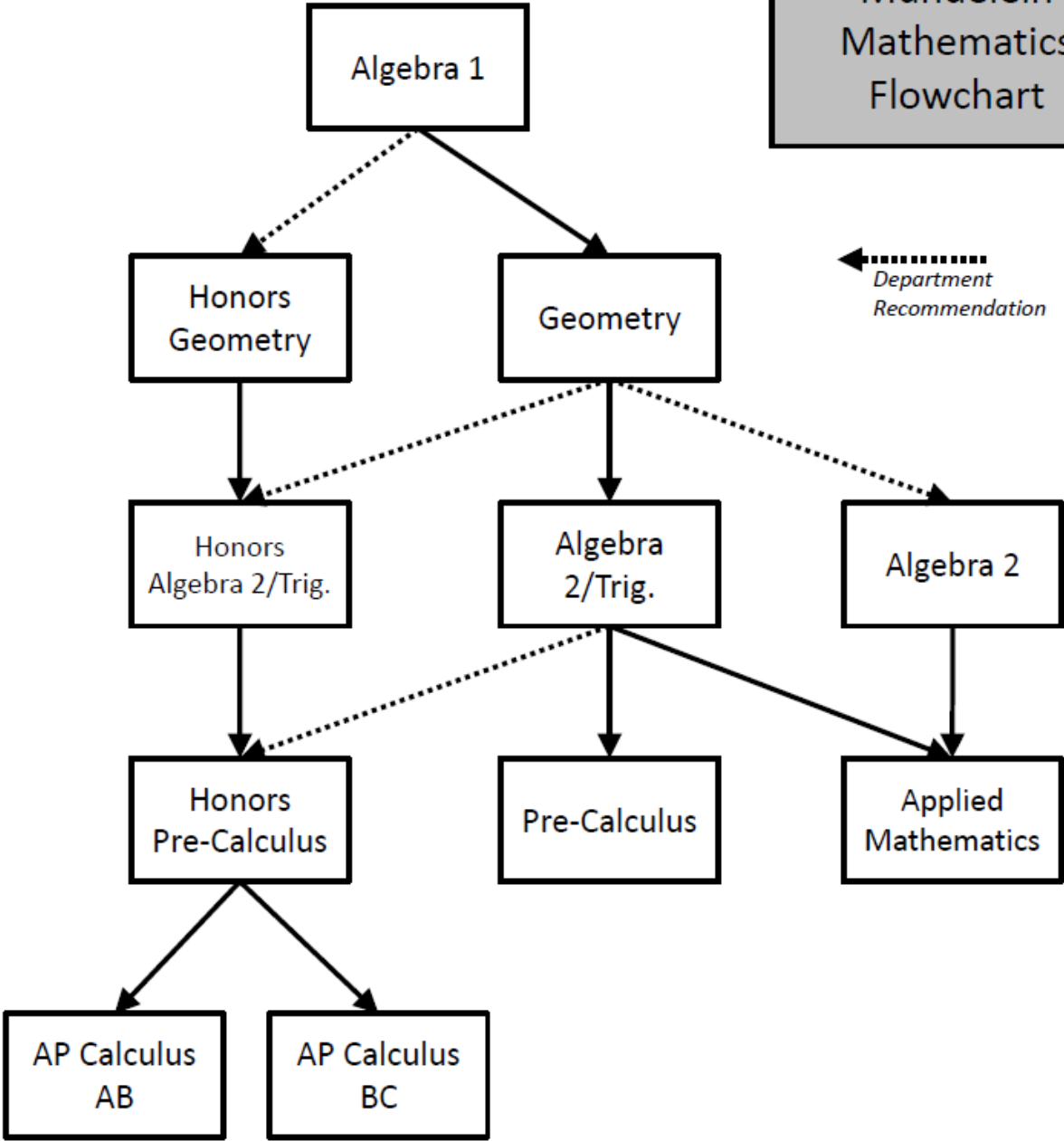


## MATH

<b>COURSE</b>	<b>CREDIT</b>	<b>OPEN TO</b>	<b>PREREQUISITE</b>
Principles of Math A	1.0	9-10	Case manager recommendation
Principles of Math B	1.0	9-10	Case manager recommendation
Introduction to Algebra C & D	1.0	9-12	Case manager recommendation
Consumer Math	1.0	12	Department recommendation
Algebra 1	1.0	9-12	Department recommendation
Geometry	1.0	9-12	Algebra 1
Honors Geometry	1.0	9-10	Department recommendation
Algebra 2	1.0	10-12	Geometry
Algebra 2/Trig.	1.0	10-12	Geometry
Honors Algebra 2/Trig.	1.0	9-11	Honors Geometry or Department recommendation
Applied Mathematics	1.0	11-12	Algebra 2
Pre-Calculus	1.0	11-12	Advanced Algebra and Trigonometry or Department recommendation
Honors Pre-Calculus	1.0	9-12	Honors Algebra 2/Trig. or Advanced Algebra and Trigonometry
Probability and Statistics	1.0	11-12	Geometry
AP Statistics	1.0	10-12	Probability and Statistics, Advanced Algebra and Trigonometry, or Honors Algebra 2
AP Calculus AB	1.0	10-12	Honors Pre-Calculus
AP Calculus BC	1.0	10-12	Honors Pre-Calculus

Mundelein  
Mathematics  
Flowchart



Statistics Courses

Course	Prerequisite
Probability & Statistics	Geometry
AP Statistics	Probability and Statistics or Honors Algebra 2/Trig

*As long as the prerequisite is met, these courses may be taken concurrently with other math courses.*

<p><b>PRINCIPLES OF MATH A</b></p> <p>Prerequisite: Department recommendation  Open to: Grade 9-10  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA0100</p>	<p><b>(Math 180 Course 1 Blocks 1-5)</b></p> <p>This class is designed for students who need to build numerical understanding and reasoning skills. It will focus on key foundation concepts that enable students to make connections while learning to think algebraically. Techniques will be learned to help multiply and divide one-digit, two-digit, and three-digit numbers. An introduction to fractions will be presented, including adding and subtracting fractions and/or mixed numbers with different denominators. A calculator is recommended for the course.</p> <p>(BLOCKS) Multiplicative Thinking, The Distributive Property, Division, Fraction Concepts, Fraction Relationships</p>
<p><b>PRINCIPLES OF MATH B</b></p> <p>Prerequisite: Department recommendation  Open to: Grade 9-10  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA0200</p>	<p><b>(Math 180 Course 1 Blocks 5-9)</b></p> <p>This class is designed to continue to build the algebraic skills used with fractions. Techniques will be learned to help students multiply and divide whole numbers with fractions and mixed numbers. Visual products will be created to help represent the questions being asked. Students will then use many of the same skills (addition, multiplication, etc.) with decimals. To conclude the class, expressions with negative numbers will be solved. A calculator is recommended for the course.</p> <p>(BLOCKS) Fraction Relationships, Fraction Multiplication and Division, Decimals and Place Value, Decimal Operations, Both Sides of Zero.</p>
<p><b>INTRODUCTION TO ALGEBRA C &amp; D</b></p> <p>Prerequisite: Department recommendation  Open to: Grade 9-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA0320</p>	<p><b>(Math 180 Course 2 Blocks 1-9)</b></p> <p>This class is designed to build pre-algebra skills through learning strategies, not memorizing. Students will have the ability to solve rate and ratio problems through the demonstration of visual representations. When exploring percentages, students will use additional visual representations (such as the double number-line) to compare the percentage to the whole. This class is designed to build pre-algebra skills through the use of variables and graphing. By graphing, the students will build visual representations when solving for functions and linear relationships. Additionally, alternate strategies will be used to help students solve multi-step equations. The equation-solving process will be vital as students continue through their algebra and geometry classes. A calculator is recommended for the course.</p> <p>(BLOCKS) Rates in Time, Rate and Ratio, Ratio Relationships, Percent and Proportional Reasoning, Proportional Relationships, Proportional Relationships, Linear Relationships, Graphs in the Plane, Functions, Systems of Equations</p>

<p><b>CONSUMER MATH</b></p> <p>Prerequisite: Department recommendation  Open to: Grade 12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA4030</p>	<p>Consumer Math is designed to meet the needs of students to develop abilities to make rational, and informed decisions to lead successful lives in an independent world. It explains how to use mathematics in everyday situations involving money: salaries, purchases, credit, loans, household and personal expenses, car buying, insurance, savings, investments, retirement, etc. Whether it's balancing a checkbook, figuring sales commissions, or calculating how much extra it really costs to buy on credit. The concepts covered in this course can help anyone make the calculations quickly, easily, and accurately..</p>
<p><b>ALGEBRA 1</b></p> <p>Prerequisite: Department recommendation  Open to: Grades 9-12  Length: 2 semester  Credits: 1.0</p> <p>Course Number: MA1030, MA1100, MA1200, MA1500</p>	<p>Algebra 1 is a first year algebra course designed for students to develop the basic terminology, skills, and concepts of algebra. Students will learn about linear, quadratic, and exponential functions by manipulating expressions, solving equations, and graphing. Inequalities, systems of equations, word problems, and applications will also be studied throughout the course. This course is aligned to the Common Core State Standards for Math. A graphing calculator is suggested. This course is also offered in a bilingual (Spanish) format.</p>
<p><b>GEOMETRY</b></p> <p>Prerequisite: Algebra 1  Open to: Grades 9-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA3030, MA3100, MA3200, MA3500</p>	<p>In this course, students will study transformational geometry to extend their knowledge of the geometry skills introduced in previous courses. Topics such as congruence, similarity, circles, and trigonometry will be studied. Deductive or logical reasoning, basic constructions and investigations will be used to prove ideas about the shapes and figures in the world. This course is aligned to the Common Core State Standards for Math. A graphing calculator is suggested. This course is also offered in a bilingual (Spanish) format</p>
<p><b>HONORS GEOMETRY</b></p> <p>Prerequisite: Department recommendation  Open to: Grades 9-10  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA3900</p>	<p>Students in Honors Geometry will study all of the major topics from the Geometry curriculum at an accelerated pace. Extensions to the content will be made to include advanced constructions, transformations, and proofs. Advanced algebra topics will be infused throughout the course. This course is aligned to the Common Core State Standards for Math. A graphing calculator is suggested.</p>
<p><b>ALGEBRA 2</b></p> <p>Prerequisite: Geometry  Open to: Grades: 10-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA2030. MA2100, MA2200, MA2500</p>	<p>In Algebra 2, basic algebra concepts are reviewed and expanded to include such topics as complex numbers, advanced polynomial equations, rational functions, powers, roots, and radicals. Successful completion of this course will prepare students for Advanced Algebra and Trigonometry. This course is aligned to the Common Core State Standards for Math. A graphing calculator is suggested.</p>

<p><b>ALGEBRA 2/TRIG.</b></p> <p>Prerequisite: Geometry  Open to: Grades 10-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA2300</p>	<p>In Algebra 2/Trig. students will take a more in-depth look at the topics learned in Algebra 2. Logarithms, conics, sequences and series will be studied, as well as a deep investigation into trigonometric functions, identities, equations and their graphs. Successful completion of this course will prepare students for an entry level college course, as well as Honors Pre-Calculus. This course is aligned to the Common Core State Standards for Math. A graphing calculator is suggested.</p>
<p><b>HONORS ALGEBRA 2/TRIG.</b></p> <p>Prerequisite: Honors Geometry or Department recommendation  Open to: Grades 9-11  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA2900</p>	<p>In Honors Algebra 2/Trig., advanced topics in algebra and trigonometry will be studied at an accelerated pace. Students will investigate such topics as complex numbers, advanced polynomial equations, rational functions, powers, roots, radicals, logarithms, conics, sequences and series. Trigonometric topics will include identities, solving equations, graphing, and oblique triangles. Successful completion of this course will prepare students for Honors Pre-Calculus. This course is aligned to the Common Core State Standards for Math. A graphing calculator is required.</p>
<p><b>APPLIED MATHEMATICS</b></p> <p>Prerequisite: Algebra 2  Open to: Grades 11-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA4600</p>	<p>This course is designed for students who are college bound, interested in majoring in fields that do not require continued mathematics. Students will investigate mathematics as it is applied in the real world. Students will build on their algebra and geometry skills, emphasizing problem solving. Additional topics will include trigonometry, probability, statistics, matrices, finance, graph theory, and more. A graphing calculator is suggested</p>
<p><b>PRE-CALCULUS</b></p> <p>Prerequisite: Advanced Algebra and Trigonometry  Open to: Grades 11-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA4700</p>	<p>Pre-Calculus is designed as a typical fourth course for college-bound students. A heavy emphasis is placed on the analysis of functions which includes polynomial, rational, piecewise, exponential, logarithmic, and trigonometric. Other topics include matrices, graphing of functions, sequences, series, conics, and additional applications of Trigonometry. A graphing calculator is suggested.</p>
<p><b>HONORS PRE-CALCULUS</b></p> <p>Prerequisite: Honors Algebra 2/Trig. or Advanced Algebra and Trigonometry  Open to: Grades 9-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA4900</p>	<p>Honors Pre-Calculus is the preparatory course for Calculus. It is the culmination of the study of elementary functions, trigonometry, and analytical geometry. It also contains the calculus topics of continuity, limits, and derivatives. Successful completion of this course will prepare students for AP Calculus B or BC. A graphing calculator is required.</p>

<p><b>PROBABILITY AND STATISTICS</b></p> <p>Prerequisite: Geometry  Open to: Grades 11-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA6000</p>	<p>Probability and Statistics is an introductory course with an emphasis on science, social science, and leisure applications. Major topics include basic probability, summarizing data with descriptive statistics, and using sample statistics to make inferences about a larger population. This course will be useful for students planning to study disciplines relying heavily on statistical data analysis, such as mathematics, science, medicine, sociology, psychology, education, economics, political science, and business. A graphing calculator is required.</p>
<p><b>AP STATISTICS</b></p> <p>Prerequisite: Probability and Statistics or Honors Algebra 2/Trig.  Open to: Grades 10-12  Length: 2 semesters  Credits: 1.0</p> <p>Once a prerequisite course is completed, this course may be taken concurrently with other math courses.</p> <p>Course Number: MA5200</p>	<p>AP Statistics introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students will be exposed to exploring data, sampling and experimentation, anticipating patterns, and statistical inference. A graphing calculator is required.</p> <p><i>*It is highly recommended that all students in an Advanced Placement course take the Advanced Placement Exam offered each May by the College Board.</i></p>
<p><b>AP CALCULUS AB</b></p> <p>Prerequisite: Honors Pre-Calculus  Open to: Grades 10-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA5000</p>	<p>AP Calculus AB includes the following curriculum : the development of limits, derivatives, integrals of all functions, curve sketching, related rates, continuity, areas under curves, volumes, maximums, minimums, optimizations, and mean value theorem. A graphing calculator is required.</p> <p><i>*It is highly recommended that all students in an Advanced Placement course take the Advanced Placement Exam offered each May by the College Board.</i></p>
<p><b>AP CALCULUS BC</b></p> <p>Prerequisite: Honors Pre-Calculus  Open to: Grades 10-12  Length: 2 semesters  Credits: 1.0</p> <p>Course Number: MA5100</p>	<p>AP Calculus BC includes all the topics of AP Calculus AB, as well as the following topics: vectors, Taylor Polynomials, convergence, divergence, Taylor and MacLaurin Series, rotations, parametric equations, polar equations for conics, slope fields, and differential equations. A graphing calculator is required.</p> <p><i>*It is highly recommended that all students in an Advanced Placement course take the Advanced Placement Exam offered each May by the College Board.</i></p>

*\*With department approval, students who begin in Algebra 1 may choose to take Honors Geometry and Honors Algebra 2/Trig. concurrently during sophomore year in order to take AP Calculus as a senior.*