RECOMMENDED MATH SEQUENCE

PRE-ALGEBRA (Not NCAA Approved) See Note Below	ALGEBRA AB (Not NCAA Approved) See Note Below	ALGEBRA or Double Block Algebra	GEOMETRY
↓	↓	↓	↓
ALGEBRA AB (Not NCAA Approved) See Note Below	GEOMETRY AB (Not NCAA Approved) See Note Below	GEOMETRY	ALGEBRA II
↓	↓	↓	↓
GEOMETRY AB (Not NCAA Approved) See Note Below	ALGEBRA II	ALGEBRA II	PRE-CALCULUS
↓	↓	↓	↓
BUSINESS MATH (Not NCAA Approved) See Note Below	TRIGONOMETRY	PRE-CALCULUS	A.P. CALCULUS

or

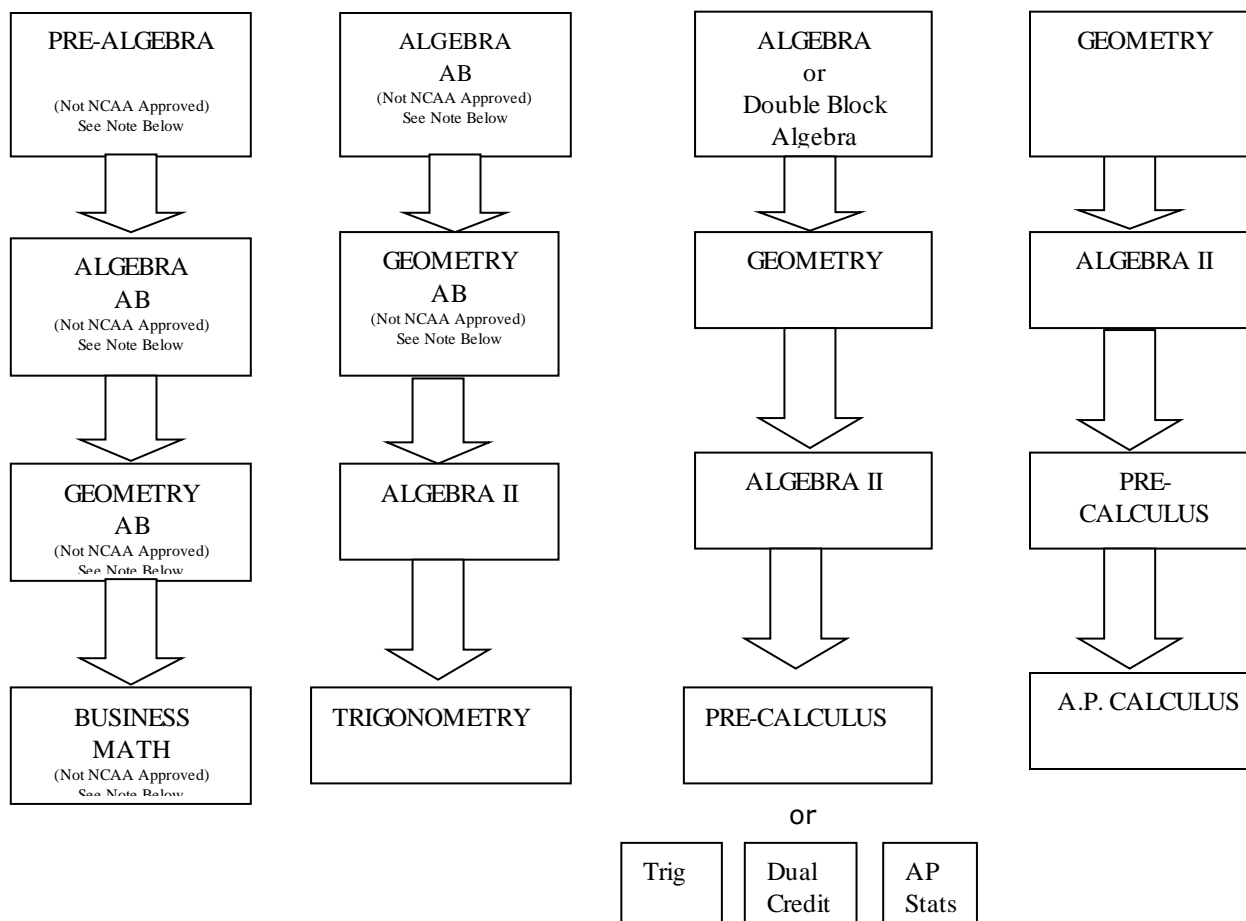| Trig	Dual Credit	AP Stats

<u>Courses designated as "Not NCAA Approved" only apply to student-athletes who have the chance to play at an NCAA Division 1 school. If there is a chance that your son or daughter might play college sports at the Division 1 level then they should NOT be enrolled in these classes. Speak directly with the coach of your sport to find out if the student-athlete has a chance to play Division 1 college sports.</u>

<u>PRE-ALGEBRA</u>

Pre-Algebra is a freshman level class designed with three major parts. The first part serves as a review of eighth grade math. The second part is comprised of the development of the skills necessary for students to succeed in Algebra. The final part of the course is a basic introduction to topics such as Geometry and logical thinking skills. This course will help students who lack solid fundamentals meet state standards. Pre-Algebra is not for college bound students and is <u>not accepted by the NCAA</u>. Summer acceleration may be necessary to get on a college-bound track. Upon completion of the course, students will enter into Algebra AB.
<u>Prerequisite: None   Level: 9   Semesters: 2   Credit: 1</u>

<u>ALGEBRA AB</u>

The goal of this course is to expose the student to basic algebra skills. This course is <u>not accepted by the NCAA</u> and is not a traditional college-prep course. Students entering high school in Algebra AB are considered to be slightly below grade level and may be required to enroll in a Double Block Algebra course to get to grade level. Topics covered include a review of Pre-Algebra skills, solving linear equations, graphing linear equations, systems of equations and inequalities, polynomials, basic factoring, solving and graphing quadratics. A scientific calculator will be required on a daily basis. Upon completion of this course students will likely enroll in Geometry AB.
<u>Prerequisite: See course sequence   Level: 9, 10 (10 teacher recommendation only) Semesters: 2   Credits: 1</u>

<u>DOUBLE BLOCK ALGEBRA</u>

The goal of this course is to take students who are below grade level upon entering high school and provide them with two consecutive periods of math in order to get the student back to grade level by the start of their sophomore year. The topics covered mirror the course content in Algebra I. Upon completion of Double Block Algebra students will enroll in Geometry (or Geometry AB).
<u>Prerequisite: None   Level: 9   Semesters: 2   Credit: 1</u>

<u>ALGEBRA</u>

Algebra is traditional course in the college-prep sequence and is designed to give students a solid foundation in mathematics. Students in Algebra have a math ability that is considered to be "at grade level." This course emphasizes simplifying expressions, solving equations and inequalities, using problem-solving techniques to solve word problems and learning methods of graphing. Scientific calculators are used on a regular basis. This is the suggested course as a prerequisite for Geometry.
<u>Prerequisite: None   Level: 9   Semesters: 2   Credit: 1</u>

<u>GEOMETRY AB</u>

This course is designed to meet the needs of struggling math students while fulfilling the state requirements. It is a one-year course that is designed to mirror the content taught in Geometry including lines, triangles, circles, quadrilaterals, areas and volumes. Geometry AB is not a traditional college preparation course and is <u>not accepted</u> by the NCAA. Students in Geometry AB are considered to be slightly below grade level. *Scientific calculators are required*.
<u>Prerequisite: Algebra AB or teacher recommendation   Level: 10, 11(teacher recommendation only) Semesters: 2   Credit: 1</u>

<u>GEOMETRY</u>

Geometry is a standard course in the traditional college preparation sequence. Students will explore the world around us while developing their spatial, inductive, and deductive reasoning skills. Topics that are covered include lines, triangles, circles, quadrilaterals, areas, and volumes. The mastery of Algebra, especially the ability to solve equations, is essential for success in Geometry. *Scientific calculators are required*
<u>Prerequisite: Algebra (see course sequence)   Level: 9, 10   Semesters: 2   Credit: 1</u>

ALGEBRA II

Algebra II is a continuation of the Algebra course and extends those topics to include additional theory relating to the real number system. It formalizes the study of Algebra by expanding problem solving techniques. Topics include systems of equations, inequalities, quadratic and polynomial functions, logarithms, and determinants. The course makes regular use of the scientific calculator and graphing calculators to make technology an integral part of the problem solving process. Algebra II will provide the prerequisite for Pre-Calculus with Trigonometry or Trigonometry/College Math. Algebra II is a traditional college-prep course taken by students who are "at grade level."
Prerequisite: Completion of Algebra (or Algebra AB) and Geometry (or Geometry AB)   Level: 10, 11, 12   Semesters: 2   Credit: 1

BUSINESS MATH

This is a senior level course that covers that teaches students to use mathematics in the workplace as well as in one's personal life. The course is not accepted by the NCAA. Among the topics included are balancing a checkbook, shopping for insurance, and working with percents. This course is designed only for seniors who are not planning to attend a four-year college. Part of the course includes preparing for placement exams. *Scientific calculators are required.*
Prerequisite: Geometry AB or teacher recommendation from Algebra II or Geometry (see course sequence)   Level: 11, 12   Semesters: 2   Credit: 1

DUAL CREDIT COLLEGE ALGEBRA (First Semester)

A senior level course that focuses on the study of linear and quadratic functions, inequalities, mathematical induction, binomial theorem, matrices and determinants, logarithmic and exponential functions, complex numbers and topics in the theory of equations. Credit for the course is earned both at Sycamore High School and Kishwaukee College. *An additional fee is paid directly to Kishwaukee College. The TI-83 or higher calculator is required*.
Prerequisite: Completing of Algebra II   Level: 12   Semesters: 1   Credit: 1/2

DUAL CREDIT COLLEGE TRIGONOMETRY (Second Semester)

A senior level course that focuses on the study of trigonometric functions and their graphs, radian measure, equations and identities, logarithms, inverse functions, and applications. Credit for the course is earned both at Sycamore High School and Kishwaukee College. *An additional fee is paid directly to Kishwaukee College. The TI-83 or higher calculator is required*.
Prerequisite: Completing of Algebra II   Level: 12   Semesters: 1   Credit: 1/2

TRIGONOMETRY/COLLEGE TRANSITION MATH

This course is designed for the student who is interested in a stronger foundation in math and who wishes to develop the skills required to succeed in an introductory college math course. Emphasis will be placed on trigonometry, linear algebra and college algebra. The use of the graphing calculator is stressed. This course will enable the college-bound student to enroll in a

pre-calculus class (typically known as "College Algebra"). The TI-83 or TI-84 graphing calculator is required.
Prerequisite: Completion of Algebra II   Level: 11, 12   Semesters: 2   Credit: 1

PRE-CALCULUS WITH TRIGONOMETRY

This course provides a foundation for all students who may wish to pursue a future in math and science at the college level. Students will be exposed to a rigorous curriculum that gives students the best chance for success in college mathematics. The first semester is a concentrated analysis of polynomial, rational, exponential, and logarithmic functions. The second semester is an in-depth analysis of the Trigonometry required for Calculus as well as a foundation in Probability and Statistics. TI-83 or TI-84 calculators are required for the class.
Prerequisite: "B-" both semesters of Algebra II or Trig/College Transition Math
Level: 11, 12   Semesters: 2   Credit: 1

AP CALCULUS

Students combine the disciplines of Algebra, Geometry, Algebra II, and Trigonometry to explore the world around us in a highly conceptual manner. Topics covered in Calculus are limits and their properties, differentiation and integration, rates of change, and areas of non-regular shapes. Upon completion of Calculus, students are encouraged to take the AP Calculus exam in order to obtain college credit.
Prerequisite: "C" or better in Pre-Calculus   Level: 12   Semesters: 2   Credit: 1

ONLINE AP STATISTICS
> **THIS CLASS WILL BE OFFERED ZERO HOUR**
This teacher assisted course is designed to teach the concepts taught in a college statistics course. Students will complete this course through online and in-person learning. Students will meet with a teacher at least once per week , and may be required to meet more frequently based on performance.   Topics covered include data description, the Normal distribution, bivariate data, planning a study, probability, binomials and distributions, inference, and t-distributions. Upon completion of Statistics, students are encouraged to take the AP Statistics exam in order to obtain college credit. A home computer and reliable internet connection are required for this course.
Prerequisite: "C" or better in Algebra II   Level: 12   Semesters: 2   Credit: 1