

MATHEMATICS DEPARTMENT

Math Placement

Enrollment in Freshman Honors Algebra 1, Algebra 1A and Algebra 1B will be based on the placement test, 7th and 8th grade math scores, and recommendation of the 8th grade teacher. Students taking Algebra 1A and Algebra 1B will be recommended for the next class based on their grade and the current teacher recommendation.

Enrollment in the Honors Geometry class as a freshman will be available for freshmen who have taken the Althoff sponsored Eighth grade Algebra 1 class with the grade of A or B. Students not enrolled in the Althoff sponsored class may qualify for Honors Geometry by taking the Honors Algebra 1 final exam given at Althoff Catholic in May.

Honors Math Courses

After the freshman year, placement will depend on success in the current math class and recommendation of the teacher. Students enrolled in an honors class may re-enroll in the next honors class if they have an A or B average. A student with a C average will need to commit to a tutor and sign a waiver. A student with a D average may not continue in the Honors Program.

Taking Geometry and Algebra 2 concurrently

Sophomores who are enrolled in Honors Geometry may also enroll in Honors Algebra 2.

206ALG1A ALGEBRA 1A (Fr) NCAA All Year 1 credit

Prerequisite: 7th and 8th grade math scores, placement test score and teacher recommendation

This course covers linear equations and functions, inequalities, systems, exponents, and exponential functions, radicals and radical functions, rational expressions and equations, statistics and probability; as well as quadratic expressions, equations, and functions.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Quizzes, tests, and exams.

204ALG1B ALGEBRA 1B (Fr) All Year 1 credit

Prerequisite: 7th and 8th grade math scores, placement test score and teacher recommendation

This course covers linear equations and functions, inequalities, systems, exponents, and exponential functions, radicals and radical functions, rational expressions and equations, statistics and probability; as well as quadratic expressions, equations, and functions.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Quizzes, tests, and exams.

205*ALG1 HON ALGEBRA 1 (Fr) HC NCAA All Year 1 credit

Prerequisite: 7th and 8th grade average of "A" or "B" in math, placement test score and teacher recommendation.

This course covers all the elements of algebra 1 in greater depth and includes radical work related to geometry and trigonometry.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Quizzes, tests, and exams.

208GEOM GEOMETRY A (Sophs) NCAA All Year 1 credit

Prerequisite: Completion of Algebra 1 with an A, B, or C.

This course covers concepts from plane and solid geometry including application of postulates and theorems in proofs and problems, algebraic and two-column geometric proofs, triangle congruence, quadrilaterals, proportions & similarity, right triangles & trigonometry, polygons, circles, and transformations & symmetry. Measurement, unit conversion and algebra skills will be required in problem solving.

Student Activities: Note taking, homework, projects, use of dynamic geometry software, and class participation.

Student Evaluation: Homework, quizzes, tests, projects, and exams.

209GEOM GEOMETRY B (Sophs) NCAA pending All Year 1 credit

Prerequisite: Completion of Algebra 1 with a C or D.

Students will learn to: recognize and understand concepts and terms from plane and solid geometry, apply postulates and theorems in proofs and problems, use perimeter, area and volume formulas, apply the Pythagorean Theorem and work with special right triangles, and do basic trigonometry involving right triangles. Algebraic skills will be used in solving geometric problems.

Student Activities: Note taking, projects, homework, and class participation.

Student Evaluation: Homework, quizzes, tests, and exams.

207*GEOM HON GEOMETRY (Fr, Sophs) HC NCAA**All Year****1 credit**

Prerequisite: Completion of Hon Algebra 1 with an "A" or "B", or Algebra 1 with an "A" and recommendation by the math teacher.

In addition to the material covered in Geometry, this course will study Geometry with greater depth. Logic is introduced and deductive thinking is emphasized through two-column proofs. Algebraic skills are stressed in solving geometric problems. The course includes an introduction to analytic geometry.

Student Activities: Note taking, projects, homework, and class participation.

Student Evaluation: Homework, tests, quizzes, and exams.

211ALG2 ALGEBRA 2A (Jrs) NCAA**All Year****1 credit**

Prerequisite: Completion of Geometry with an "A", "B", or "C" and recommendation of math teacher. **T184 graphing calculator required for this course.**

This course will include the study of the real number system, equations and inequalities, graphing, polynomials, factoring, rational expressions, irrational numbers, complex numbers, quadratic equations, synthetic division, matrices, and graphing linear equations.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Quizzes, tests, and exams.

212ALG2 ALGEBRA 2B (Jrs) NCAA pending**All Year****1 credit**

Prerequisite: Completion of Geometry with an "A", "B", "C", or "D" and recommendation of math teacher.

This course will include the study of the real number system, equations and inequalities, graphing, polynomials, factoring, rational expressions, irrational numbers, complex numbers, quadratic equations, synthetic division, matrices, and graphing linear equations.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Homework, quizzes, tests, and exams.

210*ALG HON ALGEBRA 2 (Sophs, Jrs) HC NCAA**All Year****1 credit**

Prerequisite: Completion of Geometry A with an "A" and recommendation of math teacher or Honors Geometry with an "A" or "B" and recommendation of math teacher. **T184 graphing calculator required for this course.**

In addition to the material covered in Algebra 2, this course will include conic sections, sequence and series of numbers, linear programming and an introduction to probability. Word problems, graphing calculator technology and essay writing are fully integrated throughout the course.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Homework, quizzes, tests, and exams.

218IAL&TR INTERMEDIATE ALGEBRA AND TRIGONOMETRY (Jrs, Srs) NCAA**All Year****1 credit**

Prerequisite: Completion of Algebra 2 A or B, with an "A", "B", "C", or "D", or the recommendation of the student's current mathematics teacher.

Required: A scientific calculator.

This course is designed to further develop algebraic skills before College Algebra. As well as improving algebraic skills, the course covers some of the trigonometry topics listed in 221 TRIGONOMETRY.

Student activities: Note taking, tests, quizzes and class participation.

Student evaluation: Quizzes, tests, and exams.

221TRIG TRIGONOMETRY (Jrs, Srs) NCAA**SEM 1****.5 credit**

Prerequisite: Completion of Algebra 2A with an "A", "B", or "C", and the recommendation of math teacher. **T184 graphing calculator required for this course.**

This course will include the definition of trigonometry and circular functions, how to find both sides and angles of right and oblique triangles, how to prove and simplify trigonometry functions, graphing the six trigonometry functions, usage of the Laws of Sines and Cosines, and half, double and composite angle formulas.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Quizzes, tests, and exams.

222*TRIG HON TRIGONOMETRY (Jrs, Srs) HC NCAA**SEM 1****.5 credit**

Prerequisite: Completion of Hon Algebra 2 with an "A" or "B" and recommendation of math teacher, or Algebra 2 with an "A" and recommendation of teacher. **TI84 graphing calculator required for this course.**

All material covered in Trigonometry will be included in this course. Real world applications will be stressed.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Quizzes, tests, and exams.

223COLAL COLLEGE ALGEBRA (Jrs, Srs) NCAA**SEM 2****.5 credit**

Prerequisite: Same prerequisites as 221 Trigonometry. **TI84 graphing calculator required for this course.**

This course will provide the essential concepts and skills of algebra and the study of functions that are needed for further study in mathematics. Topics include: linear, quadratic, exponential, logarithmic, rational functions; conic sections, matrices, graphing, sequence and series and probability.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Quizzes, tests, and exams.

224*COAL HON COLLEGE ALGEBRA (Jrs, Srs) HC NCAA**SEM 2****.5 credit**

Prerequisites: Same prerequisites as 222 *Trigonometry. **TI84 graphing calculator required for this course.**

This course will include all the material in College Algebra, but a special emphasis is given to the preparation for the study of higher mathematics. Topics include: conic sections, graphing, linear programming, functions and matrices.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Tests, quizzes, and exams.

230PCAL PRE-CALCULUS (Srs) NCAA**All Year****1 credit**

Prerequisite: Completion of Trigonometry and College Algebra and recommendation of math teacher.

TI84 graphing calculator required for this course.

This course will include intense function graphing, a quick trigonometry review and a survey of beginning calculus. The presentation of these topics develops an intuitive base and some of the tools for the study of more advanced mathematics.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Homework, tests, quizzes, and exams.

231*CALC CALCULUS (Srs) HC NCAA**All Year****1 credit**

Prerequisite: Completion of Honors Trigonometry and Honors College Algebra with an "A" or "B" and recommendation of math teacher.

TI84 graphing calculator required for this course.

In this course the students will learn differential and integral calculus and its applications in business and science. Topics such as domain and range, limits of functions, graphs, exponential and logarithmic functions are also included.

Student Activities: Note taking, homework, and class participation.

Student Evaluation: Quizzes, tests, and exams.