MATH

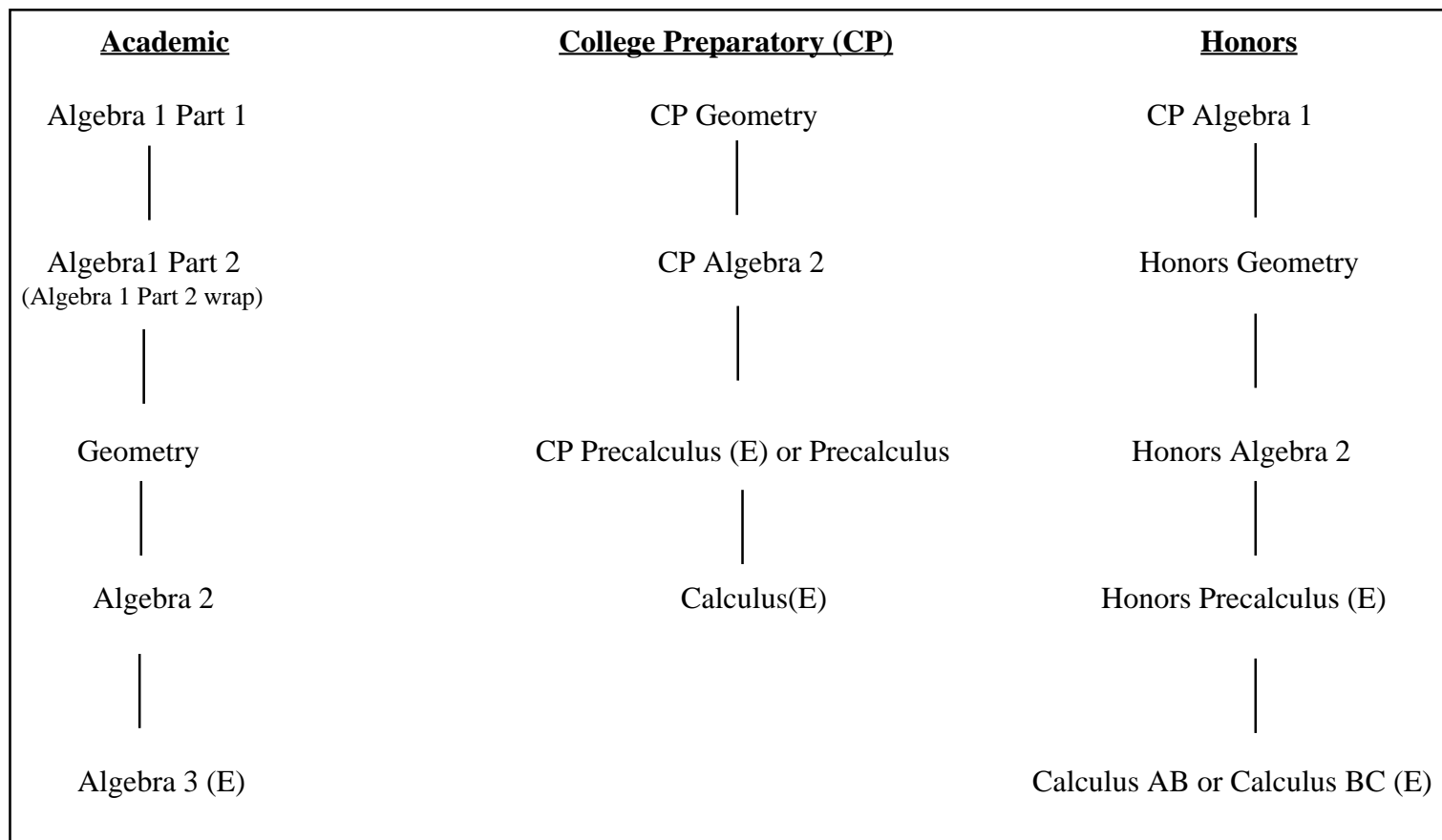| COURSE	GRADE 9	GRADE 10	GRADE 11	GRADE 12
ACADEMIC				
Algebra I Part I	R	R*	R*	R*
Algebra I Part II with Geometry		R	R*	R*
Algebra I Part II Wrap		E	E	E
Geometry		R	R	R*
Algebra 2			E	E
Algebra 3 with Trigonometry				E
COLLEGE PREP				
College Prep Algebra I	R	R*	R*	R*
College Prep Geometry		R	R*	R*
College Prep Algebra II			R	R*
College Prep Precalculus with Trigonometry			E	E
Precalculus				E
Calculus				E
HONORS				
Honors Geometry	R	R*	R*	R*
Honors Algebra 2		R	R*	R*
Honors Precalculus with Trigonometry		E	E	E
Advanced Placement Math [Calculus AB and BC]			E	E
ELECTIVES				
Probability and Statistics	E*	E*	E*	E*
Advanced Placement Statistics			E*	E*

R = Required Course for Graduation
R*= Only offered to students who have not successfully completed this course
E = Elective
E* - Teacher Approval Required

Successful completion of prerequisite courses is important. Please reead the mathematics prerequisites carefully before making a course selection. The following chart shows the typical progression through each curriculum.

**There are three curricular levels of mathematics available to students at
Lakota West High School**

Academic	College Preparatory (CP)	Honors
Algebra 1 Part 1	CP Geometry	CP Algebra 1
Algebra1 Part 2 (Algebra 1 Part 2 wrap)	CP Algebra 2	Honors Geometry
Geometry	CP Precalculus (E) or Precalculus	Honors Algebra 2
Algebra 2	Calculus(E)	Honors Precalculus (E)
Algebra 3 (E)		Calculus AB or Calculus BC (E)

Other electives are Statistics and Advanced Placement Statistics.

Academic courses are designed for students planning to attend a two-year technical college or a four-year college in a non-mathematics major.

College Preparatory (CP) courses prepare students for a four-year college curriculum.

Honors courses involve a rigorous level of mathematics. Students in this level are usually interested in engineering or a mathematics-related major, or are planning to test out of college mathematics courses with an Advanced Placement test.

MATHEMATICS

ALGEBRA 1 PART 1   2 Semesters   1 Credit

This course is the first half of the Algebra 1 sequence. It is designed to enable students who have more difficulty with mathematics to acquire the concepts and skills of Algebra 1 at a slower pace.Topics include the basics of Algebra, including integers, solving equations, inequalities and factoring. Extensive student practice will be used to enhance understanding of topics included on the Ohio Graduation Test. (The next course in this sequence is Algebra 1 Part 2.)

Prerequisite: None   **Fee required**

ALGEBRA 1 PART 2 WITH GEOMETRY   2 Semesters   1 Credit

This course is the second half of the Algebra 1 sequence. It completes the recommended curriculum for Algebra 1. Topics include factoring, graphing, rational expressions and equations, radical expressions and the quadratic equation. (The next course in this sequence is Geometry.)

Prerequisite: Successful completion of Algebra 1 Part 1and teacher recommendation.   **Fee required**

ALGEBRA 1 PART 2 - WRAP   1 Semester   .5 Credit

This course is designed to enable students who have not passed Algebra 1 Part 2 to complete the course immediately without breaking the sequence. Students who are in the fall semester of this course are <u>required</u> to take Geometry concurrently.

Prerequisite: Failed a semester in Algebra 1 Part 2 and teacher recommendation.   **Fee required**

GEOMETRY   2 Semesters   1 Cre

This course is designed to provide an introduction to the fundamentals of Euclidean Geometry. Areas of emphasis are applying theorems, formulas, and Algebra skills to solve problems. Topics include basic proofs, polygons, right triangle trigonometry, solid figures and coordinate geometry. (The next course in this sequence is Algebra 2.)

Prerequisite: Algebra 1 Part 2 and teacher recommendation   **Fee required**

ALGEBRA 2   2 Semesters   1 Credit

This course is an introduction to the basic principles of Algebra 2. Topics include equations, inequalities, functions, graphing, polynomials, exponents and logarithms. Scientific calculator required. (The next course in this sequence is Algebra 3 with Trigonometry.)

Prerequisite: Geometry and teacher recommendation   **Fee required**

ALGEBRA 3 WITH TRIGONOMETRY   2 Semesters   1 Credit

This course is intended for students who have successfully completed CP Algebra 1, Geometry and Algebra 2 and desire to take a fourth year of mathematics. This course will cover trigonometric and circular functions, applications of trigonometry and trigonometric identities, geometric and algebraic vectors, and a review of Algebraic techniques. Second semester will concentrate on polynomial, rational, and exponential functions as well as data analysis. Minimally, students must have a scientific calculator; however, a graphing calculator (TI-84) is recommended.

Prerequisite: Successful completion of Algebra 2 and teacher recommendation.   **Fee required**

COLLEGE PREP GEOMETRY   2 Semesters   1 Credit

This course is designed to construct a formal understanding of Euclidean geometry. Logical thought processes are developed through the application of theorems to create formal proofs. Areas of emphasis include applying theorems, formulas and algebra skills to solve problems. Topics to be covered include proofs, polygons, right triangle trigonometry, solid figures, and coordinate geometry. (Next course in this sequence is CP Algebra 2.)

Prerequisite: Successful completion of CP Algebra 1 and teacher recommendation   **Fee required**

COLLEGE   PREP ALGEBRA 2   2 Semesters   1 Credi

This course includes an in-depth study of algebriac skills necessary for upper level mathematics and science courses. Topics include equations, inequalities, functions, graphing, polynomials, logarithms, exponents and conics. a graphing calculator is required (TI-84 recommended). (Next course in this sequence is CP Precalculus or Precalculus.)
Prerequisite: CP Geometry and teacher recommendation   Fee required

COLLEGE PREP PRECALCULUS WITH TRIGONOMETRY   2 Semesters   1 Credit

This course will cover trigonometric and circular functions, applications of trigonometry and trigonometric identities, polar graphing, geometric and algebraic vectors, and a review of algebraic techniques. Second semester will concentrate on polynomial, rational, exponential, and logarithmic functions as well as data analysis. Scientific and graphing calculators will be used. A graphing calculator is required (TI-84 recommended). (The next course in this sequence is Calculus.)
Prerequisite: CP Algebra 2 and teacher recommendation. To increase success in this class, the math department recommends students achieve a B or above in College Prep Algebra 2.   Fee required

PRECALCULUS   2 Semesters   1 Credit

This course is designed for **seniors** who have successfully completed CP Algebra 2 and who desire a 4th year of mathematics. Precalculus will explore topics covered in CP Precalculus as well as a review of CP Algebra 2 skills. A graphing calculator is required. (TI-84 is recommended)
Prerequisite: CP Algebra 2 and teacher recommendation. The math department recommends this class for a student with a C or D in CP Algebra 2. Seniors only.   Fee required

CALCULUS   2 Semesters   1 Credit

This course introduces differential and integral calculus and their various applications. Other topics include a brief review of trigonometric, polynomial, logarithmic and exponential functions. This course is highly recommended for students who will be taking calculus or other math in college. A graphing calculator is required (TI-84 recommended).
Prerequisite: CP Precalculus and teacher recommendation   Fee required

HONORS GEOMETRY   2 Semesters   1 Credit

This course is only offered at the Freshman School. (The next course in this sequence is Honors Algebra 2).

HONORS ALGEBRA 2   2 semesters   1 Credit

This course covers the same topics explored in College Prep Algebra 2 with the addition of probability and an introduction to trigonometric and circular functions including radian measure, trigonometric identities, and laws of sines and cosines. Scientific and graphic calculators will be used (TI-84 recommended). A very strong Algebra 1 background is needed. (The next course in this sequence is Honors Precalculus.)
Prerequisite: Honors Geometry and teacher recommendation   Fee required

HONORS PRECALCULUS WITH TRIGONOMETRY   2 Semesters   1 Credit

This course covers CP Precalculus topics at an accelerated pace and is a mandatory prerequisite foor AP Calculus. Topics include trigonometry and its applications, vectors, polar and parametric equations, exponential and logarithmic functions, conics, polynomial and rational functions. Topics from differential calculus are also included. A graphing calculator is required (TI-84 recommended). (The next course in this sequence is Calculus AB or Calculus BC.)
Prerequisite: Honors Algebra 2 and teach recommendation. To increase your chance of success in this class, the math department recommends that students achieve a B or above in the prerequisite course.   Fee required

CALCULUS (AB)   2 Semesters   1 Credit

This course includes differential Calculus and integral Calculus and is designed for students who want to earn one semester college credit by taking the Advanced Placement test.
Prerequisite: Honors Precalculus and teacher recommendation   **Fee required**

CALCULUS (BC)   2 Semesters   1 Credit

This course includes differential Calculus and integral Calculus, sequences and series, and differential equations and is designed for students who may want to earn two semesters of college credit by taking the Advanced Placement test.
Prerequisite: Honors Precalculus and teacher recommendation   **Fee required**

ELECTIVES

PROBABILITY AND STATISTICS   1 Semester   .5 Credit

This course is designed as an introduction to statistical ideas needed for business, economics, education, medicine, and mathematics. Students will gain the skills necessary to evaluate statistical formulas and intelligently analyze data surveys, polls, product testing, quality control, and standardized testing. A graphing calculator is required (TI-84 is recommended).

AP STATISTICS   2 Semesters   1 Credit

This course included exploration of data, planning a study, anticipation of patterns, and statistical inference. It is designed for students who want to earn one semester of introductory, non-calculus based college credit by taking the Advanced Placement test.
Prerequisite: CP Precalculus or concurrently enrolled in Honors Precalculus and teacher recommendation.