

9th-12th Grade Course Offerings

1. Geometry

Course Overview-

This course is an organized and logical study of the use of undefined terms, definitions, postulates, and theorems. Topics include points, lines, angles, reason and proof, perpendicular lines, parallel lines, congruent triangles, quadrilaterals, proportion and similarity, right triangles, trigonometry, loci and transformations. Students will analyze, understand, and solve problems related to figures of various dimensions and the size, shape, location, direction, and orientation of those figures. This course will prepare students for future studies in advanced mathematics.

Prerequisite: *Algebra I*

2. Algebra II

Course Overview-

This college preparatory course includes a review and expansion of Algebra I concepts with further application and more challenging problem solving. Irrational and complex numbers and various equations and functions will be used for understanding and analyzing comprehensive relationships. Geometric curves and figures and connections between algebra and geometry will be utilized in complex problem solving. Statistics and probability, conic sections, and sequences and series will also be addressed. Students will develop an appreciation for mathematical operations and expand their ability to communicate mathematical ideas.

Prerequisite: *Geometry*

3. Pre-calculus

Course Overview-

This course is designed to help students develop their proficiency in Algebra and so strengthen the understanding of the underlying concepts. Although the basic concepts of Algebra are reviewed in the class, a firm foundation in Algebra is necessary for success in college-level mathematics. Every opportunity to show how Algebra is a modern modeling language for real life problems will be explored. Examples, exercises, and group activities provide a real-life context to help students grasp mathematical concepts.

Prerequisite: *Algebra II*

4. Earth and Environmental Science

Course Overview-

The first semester is designed to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems (both natural and human-made), to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Because it is interdisciplinary in nature, this course embraces a wide variety of constructs, or themes that cut across many different topics of study.

The second semester of the course will focus on energy in the Earth system and how it drives convection in our atmosphere and oceans, which in turn drives global climate conditions and local weather patterns. Students will learn about Earth's interior heat that originated with the formation of the planet as well as the interior heat generated by the decay of radioactive nuclides. Students will also understand how life on Earth creates changes in the atmosphere, thus affecting conditions for life on Earth.

Prerequisite: *None*

5. Western Civilization II A and B

Course Overview-

The major emphasis of this course is on the study of significant people, events, and issues of the Middle Ages. Students will form questions about the subject matter, synthesize information to gain a greater understanding of history, and apply formal logic, rhetoric, and reason to the study of ideas through Socratic discussions. In this class students learn to notice trends in human history, both in terms of humanity's response to God and their fallen nature.

Prerequisite: *None*