



Rough Rider Roundup

Academics

Endorsement

Multidisciplinary

Overview

Every student is required to take core classes to meet specific graduation requirements. These include four credits in each of the subject areas: Math, Science, Social Studies and English.

Math

As 9th grader, math course options include Algebra 1 or Advanced Algebra 1. Students who successfully completed Algebra 1 in the 8th grade, will begin their high school math course with Advanced Geometry or Geometry.

- **Algebra 1 and Advanced Algebra 1 Course Description:** students will build on the knowledge and skills for mathematics in Grades 6-8, which provide a foundation in linear relationships, number and operations, and proportionality. Students will study linear, quadratic, and exponential functions and their related transformations, equations, and associated solutions. Students will connect functions and their associated solutions in both mathematical and real-world situations. Students will use technology to collect and explore data and analyze statistical relationships. In addition, students will study polynomials of degree one and two, radical expressions, sequences, and laws of exponents. Students will generate and solve linear systems with two equations and two variables and will create new functions through transformations.
- Students can expect to spend extra time on the Advanced course in preparation and completion of assignments.

Algebra 1 students are required to pass the State of Texas Assessments of Academic Readiness (STAAR) end-of- course (EOC) Algebra 1 exam to meet part of the graduation requirements.

- **Geometry and Advanced Geometry Course Description:** Students will build on the knowledge and skills for mathematics in Kindergarten-Grade 8 and Algebra I to strengthen their mathematical reasoning skills in geometric contexts. Within the course, students will begin to focus on more precise terminology, symbolic representations, and the development of proofs. Students will explore concepts covering coordinate and transformational geometry; logical argument and constructions; proof and congruence; similarity, proof, and trigonometry; two- and three-dimensional figures; circles; and



probability. Students will connect previous knowledge from Algebra I, create formal constructions using a straight edge and compass, use deductive reasoning to justify, prove and apply theorems about geometric figures, use their proportional reasoning skills to prove and apply theorems and solve problems, and apply theorems about circles to determine relationships between special segments and angles in circles. Though this course is primarily Euclidean geometry, students should complete the course with an understanding that non-Euclidean geometries exist. Due to the emphasis of probability and statistics in the college and career readiness standards, standards dealing with probability have been added to the geometry curriculum to ensure students have proper exposure to these topics before pursuing their post-secondary education.

- Students can expect to spend extra time on the Advanced course in preparation and completion of assignments.

Science

As 9th grader, science course options include Biology or Advanced Biology.

- **Course Description:** In Biology, students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Biology study a variety of topics that include: structures and functions of cells and viruses; growth and development of organisms; cells, tissues, and organs; nucleic acids and genetics; biological evolution; taxonomy; metabolism and energy transfers in living organisms; living systems; homeostasis; and ecosystems and the environment.

Students who complete this course successfully will be able to explore the principles of cell biology, genetics, taxonomy, evolutionary change and ecology. Critical thinking skills are developed by examining real-world problems during laboratory investigations on a regular basis in which students will be expected to design and carry out experiments using appropriate methods and resources.

Biology students are required to pass the State of Texas Assessments of Academic Readiness (STAAR) end-of- course (EOC) Biology exam to meet part of the graduation requirements.

Social Studies

As 9th grader, social studies course options include World Geography, Advanced World Geography or AP Human Geography.

- **World Geography and Advanced World Geography Course Description:** Students examine people, places, and environments at local, regional, national, and international scales from the spatial and ecological perspectives of geography. Students describe the influence of geography on events of the past and present with emphasis on contemporary issues. A significant portion of the course centers around the physical processes that shape patterns in the physical environment; the characteristics of major



landforms, climates, and ecosystems and their interrelationships; the political, economic, and social processes that shape cultural patterns of regions; types and patterns of settlement; the distribution and movement of the world population; relationships among people, places, and environments; and the concept of region. Students analyze how location affects economic activities in different economic systems. Students identify the processes that influence political divisions of the planet and analyze how different points of view affect the development of public policies. Students compare how components of culture shape the characteristics of regions and analyze the impact of technology and human modifications on the physical environment. Students use problem-solving and decision-making skills to ask and answer geographic questions.

- **AP Human Geography Course Description:** This course is designed to meet the World Geography state graduation requirement and introduces students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students employ spatial concepts and landscape analysis to examine socioeconomic organization and its environmental consequences. They also learn about the methods and tools geographers use in their research and applications.
- Extra time is required on the part of AP students for class preparation, outside reading, and completion of assignments. AP courses provide students with a learning experience equivalent to that obtained in most college introductory courses.
- Students who take Human Geography AP could earn college credit by taking the Advanced Placement exam in the spring.

English

As 9th grader, English course options include English 1 or Advanced English 1.

- **English 1 Course Description:** In English I, students will engage in activities that build on their prior knowledge and skills in order to strengthen their reading, writing, and oral language skills. Students will read and write daily. Students read extensively in multiple genres, such as stories, dramas, novels, and poetry from world literature. Students learn literary forms and terms and interpret the possible influences of the historical context on a literary work. Rigorous writing instruction emphasizes organizing logical arguments, theses, and evidence. Writing instruction emphasizes sentence structure, paragraph development and development of comprehensive papers with focus on argument, research and description. Students will revise and edit their writing as part of the writing process. Composition practice is coordinated with guided reading of fiction, nonfiction, drama and poetry. The course will focus on critical thinking skills, literary analysis and development of writing styles, focusing on expository writing.

The English 1 reading includes book club reading where students choose the book, *Romeo and Juliet* and *Of Mice and Men*.



- **Advanced English 1 Course Description:** The Advanced English I curriculum requires critical reading and is writing based. Students are required to write multiple compositions, including a documented literary criticism research project. Students concentrate on vocabulary skills, language concepts, and critical thinking. Reading assignments emphasize analysis and interpretation of plays, novels, epics, poetry, and mythology.

Summer reading is required. Extra time is required on the part of Advanced students for class preparation, outside reading, and completion of assignments

English 1 students are required to pass the State of Texas Assessments of Academic Readiness (STAAR) end-of- course (EOC) English 1 exam to meet part of the graduation requirements.