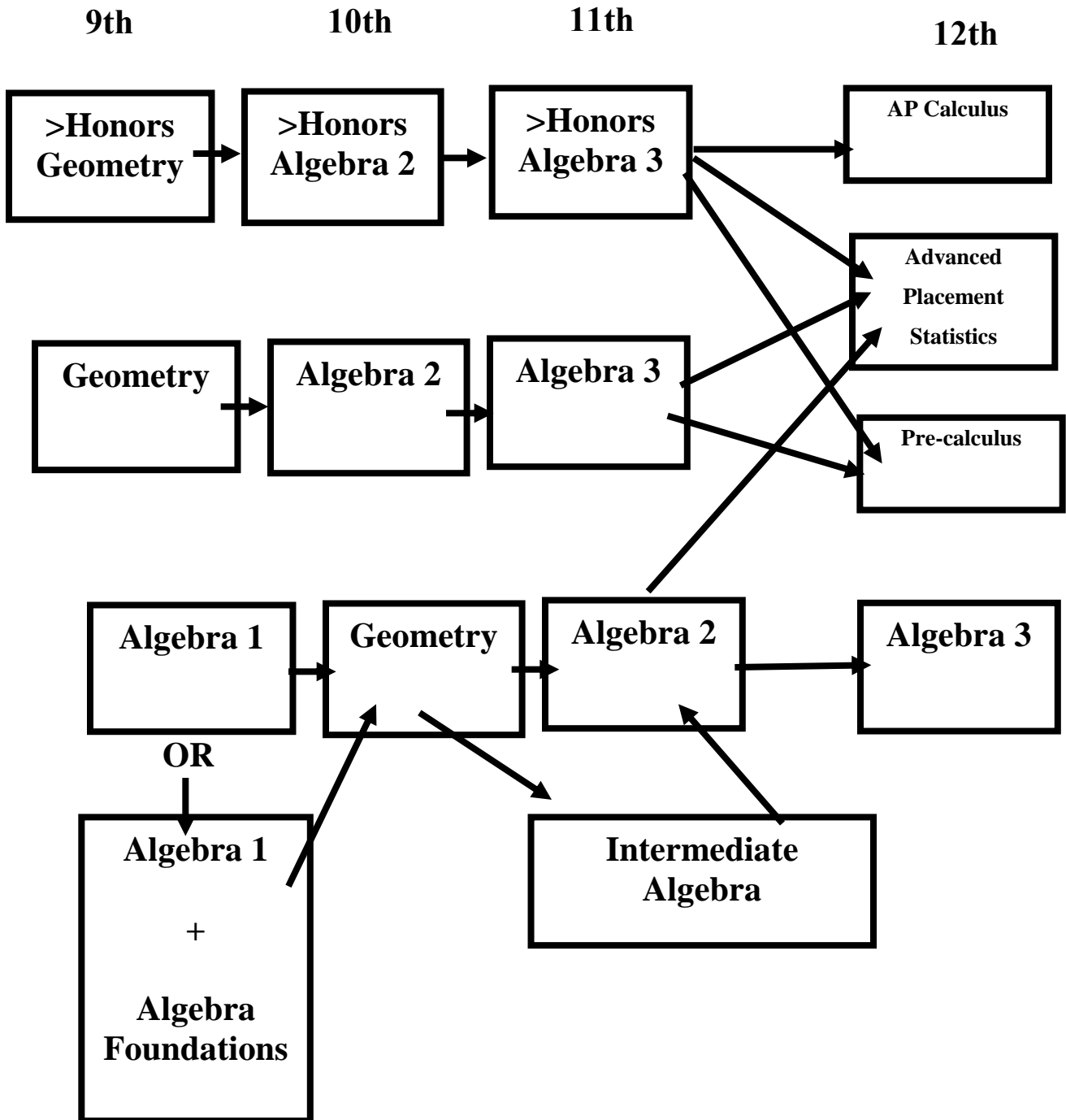


# Mathematics Flow Chart



**Algebra**

<b>Foundations (Skyveiw &amp; West)</b>	<b>Credit ½ or 1</b>	<b>9</b>
<b>Course Name</b>	<b>Semester 1 and/or 2</b>	<b>Grade Level</b>

**Course Description:** Algebra Foundations re-teaches and reinforces computation and numerical reasoning to improve math comprehension. The course is designed for students who score below proficiency in math upon exit from 8<sup>th</sup> grade. Focus is placed on pre-teaching algebra topics, remediating basic math skills, and supporting student success in Algebra 1, which will be taken concurrently.

**Prerequisite Courses:** Per placement criteria

**Applies Toward Graduation Requirements of:** 6 ½ Elective credits

<b>Algebra 1</b>	<b>Credit 1</b>	<b>9, 10</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** Algebra 1 is the study of the real number system, mathematical patterning and linear functions. Students learn to recognize linear functions represented by verbal descriptions, equations, tables, and graphs. Students use technology and problem solving to apply Algebra concepts to real-world situations. Other topics include solving linear inequalities and systems applying laws of exponents, solving quadratics in one variable, representing quadratic functions, and simplifying and factoring polynomials. Algebra 1 is considered the language of mathematics.

**Prerequisite Courses:** Pre Algebra (middle school)

**Applies Toward Graduation Requirements of:** 2 Mathematic credits

<b>Geometry</b>	<b>Credit 1</b>	<b>9, 10, 11</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** Geometry is the study of coordinates, transformations, congruence, similarity, polygons, and plane relationships between point and lines. Methods of measuring length, area, and volume and angle size are discussed as well as learning a system of logic which allow students to make conclusions from given information. The use of current technology is encouraged throughout the class.

**Prerequisite Courses:** Algebra

**Applies Toward Graduation Requirements of:** 2 Mathematic credits

<u>&gt;Honors Geometry</u>	<u>Credit 1</u>	<u>9, 10</u>
Course Name	Semester 1 and/or 2	Grade Level

**Course Description:** >Honors Geometry includes all the subject content of the regular geometry course but more emphasis is given to algebra, logic, third dimension, transformational geometry and technology to prepare students for other courses in the honors mathematics sequence. Honors mathematics students need to have strong number sense, a strong algebraic background and be motivated self learners. Chapter projects take the students into real world applications of the mathematics and may require time outside of class to complete. Students analyze data and connect mathematics topics. They study math theory and do complex mathematic proofs. Honors courses will prepare students for success in AP Calculus and/or college mathematics courses.

**Prerequisite Courses:** Algebra 1 and test scores above 85% or placement criteria.

**Applies Toward Graduation Requirements of:** 2 Mathematic credits

<u>Intermediate Algebra</u>	<u>Credit 1</u>	<u>10, 11, 12</u>
Course Name	Semester 1 & 2	Grade Level

**Course Description:** Intermediate Algebra is for students who need a bridge course prior to Algebra 2 following the completion of Geometry. This course reviews essential Algebra 1 topics and prepares students for success in Algebra 2. Topics include field properties and theorems, set theory, solving systems of linear equations and inequalities, solving and graphing quadratics and the use of technology.

**Prerequisite Courses:** Algebra 1 and Geometry

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Electives credits

<u>Algebra 2</u>	<u>Credit 1</u>	<u>10, 11, 12</u>
Course Name	Semester 1 & 2	Grade Level

**Course Description:** Algebra 2 reviews and expands upon topics studied in Algebra 1 and also introduces the student to more advanced Algebra. Topics of study include real and complex number systems, quadratic, rational, exponential and logarithmic functions, direct and inverse variation, matrices, polynomials, and trigonometric relationships. Students will use technology and solve problems related to real world situations.

**Prerequisite Courses:** Geometry or >Honors Geometry

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits

<b>&gt;Honors Algebra 2</b>	<b>Credit 1</b>	<b>10, 11</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** >Honors Algebra 2 includes all the subject content of the regular Algebra 2 course but more emphasis is given to algebraic modeling, functions, matrices, trigonometry, sequence and technology to prepare students for other courses in the honors mathematics sequence. Honors mathematics students need to have strong number sense, a strong algebraic background and be motivated self-learners. Chapter projects take the students into real world applications of the mathematics and may require time outside of class to complete. Students analyze data and connect mathematics topics. They study math theory and do complex mathematic proofs. Honors courses will prepare students for success in AP Calculus and/or college mathematics courses.

**Prerequisite Courses:** Geometry (with department head or administrator approval) or >Honors Geometry

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits

<b>Algebra 3</b>	<b>Credit 1</b>	<b>11, 12</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** Algebra 3 continues from Algebra 2 to build on the application and use of functions and trigonometry. Algebra 3 also delves deeper into the study of statistics. This course is foundational to success in pre-calculus, advanced statistics and other college math courses. Students will study real world applications of exponents and logarithms, graphing, matrices, sequences, probability and statistics.

**Prerequisite Courses:** Algebra 2 or >Honors Algebra 2

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits

<b>&gt;Honors Algebra 3</b>	<b>Credit 1</b>	<b>11, 12</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** >Honors Algebra 3 includes all the subject content of the regular Algebra 3 course and teaches pre-calculus concepts. This course is a good foundation for AP Calculus, AP Statistics, or other college-level math courses. Honors mathematics students need to have strong number sense, a strong algebraic background and be motivated self-learners. Students analyze data and connect mathematics topics. They study math theory and do complex mathematic proofs. Honors courses will prepare students for success in AP Calculus and/or college mathematics courses.

**Prerequisite Courses:** Algebra 2 (with department head or administrator approval) or >Honors Algebra 2

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits

<b>Pre-Calculus</b>	<b>Credit 1</b>	<b>12</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** Pre-Calculus provides additional study in upper level mathematics. This course includes topics such as matrix algebra, mathematical induction, combinations, graph theory and integrals as area. Discrete mathematics is another component of this course that deals with discovering patterns and processes which occur repeatedly and can be programmed with a computer.

**Prerequisite Courses:** Algebra 3 or >Honors Algebra 3

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ elective credits

<b>Advanced Placement Calculus</b>	<b>Credit 1</b>	<b>12</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** AP Calculus is a college-level course that provides students with an understanding of the concepts of calculus and experience with its methods and applications. This course is also designed to prepare students for the AP Calculus exam. Topics include analysis of functions, limit theory, derivatives and integrals.

**Prerequisite Courses:** Algebra 3 (with department head or administrator approval) or >Honors Algebra 3

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits

<b>Advanced Placement Statistics</b>	<b>Credit 1</b>	<b>12</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** AP Statistics is a college-level course that introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students will learn exploring data, planning a study, anticipating patterns, and statistical inference. This course is also designed to prepare students for the AP Statistics exam.

**Prerequisite Courses:** Algebra 2 (with department head or administrator approval), Algebra 3 or >Honors Algebra 3

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits

<b>+Applied Math 1</b>	<b>Credit 1</b>	<b>9</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** +Applied Math 1 is a remedial program. It is governed by the student's IEP; the program focus is to remediate skills in number concepts and computation. Students will demonstrate competencies in required math skills and related activities and will express themselves through oral and written problem solving.

**Prerequisite Courses:** None

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits

<b>+ Applied Math 2</b>	<b>Credit 1</b>	<b>10</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** +Applied Math 2 is a remedial program. It is governed by the student's IEP; the program focus is to remediate skills in number concepts and computation. Students will demonstrate competencies in required math skills and related activities and will express themselves through oral and written problem solving.

**Prerequisite Courses:** None

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits

<b>+ Applied Math 3</b>	<b>Credit 1</b>	<b>11</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** +Applied Math 3 is a remedial program. It is governed by the student's IEP; the program focus is to remediate skills in number concepts and computation. Students will demonstrate competencies in required math skills and related activities and will express themselves through oral and written problem solving.

**Prerequisite Courses:** None

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits

<b>+ Applied Math 4</b>	<b>Credit 1</b>	<b>12</b>
<b>Course Name</b>	<b>Semester 1 &amp; 2</b>	<b>Grade Level</b>

**Course Description:** +Applied Math 4 is a remedial program. It is governed by the student's IEP; the program focus is to remediate skills in number concepts and computation. Students will demonstrate competencies in required math skills and related activities and will express themselves through oral and written problem solving.

**Prerequisite Courses:** None

**Applies Toward Graduation Requirements of:** 2 Mathematic credits or 6 ½ Elective credits