MATH DEPARTMENT
Course Descriptions

Pre-Algebra
Prerequisite: Enrollment by counselor recommendation

Pre-Algebra is designed to introduce and involve the student in the concepts of Algebra. Students will learn the language of algebra, and use it to describe numbers and the relationships between them. Strategies leading to a successful approach to solving any problem will be stressed.

Algebra I
Prerequisite: Enrollment by counselor recommendation
Algebra I includes a review of types of numbers, sets, fundamentals properties and basic operations. It also involves the study of solutions, of linear quadratic equations and inequalities, exponents, polynomials, factoring and radicals. Emphasis is placed on problem solving techniques.

Accelerated Algebra I
Prerequisite: Enrollment by counselor recommendation
Accelerated Algebra I is designed for the student who has taken a full year of Algebra but would benefit from a review of topics before taking Geometry. Topics to be covered include: slopes and lines, exponents and powers, quadratic equations and square roots, polynomials, linear systems, factoring and functions. Strategies leading to a successful approach to solving any problem will be stressed.

Geometry
Prerequisite: C or better in Algebra I or Advanced Algebra 1
A course involving the study of congruency, proofs (direct and indirect, formal and informal), similar figures, area, volume, construction, scale drawings and models, and Pythagorean theorem, a brief introduction to trigonometry and other topics with emphasis on reasoning and logic as the means of solving problems.

Algebra II
Prerequisite: C or better in Geometry

This course allows students the opportunity to build on topics of Algebra I and Geometry. Students will learn problem solving using skills developed in the following areas: factoring, solving equations, inequalities, irrational and complex numbers, polynomial functions, rational expressions, logarithmic functions and basic statistics.

Accelerated Algebra II with Trigonometry
Prerequisite: C or better in Geometry

This course emphasizes problem solving using skills developed in the following areas: factoring, solving equations, inequalities, irrational and complex numbers, polynomials functions, rational expressions, conic sections, exponential and logarithmic functions, triangle trigonometry and its applications. This course is designed for students planning to take Pre-Calculus and Calculus.

Probability and Statistics
*Lindenwood MTH14100 *DC* (3 cr)*
Prerequisite: C or better in Algebra II or Accelerated Algebra II

This course is an exploration into the basic concepts of probability and statistics emphasizing measures of central tendency, the normal curve and the probability of compound events. It will provide a foundation for further studies in statistics and future work in a variety of careers. Designed for the business or general studies college student.

Algebra III
Prerequisite: Algebra II or Accelerated Algebra II

This course will enhance the higher level thinking skills developed in Algebra II through a more in-depth study of those concepts and exploration of some pre-calculus concepts. Students will be challenged to increase their understanding of algebraic, graphical, and numerical methods to analyze, translate, and solve quadratic, polynomial, rational, exponential, and logarithmic functions and/or relations. Modeling real world situations is an important part of the class.

Pre-Calculus
*Lindenwood MTH15200 *DC* (3 cr)*
Prerequisite: B or better in Accelerated Algebra II/Trig.

This is a pre-calculus course designed for college bound juniors and seniors who are considering further study in math or science, This course covers functions, graphing, conic sections, advanced trigonometry, sequences, series, limits and an introduction to calculus. This course will help the student make the transition from high school to college mathematics.

AP Calculus AB/BC
*Lindenwood MTH27100/27200 *DC*(5 cr/5 cr)*
Prerequisite: B or higher in Pre-Calculus or instructor permission

AP Calculus AB/BC is an Advanced Placement Course for the college bound senior who has completed Pre-Calculus with a B or higher. It is a course designed to earn Math credit for the non Math/Science/Engineering major or help the student with one of those majors have a good start on the rigors of that curriculum. Topics covered include: limits, the derived function (derivative), the integral, and applications of the derivative and the integral. This course is offered under the College Board Advanced Placement Program and students are therefore required to take the Advanced Placement Examination and have their own Graphing Calculator. Students are required to take the AP Calculus exam at their own expense. Students should expect a college-level assignment load.