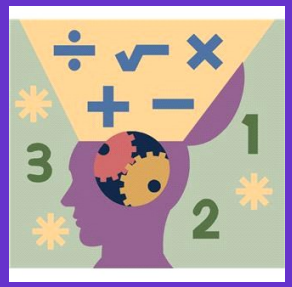
The Mathematics Department Mission Is...

To develop problem solvers that persevere, communicate affectively, reason mathematically, and attend to precision.



THE STAFF

Office Phone (630) 530-3961

Brian Chelmecki……Chair
bchelmecki@dupage88.net

	Voicemail
Ryan Bazon	782-3022
Steve Bridges	782-2820
Jennifer Burns	782-3023
Laura Butler	782-3027
Chris Carr	782-2815
Andriana Coletta	782-3021
Angelica Frias	782-3019
Anna Lu	782-3024
Julie Rasso	782-3026
Carrie Skala	782-2802
Gary Strzelczyk	782-3020
Azahara Tello	782-3018
Neil Wahlgren	782-3016
Elizabeth Zwart	782-3029
Josh Zwart	782-3025

DuPage High School District 88

Curriculum Showcase 2016

WILLOWBROOK HIGH SCHOOL

Mathematics Department

GENERAL INFORMATION

GRADUATION REQUIREMENTS:

2 Semesters—Algebra

Algebra, Algebra Honors, Sheltered Algebra

2 Semesters—Geometry

Geometry, Geometry Honors, Sheltered Geometry

2 Semesters—Mathematics Beyond Geometry

Advanced Algebra, Advanced Algebra Honors, Algebra 2

4th Year Math Courses

College Algebra, Pre-Calculus,

Pre-Calculus Honors,

AP Calculus AB, AP Calculus BC, AP Statistics,

Electives

AP Computer Science, Computer Science

Computer Science 2: Mobile App Development

*All students are required to take and pass three years of mathematics. **All students must take one year of math that includes algebraic thinking and one year of math that includes geometric thinking.**

Be Respectful, Be Responsible, Be Engaged

Mathematics Course Descriptions

Algebra is designed to prepare students to use algebraic concepts, terms, and symbols to solve problems. The course includes performing operations on real numbers and algebraic expression, solving equations in one and two variables, solving quadratic equations, using graph relationships, and data analysis.

Algebra Honors is designed for students who have had an Algebra course and/or have a strong mathematics background as shown by test scores. The course will include all topics of Algebra and inequalities and rational expressions.

Geometry is the study of plane Geometry and includes some three-dimensional Geometry. Algebra is used as a tool to enhance the understanding of geometric concepts.

Geometry Honors is the study of the mathematical system that develops plane and solid geometry through formal proof. In depth Algebra applications are used throughout the course.

Algebra 2 is designed to reinforce and expand algebraic concepts: including complex numbers; solving equations; linear inequalities; systems of linear equations and inequalities; quadratics; polynomials; radicals; exponential functions; and logarithms.

Advanced Algebra and Trigonometry is designed to reinforce and expand algebraic concepts: including: solving equations; systems of linear equations; polynomials; radicals; quadratics; conic sections; exponential functions, logarithms, statistics and trigonometry.

Advanced Algebra and Trigonometry Honors contains the traditional topics of an advanced algebra course in addition to trigonometry, sequences and series, matrices.

College Algebra is designed to prepare students for a college credit-bearing mathematics course. Successful completion of the course will prepare students to take a college placement test. College algebra will expand on algebraic concepts and explore concepts of Advanced Algebra, Tigonometry and statistics

Precalculus prepares the student for the study of calculus. Topics include sequences and series; polynomial functions; exponential and logarithmic functions; analytic geometry; complex numbers; trigonometry and circular functions.

Precalculus Honors prepares the student for the study of calculus. Topics include sequences, series, limits; polynomials, rationals, logarithmic, and exponential functions; analytic geometry; complex numbers; trigonometry, parametric equations, circular functions; polar coordinates; vectors and determinants.

Calculus AB is designed to prepare the student for the Calculus AB Advanced Placement Examination. A satisfactory score on this exam could give the student credit and advanced placement at college. This course includes limits and continuity; differentiation of algebraic functions; applications of the derivative; the definite integral; trigonometric and exponential functions; formal integration; applications of the integral.

Calculus BC is designed to prepare the student for the Calculus BC Advanced Placement Examination. A satisfactory score on this exam could give the student credit and advanced placement at college. This course includes Calculus AB Topics and polar coordinates; vectors; parametrically defined functions; sequences and series; elementary differential equations.

AP Statistics is designed to prepare the student for the Statistics Advanced Placement Examination. A satisfactory score on this exam could give the student credit and advanced placement in college. This course includes analysis of data, planning and conducting a research study, producing models using probability and simulation, and methods of statistical inference. Students who plan to take an AP science course in their senior year will benefit greatly from AP Statistics in the junior year.

Computer Science will explore programming concepts, the elements of Visual Basic language, and an introduction to JAVA. Structured programming principles such as problem solving, object-oriented programming, structured coding, and programming style will be emphasized. Programming applications range from standard numeric processing to problems in the real world.

Advanced Placement Computer Science will introduce many of the programming concepts that are covered in a first year college computer science course and prepare the student for the Computer Science Advanced Placement Exam. Using the Java Language, the topics include: string manipulation, recursion, analysis of searching and sorting algorithms, structures, and classes.

Computer Science 2: Mobile App Development continues the development of computer programming, but is specific to programming applications for mobile devices. Students use previous knowledge learned through Computer Science or AP Computer Science with the programming language LUA to create the apps. Students will start with the basics and templates as they build towards creating their very own app.