High School Mathematics Course Description

Academic Year (2020-2021)

The Department strives to spark student interest in Mathematics through high-quality instruction and emphasizes an appreciation for mathematics not only as a discipline but also as a fundamental part of the world we live in. Our teachers assist students in developing the skills necessary to creatively solve real world problems, communicate mathematically, and compete globally.

All mathematics courses at Al Retaj encourage students to use technology and expand their problem solving, critical thinking, and mathematical literacy skills. Our department is an enthusiastic group. This course follows the Common Core State Standards for all grades .The primary goal of this course is for the students to actively engage themselves in a positive learning experience in which there is increased appreciation and understanding of mathematics in the world. It is our hope that students will find joy and success in solving problems and grow as learners and participants within our classroom community. To reach these goals, the course curriculum is structured around the Common Core Standards through our Algebra textbook. All activities within the classroom are expected to contribute to an atmosphere of learning in which respect, involvement in learning, and a positive attitude are essential components. **Pre-calculus** is a course designed to prepare students for topics covered in an elementary Calculus course at the college level. It begins with a comprehensive study of functions and moves into an analysis of rudimentary calculus concepts such as the difference quotient and the notion of "taking a limit."   In addition to introducing students to terminology and concepts essential to the study of Calculus, this course should also help students develop reasoning and analytical skills. **Calculus** is designed to give students an overview of Calculus topics such as limits and continuity, derivatives, anti-derivatives, integrals and differential equations. While this course covers many of the same concepts found in Advanced Placement Calculus, it is not bound by the pace and rigor necessary for success on the AP Calculus exam. Therefore, this course best suits the student who is mathematically ready to learn Calculus but does not want the "stress" of AP Calculus. Students have the option of taking the AP Calculus exam after completing this course.

At Al Retaj, students are not only prepared for further study of mathematics and related fields, but also upon graduation they are equipped to make informed decisions and interpret the world intelligently for whatever their future endeavors.