to work collaboratively, incorporate multimedia in their presentations, and present their findings in unique, effective ways.

Language Arts 7th Grade

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, which includes identifying parts of speech and using them correctly and effectively. A study of writing style focuses on slang, sentence variety, and transitions. Students learn how characters, setting, and plot contribute to literary fiction as they identify and explain these components and use them creatively in their own narrative essays. Reading poetry allows students to focus on figurative and descriptive language, which they apply to writing descriptive essays. Students also learn about the themes and characteristics of myth and folklore. A study of nonfiction focuses on research and organization as students produce objective informational essays. Students learn 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.

Language Arts 8th Grade QUALITY MATTERS QM

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. To prepare students for writing narrative essays, lessons focus on plot, theme, and historical setting. Writing reflective and persuasive essays based on their own thoughts and ideas allows students to demonstrate their individuality. Solid research and understanding of organizational methods and visual features provide the foundation for writing informational essays. After improving their ability to recognize biased language, students write persuasive essays to express their own opinions. Students then look at the unique characteristics of poetry, myth, and folklore, and discover the conventions of playwriting and how drama employs the elements of fiction.

Middle School Course Descriptions

Social Studies

Social Studies 6th Grade

Making sense of the unique and fascinating places in the world requires a broad range of knowledge and skills. 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 during this time, witness the growth of dynasties in the Far East, and learn about the ideas that spawned the Renaissance. As the world became caught up in the excitement of the Age of Exploration, the Americas were "discovered", although vibrant and thriving civilizations had existed there for thousands of years. Students learn about the struggles of these native civilizations, the slaves who were brought to build a new nation, and independence movements in the western world. The issues addressing modern nations include trade, migration, urbanization, and human rights. In an exploration of recent history, students learn about dictators and witness revolutions in Europe, the Middle East, and the Americas. In the final section of the course, students study the impact of globalization and the technology driving it.

Social Studies 7th Grade

History, government, economics, sociology, geography, and anthropology all come together to show how modern culture arose from ancient and classical civilizations. 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. Students study the development of spirituality in the Middle East, the growth of dynasties in the Far East, and the formation of Mesoamerican civilization. As students learn about the development of modern nations and their quest for overseas colonies, they see how the competition for colonies and extreme nationalism led to international conflicts, including the Seven Years War and the Cold War. Students discover how the American political identity has evolved through developments including the Industrial Revolution, the labor and progressive movements, the struggle for civil rights, the economics of a modern society, and the dawn of the Information Age.

Social Studies 8th Grade

Students focus on the history of North America and, in particular, the history of the United States. Before Europeans knew that North America existed, indigenous civilizations thrived throughout the continent. Students learn how colonial life led to early attempts at self-government and how European influence continues to this day. As they witness the expansion of US borders, students discover how the desire for land and resources led to the removal of native populations, wars with neighbors, and annexations. Students see the impact of civil war and witness the struggle of slavery and America's emergence as an industrial powerhouse. In their study of the twentieth century, students trace the reasons for and outcomes of the civil rights movement and consider the role of the United States as a world power.

Middle School Course Descriptions

Social Studies

World History (MS)

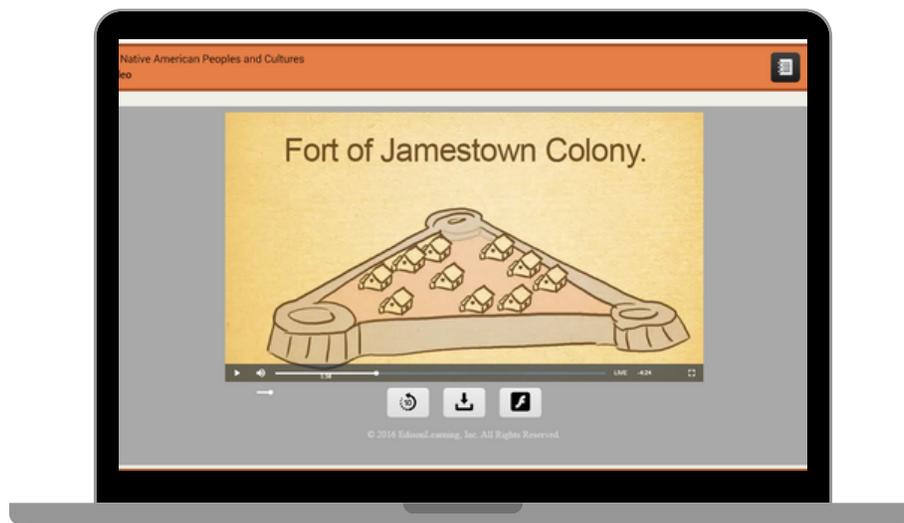
World history takes students on a journey through human history, beginning with the geographic features that gave rise to early humans and continuing into the modern globalized world. Students examine the development of civilizations from multiple perspectives and assess the ways in which civilizations have interacted over time, in order to understand the inner workings of modern life.

Civics (MS)

Civics exposes students to the fundamentals of civic life in America. This course offers a comprehensive historical timeline of American government, beginning with colonial times and moving through modern issues. The course also enables students to examine key foundational principles and documents of the nation. In the latter parts of the course, students analyze global topics like international relations and local issues like conservation. In the final part of the course, the state of Florida serves as a case study for the relationships between federal, state, and local government. By the end of this course, students will understand the history and context of American democracy as well as their own roles as citizens.

United States History (MS)

US history is a broad survey of the nation's history, beginning with the interaction between First Nations peoples and early European settlers and continuing into the twentieth century. Students assess key events, ideas, and people who have shaped the nation and the world, focusing on key themes, including conflict between groups, geographic and economic expansion, and the emergence of the United States as a global power. In this course, students will become better acquainted with the history of the United States in all its complexity.



Middle School Course Descriptions

Science

Science 6th Grade

Scientists make exciting observations and learn amazing facts about the world. Harnessing students' natural curiosity and ability to observe, Science 6th Grade surveys a variety of scientific disciplines through interactive activities and media-rich content. Students begin to explore scientific processes by creating and testing hypotheses. They learn to design experiments and analyze the results. Students also examine the connections between science and technology. They begin their survey of sciences by looking at life science, in which they examine the basic building block of life, the cell, and how cells come together to make larger organisms. Students compare the structure and processes of different organisms and how those organisms interact in an ecosystem. They finish by looking at one organism, the human body. The next part of the course focuses on physical science. Students examine the structure of matter and the forces that cause its motion. They also explore the forms of energy and how energy changes from one form to the other. Finally, students explore Earth science, examining the structure of Earth and the processes that shape it. They study the processes that affect an area's weather and climate, including the forces that are causing climate change. Students compare natural disasters, learn which disasters are most likely to affect their local area, and find out how to prepare for disaster emergencies. Finally, students explore Earth's place in the universe alongside the other objects.

Science 7th Grade

This course brings together some of the most fascinating sciences – general, physical, Earth, and life sciences – essential for investigating the world. It also brings together science, technology, engineering, and mathematics (STEM). Students learn and apply the scientific method to everyday situations, such as a broken lamp or a hungry dog. They also learn how the scientific method is adapted to the development of technology. Students learn about matter and energy, Newton's laws, and electromagnetic waves and the electromagnetic spectrum, focusing on the properties of visible light. Earth itself becomes the focus as students study the processes that create weather and climate, as well as earthquakes and volcanoes. Delving into Earth's past, students examine the fossil record and discover the clues it provides about the histories of numerous species and how they adapted to their environments. Students learn how species change over time through mutation and natural selection. Finally, students explore food webs, the roles of different organisms in an ecosystem, and the reasons that preserving Earth's limited natural resources through conservation efforts are imperative.

Science 8th Grade

This course focuses on both the large and small: the smallest structures – the atoms and cells that make up the living and nonliving world around us; and the largest systems – the cycles of the natural world, the interaction of energy and matter, classical mechanics, and the celestial objects throughout the universe. Beginning with classification systems, students learn about the elements and the structure of atoms. Students apply what they learn about temperature scales, the difference between temperature and heat, and chemical reactions to the study of energy and ways matter can change. This understanding of chemistry helps students in their next phase of study: cell function, the life-giving functions of photosynthesis and respiration, the biology of their own bodies, and the genetics that make each living being unique. The focus widens again as students explore classical mechanics: Newton's Three Laws of Motion and the Law of Universal Gravitation. Students then apply classical mechanics to planetary motion, the effects of the Moon, travel beyond Earth, and the most up-to-date discoveries about the universe.

Middle School Course Descriptions

Science

Earth Science (MS)

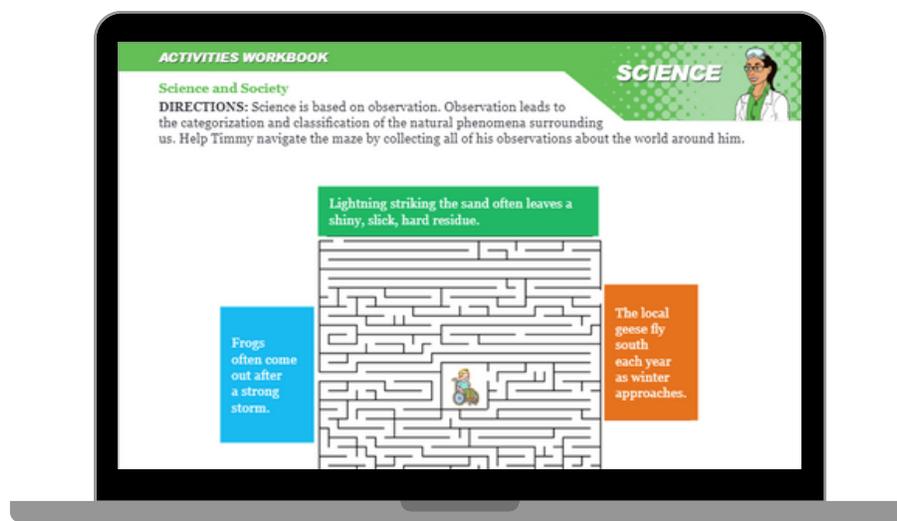
Earth Science (MS) explores how a number of sciences affect the processes on Earth and in space. In this interactive and engaging course, students study air, water, and the processes that shape the physical world, as well as how human civilization has impacted the balance of nature. Students will begin by learning the method of studying the natural world called the scientific method. Students learn about the modern science behind topics such as continental drift, fossil dating, the cause of the seasons, natural disasters, ocean ecosystems, and alternative energy sources. Students will also examine how human activity affects natural processes and the ways that impact can be reduced. At the end of this course, students have an understanding of and appreciation for earth science and a solid foundation for future science studies.

Life Science (MS)

Life Science (MS) introduces students to the subject of biology and the structures and functions of living things. The course begins with instruction in the scientific method and the tools used to study tiny living things. The cell is the basic building block of life, so students will examine unicellular organisms and how the structures of the cell carry out the functions of life, including photosynthesis and respiration. The cells combine into tissues, organs, and systems. Students will discover the systems of the human body. The course then moves into a discussion of the basics of genetics. Finally, students learn about the various forms of life on Earth and how they interact in ecosystems.

Physical Science (MS)

Physical Science (MS) 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.



Middle School Course Descriptions

Math

Mathematics 6th Grade

Students learn how to find the prime factors of composite numbers, then apply this ability to work with fractions. They use ratios and rates in a number of applications: converting between English and metric measurements, determining unit rates, and finding unit prices. To build a foundation for learning algebra, students study the properties of addition and multiplication and the order of operations. Students then apply these concepts as they write, evaluate, and factor algebraic expressions. After they learn to solve single-variable one- and two-step equations and inequalities, students extend their knowledge by graphing the solutions on number lines and the coordinate plane. The exploration of two dimensions continues as students work with plane polygons, classify shapes, and solve for shapes' perimeters and areas. Students learn to transform two-dimensional figures by translating, rotating, and reflecting both figures and graphs of equations, then move on to solid figures. Finally, students delve into statistics as they identify, interpret, and construct various data; solve for and interpret measures of center including mean, median, and mode; and use those measures to analyze data and construct appropriate data displays, which they can apply to a wide range of situations in other subject areas.

Mathematics 7th Grade

Mathematics 7th Grade teaches skills essential to adult life and lays the groundwork for future mathematics courses. Students learn to apply their work with rational numbers and integers to everyday situations. Students convert words to expressions and vice versa, using equations and inequalities as problem-solving tools. They compute tax, percentage of error, commission, and interest by using rates, ratios, and proportions; graph ordered pairs; and graph and write linear equations. Their work with simple figures – triangles, angles, circles, quadrilaterals, and polygons – focuses on finding areas and perimeters. Students then move on to scale drawings and composite figures composed of simple figures, and compute the volumes and surface areas of solids, including prisms, cylinders, pyramids, cones, and spheres. Students collect data and use graphs, charts, and diagrams to read, interpret, and display the data. They also learn how graphs can be misleading. Students apply the study of sampling and populations to applications involving probability, likely and unlikely outcomes, permutations, combinations, and compound events. Students then represent these concepts by using Venn diagrams and charts, tools they will encounter in other courses.

Mathematics 8th Grade



Mathematics 8th Grade helps students to 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 ranging from playing cards to determining the number of different outfits they have in their closets.

Middle School Algebra

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.

Middle School Course Descriptions

Electives

Art History and 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 artistic styles, movements, and techniques, and identify specific pieces of artwork by period and origin.

Music Theory and 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 to progress to more advanced music studies.

Problem Solving

Problem Solving provides students with a fundamental overview of problem solving. Students learn George Pólya's four steps to problem solving and identify the best strategies for solving particular problems, such as determining how long it will take to save enough money for a new video game system, how to choose the best transportation option, or what to do when the computer crashes and a term paper is due. The course also covers advanced concepts such as finding patterns and using inductive reasoning – even using algebraic techniques for solving real-world problems. After completing this course, students will have the confidence to tackle any type of problem, from a challenging math activity to losing a set of keys.

Study Skills

Why are study skills important? What methods and techniques can students use to support studying, limit distractions, and prevent procrastination? The Study Skills course helps students to develop a program to manage their study time, enhance their concentration, and accomplish their goals. Topics include identifying causes of study-related stress; techniques for relieving stress; the pros and cons of studying alone and in study groups; and improving reading comprehension, reading fluency, writing, and note-taking. The course concludes with strategies for preparing for tests and reducing test anxiety, leaving students well-prepared to meet their academic challenges.

Middle School Course Descriptions

Electives

Health and Fitness

What does it mean to be healthy? What are the steps for creating or improving a healthy lifestyle? This course helps students take charge of their own well-being by providing up-to-date information about physical activity, nutrition, and overall health. Students learn the importance of setting goals, recognizing peer pressure, making good decisions, and resolving conflicts. Students also learn about the benefits of exercise and physical activity, and how to avoid unhealthy behaviors. Activities are designed to help students understand nutrition, analyze food labels, and develop an appropriate exercise plan. Students learn how physical activity affects different body systems and about key exercise concepts including cross-training, overload, and flexibility. Students become more familiar with the systems of their bodies, learn about common ailments, and examine the importance of self-esteem and emotional well-being in promoting overall health.

Internet Safety

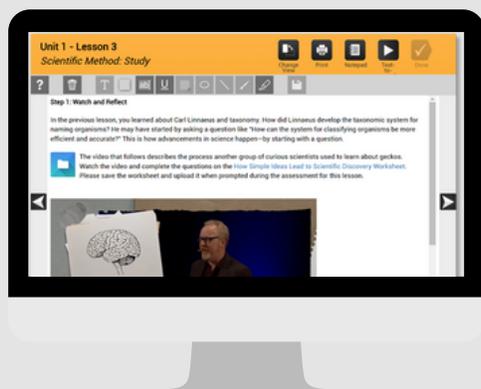
Why take safety measures when using the Internet? What are the differences between interacting in the real world and interacting in a virtual world? In Internet Safety, students think critically about what constitutes appropriate behavior online and expand the range of their online interactions. This course begins by identifying safety precautions for communicating online, sharing content responsibly, keeping accounts safe, and preventing identity theft and viruses. Students learn to identify appropriate online behavior and compare and contrast real and virtual citizenship. The course defines cyberbullying and encourages students to consider its consequences, and to report those who engage in bullying behavior. Lessons also include explanations of phishing, plagiarism, copyright terms, and fair use. The course ends by explaining how to recognize quality websites for research, how to safely use social networking sites, and how to buy and sell items online.

Physical Education (MS)

This course combines online instruction and student participation in daily physical activities. The course also combines the principles of physical activity and emotional wellness for the overall fitness of the individual. Students begin with an overview of wellness and the skills needed to make good decisions. They will also learn the consequences of making poor behavioral choices. Students will examine general movement patterns and the specific movement patterns needed in sports. Next, students will learn how to make physical activity goals and be able to track their progress toward their goals. Students will explore the cardiovascular and respiratory systems, the diseases that affect them, and the exercises that benefit them. They will learn about strength training principles and how those help maintain a healthy body composition. Nutrition is also important for body composition and overall health. Students will explore the principles of good nutrition and the benefits of it. They will also learn about the government recommendations for a healthy diet. Students will examine the needs and benefits of maintaining flexibility. They will explore the principles of several sports and the skills and behaviors needed to be a good teammate. The last section of the course begins with a discussion of the benefits of physical activity. They will learn about staying safe while exercising and treating any emergencies that might arise when exercising. Students will explore some of the influences on teen behavior and the dangers of using various drugs. They will finish the course by researching current trends in diet and fitness.

High School eCourses

Developed for students in grades 9–12, High School eCourses encourage students to interact with and respond to lesson content. Students can access drawing tools to underline, highlight, and circle key terms and important concepts. They can also respond to questions posed within lessons. Supplemental materials, such as textbooks, offer students opportunities to synthesize material from the lessons.



Course Player is an engaging and interactive content delivery system that is used for our High School eCourses. The Course Player requires that students interact with content and assessments in a personalized forced progression of learning objects. Mastery settings ensure that a student has succeeded with the objectives of a lesson before the next lesson is unlocked. Students are provided with additional learning objects when needed.

Course Learning Objects	
Need to Know	Presents prerequisite information and summarizes information related to the given lesson.
Essential Instruction	Delivers direct instruction of the lesson concepts.
Textbook & Answer Key	Provides supplementary information related to the concepts covered in the Essential Instruction.
Reteach	Reviews the concepts covered in the Essential Instruction.
Instructional Video	Presents the concepts from the Essential Instruction through a different mode of learning.
Extension	Presents enrichment activities related to the Essential Instruction concepts, to extend the students' thinking.
Assessments	Assess the concepts covered in the course through a variety of assessment types, including lesson assessments, quizzes, writing assignments, speaking assignments, project assignments, and exams.
Gizmos®	Provide additional interactive simulations in some math and science lessons to power inquiry and understanding of the concepts in the lesson. Each Gizmo includes both a manipulative activity and corresponding formative assessment items.
Reading Guides	Provide a combination of comprehension and critical thinking questions that guide students through assigned reading in a lesson.

High School Core and Elective eCourse Details

English Language Arts Courses

Course Name	Length	Course Type(s)				Assessment Type	
		Competency Based	Credit Recovery	Foundation	Honors	Diagnostic	Progress
English 1 <small>QUALITY MATTERS</small> QM	Year	✓ 	✓	✓	✓ 		✓
English 2	Year	✓ 	✓	✓	✓ 		✓
English 3 <small>QUALITY MATTERS</small> QM	Year	✓ 	✓	✓	✓ 		✓
English 4	Year	✓ 	✓	✓	✓ 		✓
Informational and Persuasive Writing	9-Week					✓	✓
SAT Critical Reading and Writing	9-Week	✓					

Social Studies Courses

Course Name	Length	Course Type(s)				Assessment Type	
		Competency Based	Credit Recovery	Foundation	Honors	Diagnostic	Progress
American History	Year	✓ 	✓	✓	✓ 	✓	✓
Early American History	9-Week	✓ 				✓	✓
Early World History	9-Week	✓ 				✓	✓
Economics	Year	✓ 	✓				
Economics with Financial Literacy	Semester	✓					
Macroeconomics	Semester	✓ 					
Microeconomics	Semester	✓ 					
Psychology	Semester	✓ 					
Sociology	Semester	✓ 					
US Government	Year	✓ 	✓	✓		✓	✓
World Geography	Year	✓ 	✓			✓	✓
World History	Year	✓ 	✓	✓		✓	✓

High School Core and Elective eCourse Details

Science Courses							
Course Name	Length	Course Type(s)				Assessment Type	
		Competency Based	Credit Recovery	Foundation	Honors	Diagnostic	Progress
Anatomy and Physiology	Year	✓ 	✓				
Application of Genetics	Semester	✓					
Astronomy	9-Week	✓ 					
Biology 	Year	✓ 	✓	✓	✓ 	✓	✓
Biotechnology	9-Week	✓ 					
Chemical Engineering	9-Week	✓ 					
Chemistry	Year	✓ 	✓	✓	✓ 	✓	✓
Earth Science 	Year	✓ 	✓	✓		✓	✓
Electrical Engineering	9-Week	✓ 					
Environmental Sciences	Semester	✓ 					
Epidemiology	9-Week	✓					
Forensics	9-Week	✓ 					
Foundations of Engineering	Year	✓					
Genetics	9-Week	✓ 					
Introduction to Technological Sciences	9-Week	✓					
Life Science	Semester	✓ 					
Mechanical Engineering	9-Week	✓ 					
Natural Disasters	9-Week	✓ 					
Physical Science 	Year	✓ 	✓	✓		✓	✓
Physics	Year	✓ 				✓	✓
Sports Medicine	9-Week	✓					
Sports Science	9-Week	✓					
Sports Science and Medicine	Semester	✓					
Stem Cells	9-Week	✓ 					
Superstars of Science	9-Week	✓					
Technologies in Medicine	Semester	✓					

High School Core and Elective eCourse Details

Math Courses							
Course Name	Length	Course Type(s)				Assessment Type	
		Competency Based	Credit Recovery	Foundation	Honors	Diagnostic	Progress
Algebra 1 <small>QUALITY MATTERS</small> QM	Year	✓ 	✓	✓	✓ 	✓	✓
Algebra 1 Critical Concepts	9-Week	✓				✓	✓
Algebra 2	Year	✓ 	✓	✓	✓ 	✓	✓
Calculus	Year	✓ 	✓			✓	✓
General Math	Year	✓	✓			✓	✓
Geometry	Year	✓ 	✓	✓	✓ 	✓	✓
Integrated Math 1	Year	✓ 	✓			✓	✓
Integrated Math 2	Year	✓ 	✓			✓	✓
Integrated Math 3	Year	✓ 	✓			✓	✓
Integrated Math 4	Year	✓ 	✓	✓		✓	✓
Pre-Algebra	Year	✓	✓			✓	✓
Pre-Calculus	Year	✓ 	✓			✓	✓
Probability	9-Week	✓ 					
SAT Mathematics	9-Week	✓					
Statistics	9-Week	✓ 					
Trigonometry	9-Week	✓ 				✓	✓

World Language Courses

Course Name	Length	Course Type(s)				Assessment Type	
		Competency Based	Credit Recovery	Foundation	Honors	Diagnostic	Progress
French 1	Year	✓ 	✓				
French 2	Year	✓ 	✓				
French 3	Year	✓ 					
French 4	Year	✓ 					
German 1	Year	✓ 	✓				
German 2	Year	✓ 	✓				
Spanish 1 <small>QUALITY MATTERS</small> QM	Year	✓ 	✓	✓			
Spanish 2	Year	✓ 	✓	✓			
Spanish 3	Year	✓ 					
Spanish 4	Year	✓ 					

High School Core and Elective eCourse Details

Elective Courses							
Course Name	Length	Course Type(s)				Assessment Type	
		Competency Based	Credit Recovery	Foundation	Honors	Diagnostic	Progress
Advanced Music Theory	Semester	✓					
Art History & Appreciation	Semester	✓					
Career Explorations	9-Week	✓					
Computer Engineering	9-Week	✓					
Computer Skills	Semester	✓					
Fitness	Semester	✓					
Health	Semester	✓					
Internet Safety	9-Week	✓					
Life Skills	Semester	✓					
Music Theory & Appreciation	Semester	✓					
Personal Finance	9-Week	✓					
Physical Education <small>Quality Matters</small> QM	Year	✓					
Physical Education 1	Year	✓					
Physical Education 2	Year	✓					
Science of Computing	9-Week	✓					
Your Career and Money	Year	✓					



A sports medicine professional monitors an athlete performing an exercise.

High School Course Descriptions

English Language Arts

English 1 QUALITY MATTERS **QM**

In English 1, students learn and practice the foundational skills that they will need to be successful throughout their high school English Language Arts education. Throughout this course, students examine different genres of fiction, including a coming-of-age novel, an assortment of short stories, a variety of poetry, and a Shakespearean play. As students read these texts, they explore characters who face life-changing experiences, consider the literary techniques that authors use to enhance their writing, and analyze how culture relates to literature. Additionally, students learn about aspects of nonfiction writing, such as the author's purpose, text structures, text features, and rhetorical techniques, while reading a variety of articles and speeches. As students read the texts in English 1, they will complete corresponding writing and presentation projects which allow them to demonstrate mastery of the content and skills they are learning. By the end of the course, students will have a strong grasp of how fiction and nonfiction authors convey their perspectives, as well as how writing and speaking can impact change.

English 2

English 2 offers students a chance to discover and analyze a diverse selection of literature from around the world, with a focus on how the themes and central ideas of the pieces relate to their own lives. Throughout the course, students will learn more about various cultures, how their own experiences relate to those of others, and the importance of exploring works written by authors from diverse backgrounds. Students will read and evaluate a variety of fiction texts, including epic poetry, adaptations of classical literature, short stories, a novel, and a play. Additionally, students will explore aspects of nonfiction writing in different types of works including essays, persuasive speeches, and a historical novel. As students read the texts in English 2, they will complete corresponding writing and presentation projects which allow them to demonstrate mastery of the content and skills that they are learning. By the end of the course, students will have a strong grasp of how authors convey unique perspectives, as well as how historical and cultural influences can impact world literature.

English 3 QUALITY MATTERS **QM**

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 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 4

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.

SAT Critical Reading and Writing

SAT Critical Reading and Writing is designed to help students prepare for the critical reading and writing portions of the SAT®. In addition to test-taking strategies, students learn reading comprehension strategies, including inferring ideas, understanding tone and intention, and identifying the meaning and crucial elements in a piece of writing. Students also learn about comma usage, case, identifying and creating complete sentences, and writing concise sentences with subject-verb agreement. Finally, students learn how to apply correct grammatical structure to sentences, recognize and understand modifiers and idioms, and develop a piece of writing in response to an essay question.

High School Course Descriptions

Social Studies

American History

American History 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 the elusiveness of equality 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.

Early American History

Early American History provides students with a comprehensive and engaging look at early American history from the impact of the early Spanish explorers through the Civil War. Students learn about key events of European exploration and colonization of the Americas. Students learn about the establishment of the United States as an independent country, the importance of the US Constitution, and the impact of the Constitution on the continued development of the country. At the completion of this course, students have both a knowledge of and appreciation for the early history of the United States.

Early World History

Starting at the dawn of civilization and arriving at the doorstep of the Renaissance, Early World History introduces students to the major events that laid the foundations of the modern world. This course exposes students to the development of the world's early civilizations and the cultures that created them. Students experience the rituals of the Aztecs, the might of the Roman legions, and the building of the Great Wall of China. From these ancient beginnings, students trace the development of empires, the emergence of the world's major religions, and the mechanisms of trade and conflict that brought cultures together. Thematically, the course focuses on how empires have interacted to spread goods, ideas, and technological innovations such as silk and gunpowder. The course traces major events from ancient Mesopotamia through the Black Death of the fourteenth century, preparing students to explore more recent world history in future courses.

Economics

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.

High School Course Descriptions

Social Studies

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.

Macroeconomics

Macroeconomics 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.

Microeconomics

Microeconomics teaches students about the structure of economics and how it affects world events and people's everyday lives. Upon completing this course, students have a better understanding of personal finance, the role and process of taxation, and the risks and rewards of investment. The course discusses the need for economic systems, examines the concepts of supply and demand and consumer theory, and evaluates past and present occupation trends. Students compare the mixed economies of various nations; learn about traditional, command, and market economies; and examine the role of government in regulating the economy.

Psychology

Psychology provides students with the opportunity to discover how their senses, perceptions, emotions, and intelligence influence the way they think, feel, and learn. In this course, students 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.

Sociology

Sociology explores the development, dynamics, and structure of societies and society's connections to human behavior. The field also examines the ways in which groups, organizations, communities, social categories (such as class, sex, age, or race), and various social institutions (such as kinship, economic, political, or religious) 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.

High School Course Descriptions

Social Studies

US Government

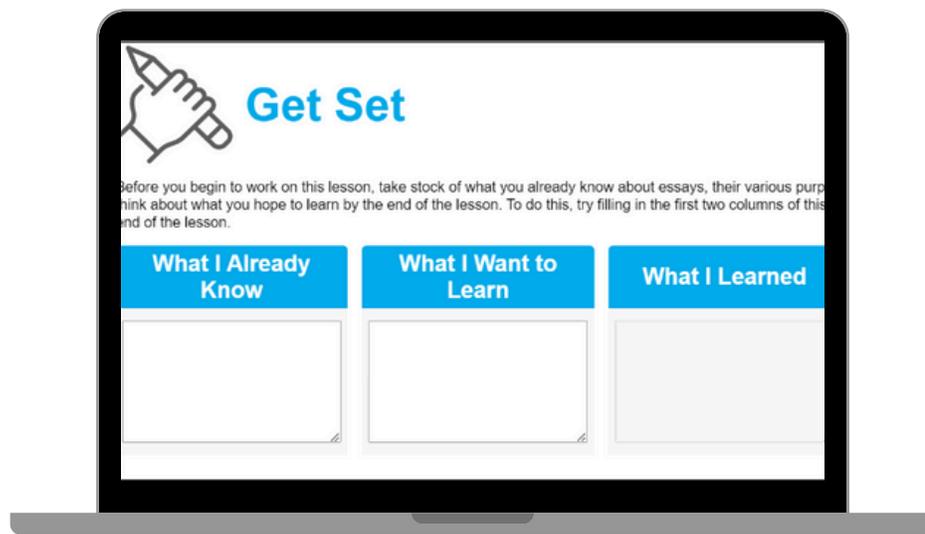
US Government offers students a comprehensive examination of this country's government. Students explore the evolution of American democracy, from its birth in the eighteenth century to the expansive role of federal, state, and local governments today. The course covers topics such as changes to the Constitution, the function of the Supreme Court, the structure of Congress, and the importance of the media. The course explores the relationship between the political parties and lobbyists, and the process of monitoring and funding federal elections. Students investigate the roles of state and local governments and their impact on citizens' daily lives. At the end of this course, students have a knowledge of and appreciation for the workings and history of the US government and understand its impact on American society.

World Geography

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

World History explores the causes and effects of events and people of the past. The material is organized sequentially, from the fourteenth century CE to the present day. Starting with Mesoamerican civilizations before the arrival of Europeans, the course will highlight the impact of cultural, economic, political, social, and intellectual revolutions and transformations. The course progresses from the Renaissance and the Reformation to the Age of Exploration and Enlightenment-era revolutions. It covers the global impact of the Industrial Revolution, and the rise of imperialism and nationalism. The closing topics emphasize global conflicts and diplomacy, as seen in World War 1, World War 2, and the Cold War. Each course part scaffolds students' skills for historical inquiry and focuses on disciplinary tools and concepts rooted in geography, civics, history, and economics. These focal areas align students' learning with the National Council for Social Studies' "College, Career, and Civic Life (C3) Framework." Upon completion of the course, students have the skills and knowledge to analyze historical change and its contemporary legacy.



High School Course Descriptions

Science

Anatomy and Physiology

Why is the human body so complex? How do all of the different structures of the body work together? In Anatomy and Physiology, 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: cells and tissues that combine to create the complex organs and support structures of the 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. Moving deeper inside, students explore the cardiovascular, respiratory, urinary, and digestive systems, which work together to supply the body with nutrients and rid it of wastes. Students also learn how the nervous and endocrine systems respond to the environment and maintain a state of balance. Students study the reproductive system as they follow the development of a human from a single-celled zygote to a mature adult. Interwoven throughout many lessons is information about genetic diseases, dysfunctions, and ailments such as diabetes, HIV, and arthritis. By the end of this course, students will feel as if they have read the owner's manual for their bodies.

Application of Genetics

Applications of Genetics introduces the students to the field of genetics, where they learn about the theories of Mendel, Darwin, and Wallace. They will learn how traits are passed down from one generation to another. They will explore concepts of adaptation, genotype, and phenotype; and basic concepts related to cells, DNA, and RNA. Students see how the basic concepts are applied in various techniques, including metagenomics, genetically modified organisms, DNA technologies, genetic testing, and other clinical and nonclinical applications of genetics. Students will also examine how the genetic code present in all cells can be used to treat conditions. They will study the ongoing research into the usage of stem cells.

Astronomy

Astronomy is a fascinating journey through the cosmos. The course begins with the celestial objects closest to home, scanning the solar system to provide students with an overview of the planets, moons, asteroids, and comets that revolve around the Sun. The course then moves beyond the solar system to explain the characteristics of our galaxy, the Milky Way. Students may be amazed to learn about the sheer size of this system and other galaxies nearby, and about the formation and death of stars, supernovas, black holes, and theoretical wormholes. Finally, the course reaches to the edges of time and space to investigate the properties of the universe as a whole, as students learn about theories explaining the beginning of existence and the expansion of the universe. Students also learn about Einstein's theory of relativity, time travel, and the search for extra-solar planets.

Biology QUALITY MATTERS QM

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, incorporating the latest scientific research, including the use of genetics in biotechnology. Next, the course covers ecology to raise students' awareness of the many challenges and opportunities in the modern world and how they apply to the field of biology. Finally, the course presents the theory of evolution and the evidence that supports the theory. Throughout the course, students complete lab activities that reinforce the material and provide the opportunity to apply their knowledge through interactive experiments and activities.

High School Course Descriptions

Science

Biotechnology

Biotechnology provides students with a comprehensive and engaging look at the field. Students explore the history of biotechnology and advances in the field, as well as basic information about biotechnology laboratories and careers. Students learn about chemistry; the units of measurement used in biotechnology; and the biology of the cell, DNA, RNA, and proteins. The course concludes with a survey of the applications of biotechnology in the research lab and in industry, including enzymes, techniques, and plasmids.

Chemical Engineering

Ever wonder where all of those fantastic new products come from? What about the tasty new items that hit the shelves at the grocery store? New materials, new food additives, and new fuel sources are all developed by chemists. The processes that allow these substances to be mass-produced and become part of a product are developed by chemical engineers. In this Chemical Engineering course, you will build on the knowledge that you gained in your chemistry class and apply it to new and exciting processes. You will learn not only about the way that two chemicals react, but also the importance of controlling the reaction. You will build on your knowledge of exothermic and endothermic reactions as you learn how to control the massive amounts of heat involved in an industrial process. Engineers work to solve real-world problems; in chemical engineering, you will learn how the real-world problem of manufacturing is solved

Chemistry

This course shows the importance of science and challenges students to apply their studies in previous sciences to new theories, models, and problems. The course begins with a discussion of the history and importance of chemical principles; moves through the various models of the atom and chemical reactions; explores relationships among liquids, gases, and solids; and investigates the role of energy in these relationships. The course ends with a unit on organic chemistry, a branch of the science that focuses on the molecules that are important to living things. Lab activities throughout the course reinforce the material and provide an opportunity for students to apply their knowledge through hands-on experiments and activities.

Earth Science



Earth Science 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.

Electrical Engineering

When you get up in the morning, flip a switch, and see a light turn on, you might want to thank one of the people responsible: electrical engineers. The main function of an engineer is solving problems. Electrical engineers solve problems by using electricity and solve problems related to using electricity. They develop devices to generate and transmit electricity and design products that use electricity. In this course, you will learn the basics of circuit design and the laws and theorems involved in analyzing circuits. You will also learn how mechanical energy is converted to electrical energy in generators and power plants. Finally, you will see that the reverse can be true: Electrical energy can be converted to mechanical energy through electric motors.

High School Course Descriptions

Science

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.

Epidemiology

Epidemiology is the investigation into the causes of disease and other public health problems in an effort to prevent them from spreading. This course introduces students to the field of epidemiology, including the basic concepts related to infectious diseases, specializations in epidemiology, and study design. Students learn about the specific parts of an epidemiology study and their importance, including types of sampling, selection bias, standardization, confidence intervals, and evidence-based research.

Forensics

Forensics introduces students to the field of forensics through a comprehensive look at related careers, laboratories, crime scene processing, evidence, and the impact of media on criminal investigations and trials. Students learn about specific techniques used in crime scene investigations, including autopsy, fingerprint analysis, DNA fingerprinting, and other types of evidence and analysis important to solving crimes. At the end of the course, students are introduced to a variety of specialized forensic sciences, analyze specific case studies, and learn about the Innocence Project and Freedom Project.

Foundations of Engineering

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.

Genetics

Through this introduction to the field of genetics, students learn about the theories of Darwin and Wallace; the concepts of adaptation, genotype, and phenotype; and basic concepts related to cells, DNA, and RNA. Students study Gregor Mendel's pioneering work in genetic variation and the essential concepts that have been developed as a result of his findings. Finally, students explore applications of genetics, including metagenomics, genetically modified organisms, DNA technologies, genetic testing, and other clinical and nonclinical applications of genetics.

High School Course Descriptions

Science

Introduction to Technological Sciences

Introduction to Technological Sciences provides an introduction to three main fields of technological science: engineering, biotechnology, and information technology. The first unit of the course surveys 15 distinct sub-fields of engineering, exploring the science background, real-world applications, and career opportunities in fields including aerospace, nuclear, and software engineering. In the second unit, students study cutting-edge biotechnology topics such as gene therapy, bioengineered crops, and biodegradation. The final unit focuses on the study of information technology, covering computer networking, data storage, and data encryption for secure communications.

Life Science

Life Science 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.

Mechanical Engineering

Simple machines have been around for centuries. A machine is anything that makes work easier. Simple machines include levers and the combination of a wheel and an axle. Simple machines can come together to make complex machines; a motor added to a machine allows it to work automatically. Mechanical engineers develop the machines people use daily. Mechanical engineers learn how to harness forces and energy and support loads. In this course, you will learn how to apply the laws of physics related to motion, forces, and energy. This course will give you a new appreciation for the ways that structures are made and the ways that loads are supported.

Natural Disasters

Natural disasters can strike almost anywhere, at nearly any time. This course provides an overview of the different types of catastrophic forces of nature and their impact on the populations that they strike. The course gives students a greater understanding of the causes and effects of natural disasters; students also investigate what can be done to prevent such disasters. The first unit covers land-based events, detailing how scientists predict and react to avalanches, earthquakes, volcanic eruptions, mudslides, and fires. The second unit focuses on catastrophic events that begin in the ocean and atmosphere, describing the impact of flooding, hurricanes, blizzards, and droughts. In the third unit, students learn how disease spreads and how quickly one disease can impact the world's population. The final unit looks skyward for potential catastrophic impacts from comets and asteroids.

Physical Science



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.

High School Course Descriptions

Science

Physics

Physics is designed to provide students with an overview of traditional physics and the latest research in the field. 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.

Sports Medicine

Sports Medicine is an exploration of how to keep the human machine in optimal condition. Students learn about various aspects of sports medicine, including careers, basic concepts, and techniques. Students also learn about sports injuries and how they are treated so athletes can continue to compete. At the end of this course, students have a knowledge of and appreciation for the field of sports medicine and its applications.

Sports Science

Modern-day sports and the world-class athletes who excel at them take center stage in this journey through sports science. This course provides students with a survey of the impact of physics, biomechanics, and physiology on 14 modern sports. The first unit describes the role physics plays in a variety of sports, from the aerodynamics involved in auto racing to the force behind a boxer's right hook. The next unit investigates the biomechanics of these sports, discussing concepts such as the contortions of a gymnast's body and the cause of tennis elbow. The last unit focuses on the limits of the human body, describing the energy used by cyclists during a climb through the Alps and the reaction time required to hit a fastball traveling at 90 miles per hour. Overall, the course presents engaging information that will forever change how students perceive world-class athletes and competition.

Sports Science and Medicine

Sports Science and Medicine analyzes the ways athletes apply concepts of various sciences while participating in sports. Throughout the course, students will examine how athletes utilize the dynamics of physics as an advantage when actively participating in competitions. When participating in sports injuries will occur, and students will explore through the various types of injuries that can come about ranging in a variety of severity. Furthermore, students will learn about the surgical processes to heal these injuries as well as the whole rehabilitation process it takes for athletes to get back to optimal performance.

Stem Cells

Stem Cells explores the diverse and rapidly changing field of stem cell research. Students learn about the different types of stem cells; how stem cells were discovered; their importance to research; and the goals, challenges, and controversies in the field. Students explore human and mouse embryonic stem cells and a variety of types of stem cells found in different parts of the body, as well as the potential clinical applications of these cells in human medicine. Finally, students study stem cell research models.

High School Course Descriptions

Science

Superstars of Science

Superstars of Science helps students appreciate the accomplishments and impact of the most influential scientists on today's society, from scientists who lived in ancient Greece to those who are still alive and working today. The timeline structure allows students to see the cumulative nature of science and how the discoveries and inventions of every scientist are influenced by past breakthroughs. It is commonly said that every great scientist stands on the shoulders of those of the past; this course explores that concept. The biography of each scientist, one per lesson, includes not only their contributions to their field, but the context of their work at the time and the world's reaction to their groundbreaking ideas.

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.

Element Information

The atomic number is the main identifier for an element. It corresponds to the number of protons in the nucleus of an atom. The atomic number also corresponds with the number of electrons, because each atom is neutral. If an atom loses an electron, it becomes a cation. If an atom gains an electron, it becomes an anion.

Group →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
↓ Period																		
1	1 H																	2 He
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba		72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra		104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Uub	113 Uut	114 Uuq	115 Uup	116 Uuh	117 Uus	118 Uuo

High School Course Descriptions

Math

Algebra 1 QUALITY MATTERS QM

Algebra 1 offers the opportunity to practice essential skills which help students prepare for future mathematics courses. Operations with real numbers are extended to modeling with variables and expressions. 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. Students manipulate the structure of polynomials by factoring them, and then use this knowledge to solve and graph quadratic equations. A study of statistics and probability includes work with data displays, measures of center, linear regression, conditional probability, and independent and dependent events.

Algebra 2

Algebra 2 allows students to 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. They apply their knowledge of systems of equations to work with more advanced systems of three equations. A deeper dive into polynomials involves factoring, performing operations, and comparing and contrasting graphs. Students explore additional characteristics and types of functions including inverse, exponential, logarithmic, root, and rational functions. Students graph and create equations for conic sections. After students apply their knowledge of functions to sequences and series, they are introduced to trigonometric topics including the unit circle, laws of sines and cosines, graphs of periodic functions, and methods of solving trigonometric equations. 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.

Calculus

Algebra 2 allows students to 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. They apply their knowledge of systems of equations to work with more advanced systems of three equations. A deeper dive into polynomials involves factoring, performing operations, and comparing and contrasting graphs. Students explore additional characteristics and types of functions including inverse, exponential, logarithmic, root, and rational functions. Students graph and create equations for conic sections. After students apply their knowledge of functions to sequences and series, they are introduced to trigonometric topics including the unit circle, laws of sines and cosines, graphs of periodic functions, and methods of solving trigonometric equations. 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.

General Math

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.

High School Course Descriptions

Math

Geometry

Geometry focuses on two- and three-dimensional shapes, their properties, and their relationships. The course builds a strong foundation in mathematical logic through inductive and deductive reasoning. The properties and theorems of lines, angles, and polygons are used to solve problems, with a focus on triangles, quadrilaterals, and circles. Congruence and similarity are explored through transformations, and a connection between algebra and geometry is established by using coordinates to prove geometric theorems algebraically. The properties of two- and three-dimensional figures are used to describe the area, surface area, and volume of objects in mathematical and real-world problems. Throughout the course, students use logic skills to construct and analyze mathematical proofs.

Integrated Math 1

What are the differences between linear and exponential relationships? What are the components of mathematical expressions? What happens when one value in a data set is quite different from the rest of the data? Students extend their understanding of linear relationships by contrasting them with exponential models and modeling linear data. As they create equations and inequalities in one or more variables, students represent the constraints of these expressions and rearrange the equations to solve for particular variables. In their comprehensive study of functions, students focus on notation, domain and range, and sequences. They also interpret the key features of the graph of a function and build new functions or use existing functions to model relationships between quantities. Using their knowledge of relationships, students construct and compare linear, quadratic, and exponential models and use these models to solve various problems. Students learn that solving equations is a reasoning process and are asked to explain the reasoning that accompanies their solutions. As they explore descriptive statistics, students compare measures of center and spread and determine the most appropriate ways to represent data. Students also identify and interpret outliers in a data set. Finally, they prove simple geometric theorems algebraically.

Integrated Math 2

Integrated Math 2 focuses on quadratic expressions, equations, and functions and compares their characteristics and behavior to previously learned linear and exponential relationships. The course covers real and complex numbers to give students the background they need to solve all forms of quadratic equations. Students explore the structure of expressions and rewrite them to highlight pieces of the relationship. Creating and solving equations and inequalities leads to solving systems of equations involving quadratic or exponential equations. Students compute and interpret theoretical and experimental probabilities, making informed decisions as they apply their knowledge of probability. Similarity transformations give students another perspective on similarity and allow them to prove related theorems. Students prove and use geometric theorems and learn about right triangles and their related trigonometry. They then move to theorems of circles, study ways to find arc lengths and areas of sectors, and write equations for circles and parabolas. Finally, students examine area, circumference, and volume formulas for different geometric forms.

High School Course Descriptions

Math

Integrated Math 3

Integrated Math 3 challenges students to gather and apply all of the concepts they have learned in previous courses. Students apply their knowledge of probability and statistics to both given data and data they collect through sample surveys, experiments, and simulations. Students look at polynomials and operations on them, examining the relationship between zeros and factors of polynomials, and use polynomial identities to solve various problems. Students learn that the arithmetic of rational expressions follows the same rules as arithmetic with rational numbers. Students deepen their understanding of trigonometry as they develop and apply the laws of sines and cosines to find missing measures of right and other triangles, determine how many triangles can be formed from a set of side measures, and apply the unit circle and model periodic phenomena by using trigonometric functions. Pulling together all they have learned about function families, students analyze functions, build functions to model relationships, and build new functions from existing functions. They can also construct and compare linear, quadratic, and exponential models; use geometric shapes, their measures, and their properties to describe objects; and apply geometric concepts in modeling situations.

Integrated Math 4

Integrated Math 4 brings together all of the mathematical concepts students have learned up to this point. In this capstone course, students perform operations with and find conjugates of complex numbers and represent them on the complex plane. Work with vectors includes recognizing the magnitude and direction of vectors and performing operations on vectors. Students also represent and manipulate data in and perform operations on matrices, applying the knowledge they gain as they represent and solve systems of linear equations. Students then analyze linear and exponential functions to show intercepts and end behavior, and delve into trigonometric functions showing period, midline, and amplitude. The course then moves to inverse functions, in which students find inverse functions and produce invertible functions from noninvertible functions by limiting the domain. Special triangles form the basis for students to geometrically determine values for sine, cosine, and tangent. Students also learn how to prove and utilize the addition and subtraction formulas for sine, cosine, and tangent and derive the equations of ellipses and hyperbolas. Cavalieri's principle is used to explain the formulas for the volume of a sphere and other solid figures. Finally, students calculate expected values and employ them to solve problems, and use probability to evaluate the outcomes of decisions.

Pre-Algebra

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.

High School Course Descriptions

Math

Pre-Calculus

Pre-Calculus 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.

Probability

Probability offers students a comprehensive and engaging look at the field. They begin by learning the basic terms, types, theories, and rules of probability. Next, the course covers random outcomes and normal distributions, as well as binomial probabilities. Finally, students learn about geometric probability, sampling distribution, populations, and the central limit theorem. By the end of this course, students gain a knowledge of and appreciation for the field of probability and its uses in everyday life.

SAT Mathematics

SAT Mathematics helps students prepare for the mathematics portion of the SAT[®] by equipping them with the knowledge and strategies they will need to succeed. Students learn about essential mathematical theories and operations, including rational numbers, integers, methods to solve counting problems, and the characteristics of sequences and series of numbers. Students then learn how to use algebra for solving problems, including polynomial functions, linear equations and inequalities, and variation. The final unit covers geometric shapes, including how to calculate the area and perimeter of polygons and the circumference of circles. Students also learn how to solve for missing angles and sides of triangles, and understand lines, similar figures, and ratios.

Statistics

Statistics opens students' eyes to the many uses of statistics in the real world—from sports and the weather to health and politics. Students learn basic concepts, how to use graphs to represent data, and ways to analyze data. They explore statistical relationships, including the use of correlations, residuals and residual plots, and scatter plots. Finally, students learn how to model nonlinear relationships by using exponential and logarithmic functions and how to design a sample to produce the correct type of data (observational or experimental). By the end of this course, students gain a knowledge of and appreciation for the field of statistics and its applications in the real world.

Trigonometry

Trigonometry 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, which will prepare them for future mathematics courses.

High School Course Descriptions

World Language

French 1

French 1 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 2

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 figures. By the end of this course, students have gained a deeper knowledge of and appreciation for the French culture and language.

French 3

French 3 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 4

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.

German 1

German 1 is a comprehensive and engaging look at the German language and culture and focuses on the most essential information needed to communicate in German. After mastering the German alphabet and numbers, students study German culture, events, and people. By the end of the course, students have a foundation in the study of German and can engage in conversation in German.

German 2

Building on the content learned in German 1, students are immersed in the language while learning cultural aspects of German-speaking countries. The course emphasizes increasing students' skills in understanding spoken German, and writing, reading, and speaking in German. German 2 provides a comprehensive review of German grammar while improving students' vocabulary skills. At the end of this course, students have a knowledge of and appreciation for the German people and language.

High School Course Descriptions

World Language

Spanish 1 QUALITY MATTERS QM

Spanish 1 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 2

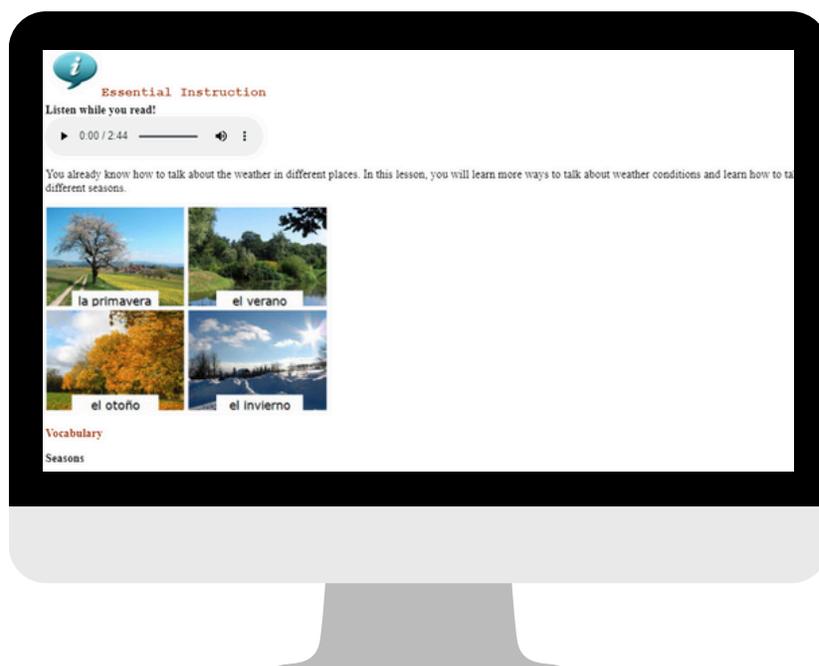
Spanish 2 immerses students in the Spanish language and the cultural aspects of Spanish-speaking countries. Students build on what they learned in Spanish 1, with a study of Spanish grammar and an emphasis on increasing their skills in listening, writing, reading, and speaking in Spanish. At the end 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 3

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 their Spanish language skills and can express themselves in Spanish conversation.

Spanish 4

Students continue their exploration of Spanish and Latin American language and culture from the Caribbean to South America and Mexico to Spain, 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.



High School Course Descriptions

Electives

Advanced Music Theory

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 staves, 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.

Art History and 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 of 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 of 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.

Career Explorations

How do you decide what type of career to pursue? What steps can you take to get a job in your desired field? Career Explorations provides students with employment data and career resources to analyze job opportunities and prepare for their careers. Students learn about careers and the relationships between education, career, and earning potential. Students then match their interests with career opportunities and build a career map. The course defines essential professional skills such as communication, teamwork, organization, and leadership. Lessons also include explanations of essential personal attributes including flexibility, responsibility, and dependability. At the end of the course, students explore networking, résumés, using social media, applying for jobs, and preparing for interviews.

Computer Engineering

Computer Engineering addresses the concepts important to the field, including the essential parts of a computer, how information is quantified, organized, and used, and the different types of information. Students learn about information compression and information theory, the different types of coding, the theory of sound, and how sound is converted into a signal. Finally, students learn about applications of computer engineering, including digital telephones, real-time data transmission, bandwidth limits, different types of systems, and information security.

High School Course Descriptions

Electives

Computer Skills for Academic Success

Computer programs are an integral part of day-to-day life, so it's essential to have a basic understanding of how they work and how to use them safely and responsibly. In this course, students learn about file types, including PDFs, as well as basic file management. They also learn about digital citizenship and how to communicate effectively and appropriately on the Internet. Students explore the origins of open-source software, including the LibreOffice suite. Office productivity software is required for education and numerous professions. While some office software applications are quite expensive, a powerful and user-friendly group of programs called LibreOffice is available for free to everyone. Students explore this free application suite, learning how to create, save, and format documents in Writer; how to design spreadsheets and manipulate and perform calculations on data in Calc; and how to build, save, and customize slide show presentations in Impress. After completing this course, students will have the tools to work with and present information in a variety of forms for professional, academic, and personal use.

Fitness

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.

Health

Imagine the healthiest people you know. What are their secrets? While some health traits are genetically determined, the truth is that everyone has the ability to make positive changes to improve their 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 and Wellness

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 negatively 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.

High School Course Descriptions

Electives

Internet Safety

Keeping yourself safe when you're using the Internet should be a high priority. Have you ever provided information to a website that you didn't know or trust? Do you know who is able to view the information that you post about yourself on social media sites? Have you ever shopped online? Has someone you know experienced identity theft? Are you able to determine the best places to acquire accurate, reliable information to use in a research paper? In Internet Safety, you'll learn how to keep yourself safe online. You will learn how to think critically about what constitutes appropriate behavior online and expand the range of your online interactions. In the beginning of the course, you will identify safety precautions for online communication, learn about ways to responsibly share content, and discover how to keep your accounts safe from identity theft and viruses. The course addresses virtual citizenship, defines cyberbullying, and encourages you to consider the consequences of your online interactions. Lessons also address reporting online abuse, phishing, plagiarism, copyright, and fair use. The course ends by explaining how to recognize quality websites to use for research, safely use social networking sites, and buy and sell items online.

Life Skills

Life Skills is a comprehensive 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.

Music Theory and 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.

Personal Finance

Personal Finance provides students with a foundation for understanding personal budgeting and long-term financial planning. Students compare and contrast types of financial institutions, learn how to open a bank account and reconcile a monthly bank statement, and understand the importance of establishing a savings account. Students explore investments, taxes, and debt, and complete activities to develop and balance a budget. Lessons also explain credit scores and suggest ways to maintain a healthy credit score. The course also looks to the future with information about long-term financial planning and planning for large expenditures such as houses, cars, and higher education.

High School Course Descriptions

Electives

Physical Education

The physical education course focuses on the wellness of the entire individual, both physically and emotionally. Students will learn to make good decisions to promote overall wellness for the rest of their lives. They begin with an overview of wellness and all of the components of physical fitness. They will look at the principles of designing a fitness program. Students then explore general motor skills, as well as the specialized movements used in sports. The course transitions into a discussion on nutrition. Students will learn the national guidelines for proper nutrition and the foods that fit into those guidelines. They will learn how nutrition affects physical fitness and how it combines with activity to promote a healthy body composition. Students will examine the connections between the cardiovascular and respiratory systems and the exercises that keep those systems healthy. Students will explore the principles of strength training and flexibility. Being part of a team is a part of physical activity that transcends the classroom. Students will learn the skills and behaviors expected of a good teammate. They will then examine the principles of several sports, both team and individual. Students will revisit components of fitness to design their own exercise plans that they can execute safely. They will learn about the value of an exercise program on every part of the person. These benefits should encourage students to maintain regular fitness programs for the rest of their lives.

Physical Education 1

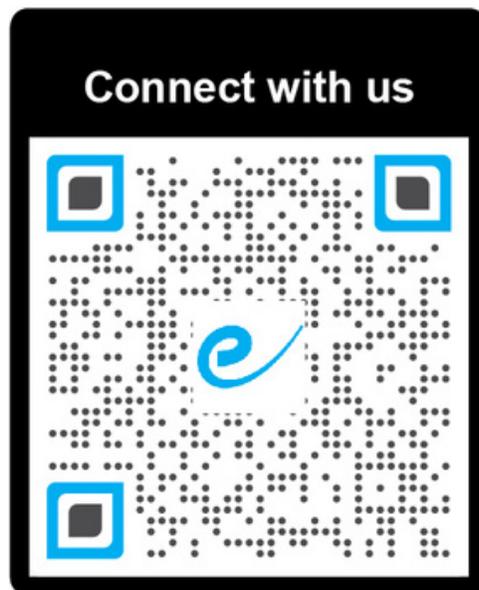
The physical education course focuses on the wellness of the entire individual, both physically and emotionally. Students will learn to make good decisions to promote overall wellness for the rest of their lives. They begin with an overview of wellness and the factors that affect a person's mental health. Students then examine the development of movement patterns and the specific movements that are involved in sports. Students will explore opportunities to achieve the goal of 60 minutes of activity per day and the factors that might keep them from meeting that goal. They will learn how to set a fitness goal and record measurements to assess their progress. They will also evaluate information available about products and services related to health and fitness. Students will learn the components of a fitness plan and design an exercise program. They will examine the cardiovascular and respiratory systems, the diseases that affect them, and the exercises that benefit them. Students will explore the muscular system and design an exercise program to benefit the system. They will learn the benefits of maintaining good flexibility and design a program to maintain flexibility. They will complete this course by examining how strength training improves overall body composition.

Physical Education 2

The physical education course begins with a discussion of how a person can maintain a healthy weight. They will examine how proper nutrition factors into that. They will learn about the components of nutrition and the government recommendations on how much each person should eat. They will learn about the dangers of not eating a healthy diet. Students will examine the importance of good personal relationships and how one can stay safe in them. They will explore issues that affect the student as an adolescent and how those issues change at different stages of life. The student will learn the process of making good decisions and the factors that make them difficult. Students will learn the effects of using a variety of drugs. The course pivots to the role of sports in a fitness plan. They will learn the behaviors needed for being a good teammate and the principles and rules of a variety of sports. Students will examine the public health system and learn how to make good decisions within it. Students will learn how to exercise safely and to manage injuries that might occur when exercising. Students will complete the course by examining how they can maintain a lifetime of physical activity.

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