

Fairfield Middle School

S.T.E.M.

Early College Academy

2025-2026

COURSE DESCRIPTION &

STUDENT LEARNING OUTCOMES

Geometry Honors (7th Grade & 8th Grade)

Course Description

This course covers the development of concepts of geometric congruence and similarity; geometric properties with equations; right triangles, and trigonometry; geometric measurement and dimensions; circles, and interpreting statistical data, as time permits.

Student Learning Outcomes

- Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.
- Reason about relationships between shapes to determine area, surface area, and volume.
- Solve real-world problems involving scale drawings.
- Understand congruence and similarity using physical models, transparencies, or Geometry software (e.g., given two congruent figures, show how to obtain one from the other by a sequence of rotations, translations, and/or reflections).
- Understand and apply the Pythagorean Theorem ($a^2 + b^2 = c^2$) to solve problems.
- Analyzing statistical relationships by using a line of best fit or “trend” line (a straight line that models an association between two quantities).

Advanced Language Arts (7th Grade)

Course Description

The seventh grade English/Language Arts course provides a balance of reading, writing, speaking, listening and language skills essential for success in the 21st Century. The seventh grade teaches essential comprehension skills and strategies while students read closely and cite evidence from leveled fiction and nonfiction to support an analysis of what the literary work conveys. The seventh grade writing curriculum follows the Writer's Workshop model where students progress through the writing process as they plan, draft, revise, edit, and publish their writing. These writing types include arguments, informative/explanatory texts, and narratives.

Students will also be required to conduct a quarterly Griffins Read Independent Reading Project (*STAR Assessment and Accelerated Reader Goals*). They will develop the skills to draw upon, write about evidence from literary and informational texts and they will learn how to give formal presentations and develop a range of broadly useful oral communication and interpersonal skills. Learners will also progress monitor their Reading and Writing achievement and growth throughout the school year.

Throughout the year, students will read novels, short stories, poetry, fiction, nonfiction, as well as narrative, argumentative, informative and other expository documents. The curriculum strictly follows the South Carolina College- and Career-Ready Standards for English Language Arts through reading, writing, communicating, and thinking critically. Curriculum and instruction will utilize AVID (Advancement via Individual Determination) and WICOR (Writing, Inquiry, Collaboration, Organization, and Reading) strategies.

Student Learning Outcomes

- Advanced English Language Arts 7 provides students with a challenging curriculum that is aligned to South Carolina College and Career Ready Standards for English Language Arts.
- At the advanced level, students will use a wide variety of texts to increase their use of critical thinking skills.
- The curriculum moves at an accelerated pace with a more concentrated focus on independent reading, writing, analysis, and problem solving.
- The primary goals of the course are to foster independent learning and encourage in-depth exploration of the content.

Advanced Science 7 (7th Grade)

Course Description

South Carolina seventh-grade students engage in thinking and solving problems the way scientists and engineers do to help them better see how science is relevant to their lives. To capitalize on the natural curiosity all students have about the world around them; learning experiences are built around the three dimensions of science: Science and Engineering Practices (SEPs), Crosscutting Concepts (CCCs), and Disciplinary Core Ideas (DCIs). This three-dimensional approach to teaching and learning helps educators provide meaningful learning experiences with varied entry points for students from diverse backgrounds.

Student Learning Outcomes

- Students will develop models to describe the atomic composition of simple and complex extended molecules.
- Students will use the information to make sense of and evaluate how synthetic materials are made from natural resources and how these materials have influenced society.
- Students will be able to use evidence to support a claim that energy is transferred between objects and that the relationship of mass and speed on kinetic energy and position on the potential energy of objects interact in a system.
- Students will analyze and interpret data as evidence that organisms and populations depend on their environmental resources, explain patterns of interactions with other organisms, and describe the cycling of matter and energy flow in an ecosystem.
- Students will be able to construct an argument and evaluate solutions of how biodiversity, ecosystem services, and environmental changes can impact the integrity of an ecosystem.
- Students will ask questions, apply scientific principles, and explain how human use of Earth's resources due to geoscience processes has impacted global temperatures and systems.

Advanced World Geography (7th Grade)

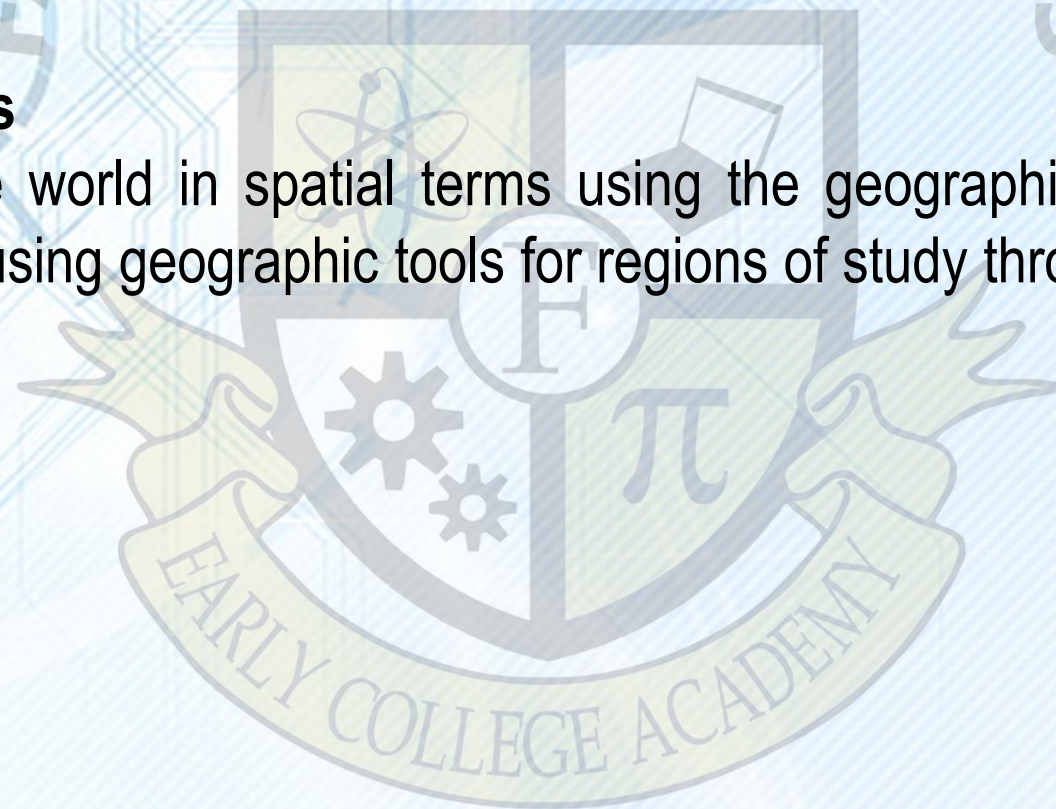
Course Description

This course is designed to expose students to the history of the world through a geographical lens. Students will focus on the continents of the world and their impact in history and modern day.

All assignments are aligned with South Carolina's state standards as identified by the South Carolina State Department of Education.

Student Learning Outcomes

Students will understand the world in spatial terms using the geographic themes of location, place and region and will analyze data using geographic tools for regions of study throughout the year.



Latin - NC (7th Grade)

Course Description

In this course, The Latin Language and culture of the Roman Empire will be studied. Latin engages students in both reading and writing which encompasses a variety of styles, as well as oral presentations, speaking, and listening activities. Students will also practice grammar and syntax on a daily basis. The study of English derivatives is of particular importance as 60% of complex English vocabulary is derived from Latin.

Student Learning Outcomes

- Demonstrate basic proficiency in pronunciation and accentuation of Latin, through repetitive drills, recitation of paradigms, and reading of sentences and small paragraphs in Latin.
- The student will translate simple and compound sentences and short paragraphs that contain basic vocabulary.
- Through translation of simple English sentences into Latin, the student will develop basic analytical and synthetic skills in grammatical analysis, sentence structure.
- Engage in some simple conversational formulae, including greetings and farewells, mottos, etc.. It is not expected that the student will have proficiency beyond simple standard formulae presented in the classroom.
- Acquire basic grammatical knowledge of declarative constructions. Make basic comparisons between the grammar and usage of the Latin Language and the grammar and usage of the English language. This includes the acquisition of an analytical vocabulary for the discussion of morphology and syntax.
- Engage in basic analysis of both Latin and English words, with a focus on diction, cognate words and etymology, as well as some basic familiarity with some linguistic concepts, such as prefixes, suffixes, infixes, etc.
- Begin to develop an appreciation of features of Roman culture through the reading and analysis of representative sentences and paragraphs containing material of cultural significance, as well as vocabulary study of culturally revealing words and phrases.
- The student will increase memory skills through the acquisition of paradigms and vocabulary (some 250+ basic words).

PLTW: Design and Modeling (7th Grade)

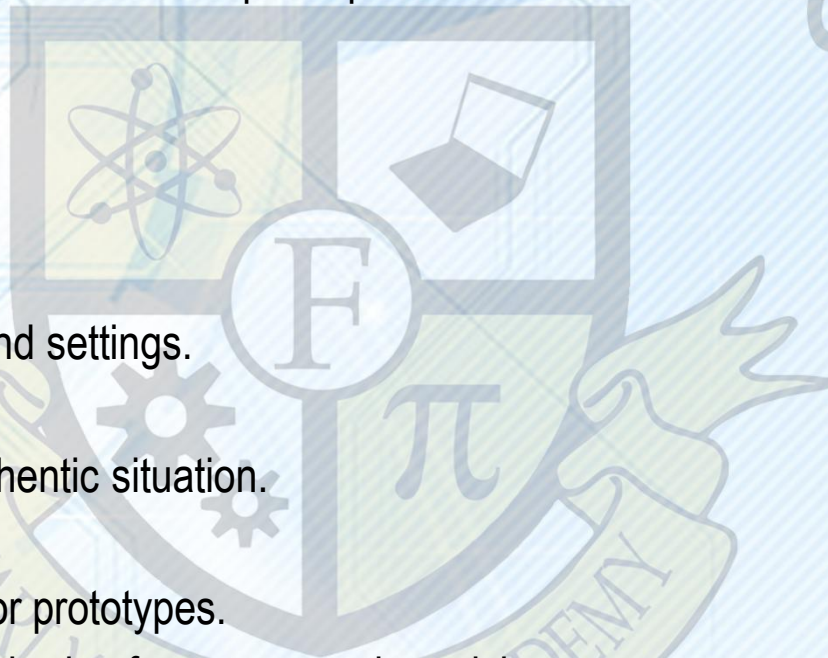
Course Description

The PLTW Design and Modeling course introduces students to design engineering concepts. Throughout the program, students will discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They will then be challenged and empowered to use and apply what they've learned throughout the unit to design an engineering project (© 2017 Project Lead The Way).

This course is designed to be linked with the series of units for *Project Lead the Way (PLTW)*. Students will be required to use and apply what they've learned throughout the course to design a therapeutic toy for a child who has cerebral palsy, and also complete other design projects. The knowledge and skills provided through this course serve as a prerequisite for the PLTW Introduction to Engineering Design course taught at the high school level.

Student Learning Outcomes

- Explore a variety of Engineering careers.
- Apply the design process to create a solution.
- Communicate effectively for specific purposes and settings.
- Demonstrate ethical decision-making.
- Apply a mathematical model to represent an authentic situation.
- Construct a solid model.
- Create and conduct testing on physical models or prototypes.
- Measure and present values appropriate to standards of accuracy and precision.
- Sketch and/or interpret perspective, isometric, and Multiview drawings with adequate attention to standards and critical annotations.



English 1 Honors (8th Grade)

Course Description

English 1 Honors is an honors-level course for academically gifted students who have the ability to pursue an accelerated English program. These students may be preparing for Advanced Placement English (college-level courses) in high school; therefore, the coursework will reflect more rigor than English I. This is a study of literary analysis and synthesizing informational texts. Students gain an understanding of how to synthesize, analyze and respond effectively to literary, informational, and non-print texts in preparation for the next level of advanced ELA courses. Throughout the year, students will read novels, short stories, poetry, fiction, nonfiction, as well as informative and other expository documents. Students will write daily in a variety of styles to include narrative, informative, and argumentative. The curriculum strictly follows the South Carolina College- and Career-Ready Standards for English Language. Curriculum and instruction will utilize AVID (Advancement via Individual Determination) and WICOR (Writing, Inquiry, Collaboration, Organization, and Reading) strategies.

Student Learning Outcomes

- Students will write essays in which they explore the relationship between specific literary and related informational texts.
- Students will write in a variety of formats including essays and short research projects in which they use evidence as support.
- Students will participate in small and large group planned class discussions.
- Students will demonstrate their command of the conventions of Standard English Grammar through writing and speaking.

Chemistry 1 Honors (8th Grade)

Course Description

The Chemistry 1 Honors is a *high school credit honors-level course*. It is directed toward explaining the composition of matter. This course will examine selected topics that are fundamental to an understanding of chemistry. Students will investigate the electronic structure of atoms, chemical bonding, chemical formulas, mass/volume relationships in chemical reactions, gas laws, energy changes in chemical reactions, molecular geometry, acid/base/salt reactions, colligative properties, an introduction to organic chemistry and other selected subjects. Emphasis is placed on chemical principles and their application, problem solving, and the development of scientific skills. The course will engage students in thinking and solving problems the way scientists and engineers do to help them better see how science is relevant to their lives.

Student Learning Outcomes

- Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems.
- Students will have a firm foundation in the fundamentals and application of current chemical and scientific theories.
- Students will be able to explain the structure and properties of matter.
- Students will be able to explain and predict interactions between objects and within systems of objects.
- Students will be able to demonstrate how are waves/particles used to transfer energy and send and store information.
- Students will be able to explain chemical reactions and patterns of chemical properties.
- Students will be able to demonstrate effective communication skills in multiple formats including written work and/or oral presentations.

Advanced South Carolina History (8th Grade)

Course Description

This course is designed to expose students to the history of the world through a geographical lens. Students will focus on the continents of the world and their impact in history and modern day. All assignments are aligned with South Carolina's state standards as identified by the South Carolina State Department of Education.

Student Learning Outcomes

- The knowledge to describe fundamental concepts principles and terminology.
- To apply the principles, and use them in their knowledge of understanding and explaining the history of South Carolina.
- The Skills to collaborate effectively as part of professional team groups to describe specific periods and contexts in South Carolina History.
- Students will also be able to apply these skills to show effective oral, written, and visual communication skills to show their understanding of the state's history.
- With the successful application of the knowledge and skills, the students can engage responsibility and sensitivity in cultural historical, and interdisciplinary global contexts.

Latin (8th Grade)

Course Description

In this course you will study The Latin language and culture of the Roman Empire. Latin engages students in both reading and writing which encompass a variety of styles, as well as oral presentations, speaking, and listening activities. Students will also practice grammar and syntax on a daily basis. The study of English derivatives is of particular importance as 60% of complex English vocabulary is derived from Latin.

Student Learning Outcomes

- Demonstrate basic proficiency in pronunciation and accentuation of Latin, through repetitive drills, recitation of paradigms, and reading of sentences and small paragraphs in Latin. The student will become aware of the great differences between the simple and straightforward pronunciation of Latin and the more complicated practices of the modern descendants of Latin.
- Through translation of Latin sentences and short paragraphs into English, the student will develop basic analytical skills in grammatical analysis, sentence structure (coordination, subordination), and the elements of style. The student will translate simple and compound sentences and short paragraphs.
- Through translation of simple English sentences into Latin, the student will develop basic analytical and synthetic skills in grammatical analysis, sentence structure (coordination, subordination), and the elements of style.
- Engage in some simple conversational formulae, including greetings and farewells, mottos, etc. It is expected that the student will have proficiency beyond simple standard formulae presented in the classroom.
- Acquire basic grammatical knowledge of declarative and imperative constructions. Make basic comparisons between the grammar and usage of the Latin Language and the grammar and usage of the English language. This includes the acquisition of an analytical vocabulary for the discussion of morphology and syntax.
- Engage in basic analysis of both Latin and English words, with a focus on diction, cognate words and etymology, as well as some basic familiarity with some linguistic concepts, such as prefixes, suffixes, infixes, etc.
- Begin to develop an appreciation of features of Roman culture through the reading and analysis of representative sentences and paragraphs containing material of cultural significance, as well as vocabulary study of culturally revealing words and phrases. Both similarities to modern culture and essential differences will be examined. There will be short student reports and presentations.
- The student will increase memory skills through the acquisition of paradigms and vocabulary (some 500+ basic words).

PLTW: Automation and Robotics (8th Grade)

Course Description

The PLTW Automation and Robotics course introduces students to mechanical, electrical, computer, and robotics engineering concepts. Throughout the program, students will discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They will then be challenged and empowered to use and apply what they've learned throughout the course to design an engineering project (© 2017 Project Lead The Way).

This course is designed to be linked with the series of units for *Project Lead the Way (PLTW)*. Students learn about the history and impact of automation and robotics as they explore mechanical systems, energy transfer, machine automation, and computer control systems. Using the VEX Robotics® platform, students apply what they know to design and program traffic lights, robotic arms, and more. The knowledge and skills provided through this course serve as a prerequisite for the PLTW Principles of Engineering course taught at the high school level.

Student Learning Outcomes

- Explore a variety of Engineering careers.
- Communicate effectively for specific purposes and settings.
- Collaborate effectively on a diverse and multidisciplinary team.
- Demonstrate ethical decision-making.
- Apply the design process to create a solution.
- Analyze and create algorithms.
- Describe the hardware components of an electronic device and how they interact with software and the environment.
- Analyze the implications of computing in society.
- Analyze why systems are designed and constructed the way they are