

- 444 INTEGRATED ALGEBRA** 1 year - 1 credit
Prerequisite: Pre-Algebra 8 or Algebra Plus

Integrated Algebra is the first mathematics course in the new high school sequence. Algebra provides tools and ways of thinking that are necessary for solving problems in a wide variety of disciplines, such as science, business, social sciences, fine arts, and technology. This course will assist students in developing skills and processes to be applied using a variety of techniques to successfully solve problems in a variety of settings. Problem situations may result in all types of linear equations in one variable, quadratic function with integral coefficients and roots as well as absolute value and exponential functions. Coordinate geometry will be integrated into the investigation of these functions allowing students to make connections between their analytical and geometrical representations. Problem situations resulting in systems of equations will also be presented. Students will be required to take the New York State Integrated Algebra Regents examination in June at the completion of the course. A Texas Instruments Ti83⁺ graphing calculator is required for this course.

- 454 INTEGRATED ALGEBRA (H)** 1 year - 1 credit
Prerequisite: Pre-Algebra 8, Teacher Recommendation

Integrated Algebra is the first mathematics course in the new high school sequence. Algebra provides tools and ways of thinking that are necessary for solving problems in a wide variety of disciplines, such as science, business, social sciences, fine arts, and technology. This course will assist students in developing skills and processes to be applied using a variety of techniques to successfully solve problems in a variety of settings. Problem situations may result in all types of linear equations in one variable, quadratic function with integral coefficients and roots as well as absolute value and exponential functions. Coordinate geometry will be integrated into the investigation of these functions allowing students to make connections between their analytical and geometrical representations. Problem situations resulting in systems of equations will also be presented. Students will be required to take the New York State Integrated Algebra Regents examination in June at the completion of the course. This course is taught on a higher level of complexity and difficulty than Integrated Algebra. A Texas Instruments Ti83⁺ graphing calculator is required for this course.

- 452 ALGEBRA PLUS** 1 year - 1 credit
Prerequisite: Math 8, Teacher Recommendation

Algebra Plus is a comprehensive 1-year course which provides academic support in critical pre-Algebra topics in preparation for the new NYS Integrated Algebra curriculum. This course provides a pre-Algebra component that will reinforce the concepts and skills necessary for success in Integrated Algebra. This course will assist students in developing skills and processes to be applied using a variety of techniques to successfully solve problems in a variety of settings. Students will be required to take a school final exam at the end of the course. A Texas Instruments Ti83⁺ graphing calculator

is required for this course.

431 MATH WORKSHOP

1/2 year - 1/2 credit

Prerequisite: Pre-Algebra 8

This course is designed for ninth grade students who need additional support in the area of mathematics. This course will focus on open-ended questions, mathematical puzzles, and problem solving strategies as a means for learning essential mathematical concepts and skills. It is recommended for any student who performed below the minimum passing score in either Math 7, Math 8 Pre-Algebra, or on a standardized test. This course will be taken concurrently with Integrated Algebra.

404 MATH 2A

1 year - 1 credit

Prerequisite: Regents Math 1A

This course satisfies the New York State requirement for a second year of high school mathematics. Students will learn curriculum to prepare them to take the Math A assessment in June. This course provides the additional time students need to be successful on the Math A Regents exam. Topics include: ratio and proportion, graphing, quadratic equations, Pythagorean theorem, Locus, transformations, right triangle trigonometry, constructions, statistics and probability, radicals and algebraic fractions. A Texas Instruments Ti83⁺ graphing calculator is required for this course. ***This is the final year that Math 2A will be offered.***

438 MATH B (FIRST YEAR)

1 year - 1 credit

Prerequisite: Math 2A

This course teaches the first half of content for the Math B curriculum. Successful completion of this course may satisfy the state requirement for a third year of high school mathematics. Topics include: Euclidean and analytical direct proofs, Euclidean indirect proofs, rational and irrational numbers, operations with algebraic fractions, transformation geometry, and basic trigonometry. Students who successfully complete this course are eligible to take Math 3B the following year, as a fourth year of mathematics. A Texas Instruments Ti83⁺ graphing calculator is required for this course.

435 MATH B2 (SECOND YEAR)

1 year - 1 credit

Prerequisite: Math 2AB or Math 2AB(H)

The content of this course is in preparation for the New York State Math B assessment. Successful completion of this assessment is used toward a high school diploma with distinction. Topics include real and complex number systems, relations and functions, circular functions, trigonometric functions, conic sections, transformations, statistics and probability. A Texas Instruments Ti83⁺ graphing calculator is required for this course.

437 MATH B2 (H) 1 year - 1 credit
Prerequisite: Math 2AB(H)

The content of this course is in preparation for the New York State Math B assessment. Successful completion of this assessment is used toward a high school diploma with distinction. Topics include real and complex number systems, relations and functions, circular functions, trigonometric functions, conic sections, transformations, statistics and probability. This course is taught on a higher level of complexity and difficulty than Math B2. A Texas Instruments Ti83⁺ graphing calculator is required for this course.

417 MATH 12 R 1 year - 1 credit
Prerequisite: Math A and Math B

This senior level mathematics program is designed specifically to accommodate the student who has successfully completed Math A and Math B, and who wishes to pursue a fourth year of mathematics. It will provide good background for college level math. The following topics are included: analytical geometry of the conic sections, polar coordinates and complex numbers, elements of probability and statistics, introduction to differential calculus, mathematical induction and logic.

418 MATH 12H 1 year - 1 credit
Prerequisite: Math B2 (H)

Students participating in this accelerated and enriched program are selected and invited after completion of the Honors Math A and Math B programs. Major topics in this course include: analytic geometry with emphasis on the conic sections, relations and functions, parametric equations, limits and continuity, exponential and logarithmic functions, complex numbers and vectors, derivatives and anti derivatives.

420 CALCULUS (SYRACUSE) 1 year - 1 credit
Prerequisite: Math 12H or Math 12R

This is a cooperative program between Syracuse University and Lawrence High School. The course covers the following topics: Analytic geometry, differentiation of algebraic and trigonometric functions, application of derivatives, integration, application of integration, differentiation of logarithmic and exponential functions. Students who successfully complete their Calculus course work are entitled to a regular Syracuse transcript grade. The credit earned by the student can be transferred in most colleges and universities. The University fee in the course is \$85.00 per college credit. Successful completion will earn four credits at Syracuse University.

421 AP CALCULUS BC 1 year - 1 credit
Prerequisite: Math 12H

This is the highest level of a College Board Advanced Placement course in mathematics that Lawrence High School offers consisting of a full academic year of work in Calculus and related topics. The syllabus is determined by the College Board. Students are expected to take the AP Calculus exam in May (BC level). Upon successful performance on the AP Calculus BC level examination, the student can expect to receive 1 year of college credit and/or placement when they enter college.

422 AP CALCULUS AB 1 year - 1 credit
Prerequisite: Math 12H or Math 12R

Students are expected to take the A.P. Calculus exam in May (AB level). This is a college level calculus course based on the curriculum guidelines given by the College Board Advanced Placement Center. This course covers the following topics: analytic geometry, differentiation of algebraic and trigonometric functions, application of derivatives, integration of algebraic and trigonometric functions, and application of integration. Upon successful performance on the AP Calculus AB level examination given in May of each year; students can expect to receive either 1/2 year college credit and/or placement when they enter college.

448 AP STATISTICS 1 year - 1 credit
Prerequisite: Open to Juniors and Seniors who have completed Math B

The purpose of the AP course in statistics is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes:

1. Exploring data: describing patterns and departures from patterns.
2. Sampling and experimentation: planning and conducting a study
3. Anticipating patterns: exploring random phenomena using probability and simulation
4. Statistical inference: estimating population parameters and testing hypotheses

Students who successfully complete the course and examination may receive credit, advanced placement, or both for a one-semester introductory college statistics course.

424 THE SAT'S AND MORE 1/2 year - 1/2 credit
Prerequisite: none

This course is designed to prepare students for the SAT's and the Achievement Tests. It will improve a student's ability in problem-solving skills and in logical thinking. It will also strengthen the student's skills needed to analyze mathematical problems and reinforce their knowledge of study skills.

- 430 STATISTICS 1 (NON AP)** 1 year - 1 credit
Prerequisite: Strong arithmetic skills essential. Open to Juniors and Seniors only.

This course is designed to provide students with a working knowledge of statistics and their applications to the real world. Statistics will be introduced as a mathematical tool for using measurements on random samples to make inferences concerning populations. Examples from varied disciplines will be studied to illustrate statistical principles. Some of the topics investigated will include: simple probability, averages and variation, binomial and normal probability distributions, sampling distributions, confidence intervals, the t-distribution, chi-square distribution, and the formulation and testing of statistical hypotheses. Emphasis will be placed on understanding rather than rote memorization of formulas. Toward this end, the Ti83 calculator with its enhanced statistical capabilities will be extensively infused into the topic development.

- 440 INTERMEDIATE ALGEBRA/COLLEGE MATH** 1 year - 1 credit

This course will include intermediate algebra skills using rational and irrational numbers. It will also include complex numbers, solving equations and the simplification of expressions. Part of this course will direct its attention to the new SAT math. This will include more trigonometry and its applications to right triangles and the unit circle. Trigonometry equations and identities will be addressed in addition to some statistics.

- 442 LOGIC & APPLIED MATHEMATICS** 1 year - 1 credit

This is a one-year course that will emphasize the application of mathematics to sports and logic, statistics, contracts, legal issues, stadium design, physics in sports, and supply and demand. The logic portion works with set theory in solving many mathematical problems. This course uses the laws of logic to help solve “who dunnit?” mysteries and logic puzzles. Truth tables, validity of arguments, and formal proofs are just a few of the additional topics.

- 450 CONSUMER MATH** 1 year - 1 credit

This course will review basic math, buying problems, wages, borrowing, money savings and investments, and probability. Logic and algebraic expressions will also be taught. Microsoft Money and Excel will be used for real life applications of these math skills.

- 842 TLP MATH 1A - PART 1** 1 year - 1 credit

This course is designed to accommodate the student who did not do well in Math 8 and who needs additional preparation before taking the Regents Math A exam. This course is the first year of a two-year sequence. Students enrolled in this course will take a school final exam in June of the first year, and will take the Regents Math A Exam in June of the second year. Major topics deal with the concepts of arithmetic, elementary aspects of algebra and geometry, rectangular coordinate systems, elementary aspects of probability, permutation and combination, and statistics.

843 TLP MATH 1A - PART 2 1 year - 1 credit
Prerequisite: TLP Regents Math 1 - Part 1

This course is the second year of a two-year sequence. Students who successfully complete Math 1A (P-1) will be enrolled in this course. Students enrolled in this course will take the New York State Mathematics A Regents exam in June.

844 TLP MATH 11 1 year - 1 credit

The course encompasses the mathematics of the business world and deals with banking, interest, partnerships, taxes, insurance, and general arithmetic basics using modern calculators and computers. Students in this course will solve mathematical problems commonly found in everyday consumer and business situations, as well as the personal and consumer needs of students and for further preparation for employment.

Mathematics Regents Examinations Implementation / Transition Timeline

On December 8, 2005 the Board of Regents unanimously approved the Education Department's recommended implementation timeline for the Regents Examinations in Integrated Algebra, Geometry, and Algebra 2 and Trigonometry.

	Math A	Math B	Algebra	<i>Geometry</i>	Algebra 2 and Trigonometry
2006-07	X	X			
2007-08	X	X	X First admin. in June 2008 (Post-equate)		
2008-09	X Last admin. in January 2009	X	X	X First admin. in June 2009 (Post- equate)	
2009-10		X Last admin. in June 2010	X	X	X First admin. in June 2010 (Post-equate)
2010-11			X	X	X
2011-12			X	X	X