Course Name: College Preparatory Mathematics
School Year: 2020 - 2021

Course Purpose and Relevance:

In **College Preparatory Mathematics,** students will develop and apply quantitative, statistical, and algebraic reasoning skills that will prepare them for college success in multiple mathematics pathways. This course addresses a variety of mathematical topics needed to prepare students for success in college-level mathematics. In this course, students will connect and use multiple strands of mathematics in situations and problems as well as in the study of other disciplines. In addition, the course supports students in developing skills and strategies needed to succeed in college.

The **process standards** weave the other knowledge and skills together so that students may be successful problem solvers and use mathematics efficiently and effectively in daily life. When possible, students will apply mathematics to problems arising in everyday life, society, and the workplace. Students will use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Students will select appropriate tools such as real objects, manipulatives, algorithms, paper and pencil, and technology and techniques such as mental math, estimation, number sense, and generalization and abstraction to solve problems. Students will effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, computer programs, and language. Students will use mathematical relationships to generate solutions and make connections and predictions. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

Overview of Student Outcomes:

- The student solves authentic problems in a variety of contexts that require number sense and the ability to apply concepts of numeracy to investigate and describe quantitative relationships.
- The student represents and solves authentic problem situations using proportional reasoning with ratios, rates, proportions, and scaling.
- The student investigates problems that facilitate the transition from specific and numeric reasoning to general and abstract reasoning.
- The student uses the language, symbols, and structure of algebra to investigate, represent, and solve those problems.
- The student uses counting principles and probability to quantify uncertainty in a variety of real-world contexts.
- The student understands and critically evaluates statements that appear in the popular media (especially in presenting medical information) involving risk and arguments based on probability.
- The student understands, interprets, and makes decisions based on financial information commonly presented to consumers.
- The student understands that quantitative information presented in the media and by other entities can sometimes be useful and sometimes be misleading.

First Grading Period

Unit 1: Linear Functions

Unit 2: Linear Systems

Unit 3: Exponents & Polynomials

Second Grading Period

Unit 4: Factoring

Unit 5: Quadratics

Unit 6: Statistics & Geometry

Review and SJCC Statistics-Quantitative Exam

Third Grading Period

Unit 7: TSIA Prep

Unit 8: Quantitative Reasoning

Fourth Grading Period

Unit 9: Statistical Reasoning

Unit 10: Algebraic Reasoning

Review and SJCC Algebra Exam