

# Bridgemont High School Course Descriptions

## Mathematics

### **Purpose**

The Mathematics Department trains students in mathematical problem-solving and logical reasoning skills.

### **Course: Algebra 1-2**

**Type of Course: Required**

**Grade Level: 9**

This course introduces students to such topics as variable expressions, open sentences, polynomials, factoring, and systems of equations, while developing an understanding of number theory, graphing, and problem-solving.

### **Course: Geometry**

**Type of Course: Required**

**Grade Level: 9-12**

**Prerequisites: Algebra 1-2**

Geometry is a course in reasoning. In a study of deductive reasoning, systems of theorems, postulates, and definitions describe characteristics of two- and three-dimensional figures. Sequential reasoning is presented in geometric proofs. Geometric construction and measurements are used in presenting inductive reasoning.

### **Course: Algebra 3-4**

**Type of Course: Required**

**Grade Level: 10-12**

**Prerequisites: Algebra 1-2, Geometry**

This course reviews basic skills learned in Algebra 1-2 and introduces students to more advanced algebraic concepts, which are applied to a broad range of mathematical problems. Additionally, students prepare for the SAT I exam in mathematics by reviewing previous SAT I exams.

### **Course: Trigonometry**

**Type of Course: Elective**

**Grade Level: 10-12**

**Prerequisites: Algebra 1-2, Geometry, and Algebra 3-4**

Trigonometry is an introduction to calculus. It is a mixture of algebra and geometry, and therefore requires familiarity with these courses. Students will manipulate algebraic expressions and learn in-depth about circles, triangles, the Pythagorean theorem, and their correlation to trigonometric functions such as sine, cosine, and tangent.

### **Course: Pre-Calculus**

**Type of Course: Elective**

**Grade Level: 10-12**

**Prerequisites: Algebra 1-2, Geometry, and Algebra 3-4**

As a comprehensive course in discrete mathematics, Pre-Calculus prepares students for college courses in calculus and advanced computer science. Further review for college entrance exams is provided. Student skills in advanced algebra, trigonometry, analytical geometry, vectors, probability, and statistics are greatly sharpened.

### **Course: Calculus**

**Type of Course: Elective**

**Grade Level: 10-12**

**Prerequisites: Algebra 1-2, Geometry, Algebra 3-4, Pre-Calculus**

This calculus course prepares students for college calculus. The first principles of calculus are treated in detail. A variety of reviews are offered to strengthen student skills from previous mathematics courses.