

The study of mathematics at the high school level has two goals. The first of these is to provide instruction in the mathematics needed to become an effective citizen. The second is to provide those students who are interested in careers that require the continued study of mathematics, or math applications, with the necessary background.

The graduation requirements of the state of Wisconsin specify a minimum of "two credits of mathematics, which incorporate instruction in the properties, processes and symbols of arithmetic, and elements of algebra, geometry and statistics." This minimum requirement is to be met by one of the course sequences identified below. The student is placed in a sequence through testing results and *must successfully complete that sequence to qualify for graduation from a WA-WM high school.*

<p><u>Sequence 1</u> Integrated Mathematics Concepts (3000) (1 credit)</p> <p>Algebra (3300) (1 credit)</p>	<p><u>Sequence 2</u> Algebra (3200) (1 credit)</p> <p>Geometry (3400 or 3420) (1 credit)</p>	<p><u>Sequence 3</u> Geometry (3400) or Accelerated Geometry*** (3420) (1 credit)</p> <p>Advanced Algebra (3500) or Advanced Algebra/Trig.***(3600) (1 credit)</p>
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The rapid expansion of technology makes the need for an adequate mathematics preparation more important than ever. Students who neglect to take more than the minimum mathematics courses often find this to be a handicap as they pursue careers or other opportunities after high school.

- 3000 Integrated Mathematics Concepts
- 3100 Guided Math Study
- 3200 Algebra
- 3300 Algebra
- 3400 Geometry
- 3420 Accelerated Geometry***
- 3500 Advanced Algebra
- 3600 Advanced Algebra with Trigonometry***
- 3700 Trigonometry/Advanced Math
- 3800 Pre-Calculus***
- 3900 Advanced Placement Calculus***
- 3950 Advanced Placement Statistics
- 3970 Introduction to Computer Programming – C++ (S)
- 3975H Computer Programming – Introduction to Website Design (S) (Hale Only)
- 3990H Advanced Computer Programming C++ (S) (Hale Only)

*Computer courses will be available to students – insert to follow.

3000 Integrated Mathematics Concepts (INT MTH CON)
 Grade 9 2 Semesters 1.00 Credit
 Prerequisite: Placement based upon prognosis test and achievement test scores

Integrated Mathematics Concepts prepares students to take a full year of Algebra (3300) and Geometry (3400). Some statistics and probability concepts will also be included in Integrated Math Concepts. Applications to real world situations will be included in the curriculum. A scientific calculator is required.

3100 Guided Math Study (MATH STUDY)
 Grade 9 2 Semesters 1.00 Credit

Guided Math Study is a course designed to help 9th grade students enrolled in IMC improve their basic math skills with an emphasis in preparation for pre-algebra and algebra. Students are placed in the class based only on teacher recommendations, middle school math grades and standardized test scores (WKCE, Stanford and Basic Skills tests and other diagnostic assessments).

This course does not satisfy the Math credit needed for graduation but may be used as an elective credit.

3200 Algebra (ALGEBRA)
Grade 9 2 Semesters 1.00 Credit
Prerequisite: Placement based upon prognosis test and achievement test scores

Algebra 3200 is a fast paced, in depth study of equations and formulas. Fundamental rules of mathematics are used to modify equations so that they can be applied to a variety of scientific, mechanical, economical and practical problems. An effort is made to recognize patterns in given situations that may be transformed into concise mathematical statements and solved accordingly.

3300 Algebra (ALGEBRA)
Grades 10, 11, 12 2 Semesters 1.00 Credit
Prerequisite: Completion of Integrated Mathematics Concepts (3032) with a passing grade

Algebra Survey is the study of equations and formulas. Fundamental rules of mathematics are used to modify equations so that they can be applied to a variety of scientific, mechanical, economical and practical problems. An effort is made to recognize patterns in given situations that may be transformed into concise mathematical statements and solved accordingly.

3400 Geometry (GEOMETRY)
Grades 9, 10, 11, 12 2 Semesters 1.00 Credit
Prerequisite: Completion of Algebra (3200 or 3300) or Grade 8 Algebra with a minimum grade of B or better

Geometry is the study of mathematics that applies the principles of algebra to the physical world. The student develops spatial relationships, inductive and deductive reasoning processes, clarity and precision of language, and further strengthening of basic mathematical skills. Topics covered include logic, parallelism, measurements, congruency, figures, construction, coordinates and transformations. Emphasis is on problem solving, independent thinking, and real world applications. Graphing calculators and computers may be used in these explorations. Geometry is an entrance requirement for most colleges and a prerequisite for most apprenticeship programs. A scientific calculator is required.

3420 Accelerated Geometry*** (***)ACC GEO)
Grades 9, 10, 11, 12 2 Semesters 1.00 Credit
Prerequisite: Completion of Algebra (3200 or 3300) or grade 8 Algebra with a grade of B or better and satisfactory achievement on geometry prognosis test

Accelerated Geometry is an expanded course compared to Geometry (3400). The pace of the course is faster than Geometry (3400). There is a greater emphasis placed on logical reasoning and methods of proof. A scientific calculator is required.

3500 Advanced Algebra (ADV ALG)
Grades 10, 11, 12 2 Semesters 1.00 Credit
Prerequisite: Completion of Geometry (3400 or 3420) with a passing grade. (Most colleges require Advanced Algebra)

This course is similar to Advanced Algebra with Trigonometry (3600) but without the trigonometry. A graphics calculator is required.

3600 Advanced Algebra with Trigonometry*** (***)AD ALG TR)
Grades 10, 11, 12 2 Semesters 1.00 Credit
Prerequisite: Completion of Algebra (3200 or 3300) or grade 8 Algebra and Geometry (3400 or 3420) with a grade of B or better in each

Advanced Algebra with Trigonometry (3600) is a continuation of Algebra (3200). Topics include the number system, operations with polynomials, factoring, systems of equations, complex numbers, relations and functions, including algebraic, trigonometric, exponential, and logarithmic. A graphics calculator is required.

3700 Trigonometry/Advanced Math (TR/AD MATH)
 Grade 11, 12 2 Semesters 1.00 Credit
 Prerequisite: Completion of Advanced Algebra (3500 or 3600) and Geometry (3400 or 3420)

This course is for students who wish to have a 3rd or 4th year of high school mathematics. Topics include the nature of graphs: Polynomial, rational, and trigonometric, sequences and series, probability and statistics, and graph theory. A graphics calculator is required.

3800 Pre-Calculus*** (**PRE CALC)
 Grades 11, 12 2 Semesters 1.00 Credit
 Prerequisite: Completion of Advanced Algebra with Trigonometry (3600) or Trigonometry/Advanced Math (3700) with a grade of C or better

This course is a continuation of Advanced Algebra with Trigonometry (3600) with more emphasis on the abstract or general forms as compared to the more direct forms of previous courses. This course is intended to provide a fourth year of mathematics, including an introduction to calculus in high school for those students pursuing advanced education in science, mathematics, or related fields. A graphics calculator is required.

3900 Advanced Placement Calculus*** (**AP CALC)
 Grades 11, 12 2 Semesters 1.00 Credit
 Prerequisite: Completion of Pre-Calculus (3800) with a grade of B or better and teacher recommendation

This course consists of a full academic year of work in calculus and related topics comparable to courses in colleges and universities. Course topics include differentiation, continuity, limits, approximations, and application of differentiation and integration. A graphics calculator is required.

At the end of this class students may choose to take the Advanced Placement examination.

3950 Advanced Placement Statistics (APSTATISTICS)
 2 Semesters 1.00 Credit

Prerequisite: This course is only offered to students that have successfully (B or better) completed a high school Advanced Algebra course but can be taken at the same time as Trig/Advanced Math, Pre-Calculus, or Advanced Placement Calculus.

This course will include study in the areas of patterns, methods of data collection, probability topics, and statistical inference. Students will create graphs, compare distributions of data using statistical measure, and analyze and compute regression lines. Students will also study methods of data collection, combining independent random variables, normal distributions, and sampling distributions. This course will prepare students for an advanced placement exam on first semester college statistics given in spring.

3970 Introduction to Computer Programming – C++ (INT COM PROG)
 Grades 9, 10, 11, 12 1 Semester .50 Credit
 Prerequisite: Completion of Algebra with a grade of C+ or better or teacher recommendation

Introduction to Computer Programming C++ is intended for those students interested in computer programming and data processing. Fundamentals of C++ programming languages are developed along with computer application to problem solving and simulation experiences. Course work includes “hands on” experiences with a computer. This course teaches the fundamentals of object oriented programming. The topics and problems considered are primarily mathematically oriented. Therefore, it is recommended that students enrolling in the course be average or above average in mathematics achievement and be well motivated.

3975H Computer Programming – Introduction to Website Design (Hale Only) (COM PROG WEB)
 Grades 9, 10, 11, 12 1 Semester .50 Credit
 Prerequisite: Completion of high school algebra or grade 8 algebra with a grade of C+ or better and/or counselor recommendation. *(If there are interested students from Central efforts will be made to accommodate scheduling).*

Introduction to Website Design is designed to acquaint students with the characteristics, capabilities and design of web pages for use on the Internet. Students will learn about subscripts, frames and HTML applications. Focus on using real-world application is included.

3990H Advanced Computer Programming (Hale Only) (ADV COM PROG)
 Grades 10, 11, 12 1 Semester .50 Credit
 Prerequisite: Completion of Introduction to Computer Programming with a grade of B- or better or teacher recommendation.

Advanced Computer Programming with C++ will extend the concepts of Introduction to C++ to include Object-Oriented Programming. It will include a review of the C++ programming language and add arrays, pointer structures, and will introduce the concept of classes. Searching and sorting algorithms will also be covered in this course.