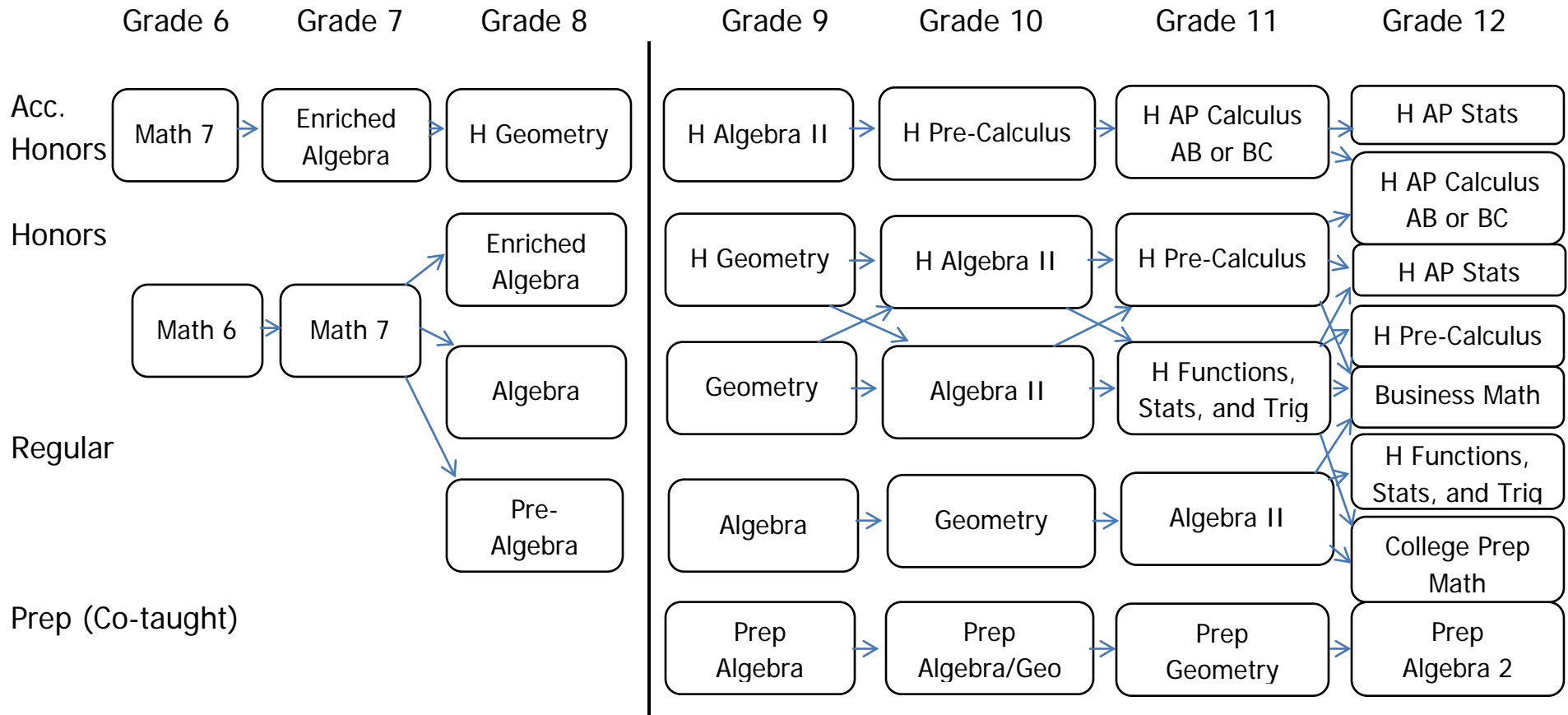


# School District of Menomonee Falls

## Math Course Sequence



**Notes:**

- Students will be placed in the appropriate 9<sup>th</sup> grade course based on their 8<sup>th</sup> grade standardized test, MAP scores, and middle school courses
- Students will need to be proficient in all standards taught in a course to move to the next course
- Students need department approval to take AP Calculus BC
- After Algebra II, students may take H AP Stats (alone or with another math course)

# Mathematics

**Mission Statement:**

*The mission of the MFHS Mathematics Department is to create students whose mathematical literacy allows them to be successful critical thinkers, problem solvers, and users of modern technology in real world settings.*

Course Title	Course Number	Length	Year Taken
Algebra 1	MA129	Year	8-9
Algebra 2	MA149	Year	10-11
Algebra 2-Honors	MA169	Year	9-10
AP Calculus AB-Honors	MA180/MA190	Year	11-12
AP Calculus BC-Honors	MA198/MA210	Year	11-12
AP Computer Science Java – Honors*	MA221/MA222	Year	11-12
AP Statistics-Honors	MA288/MA289	Year	11-12
AP Statistics-Honors Zero Hour	MA04Z	Year	11-12
Business Math	MA415	Semester	11-12
College Prep Math	MA112	Year	12
Digital Electronics-Honors AS (PLTW)*	TE434/ TE435	Year	10-12
Functions, Statistics & Trig - Honors	MA290/MA300	Year	11-12
Geometry	MA319	Year	9-12
Geometry-Honors	MA329	Year	9-10
Pre-Calculus-Honors	MA440/MA450	Year	9-12
Prep Algebra	MA611/MA612	Year	9
Prep Algebra/Geometry	MA621/MA622	Year	10
Prep Geometry	MA631/MA632	Year	11
Prep Algebra 2	MA146/MA147	Year	11-12

\*By request, these courses may be used to complete credits toward the Math Graduation Requirement.

The Menomonee Falls High School mathematics curriculum is aligned to the Common Core State Standards in Mathematics and organized using the ACT College and Career Readiness Standards. These standards define the knowledge and skills students should have within their K-12 education careers so that they will graduate high school able to succeed in entry-level, credit-bearing academic college courses and in workforce training programs.

For more information on the skills within each range of the College and Career Readiness Standards, see the website: [www.act.org/standard/planact/math/](http://www.act.org/standard/planact/math/).

**Calculator Policy** – Students will need to supply their own calculator for all math courses. Please use the following table to determine the appropriate calculator required. These calculators will be supported by the course materials used in class and by the instructor; therefore, it is highly recommended that students bring it to class every day.

Course Name	Calculator Required
Algebra, Prep Algebra, Prep Algebra/Geometry	Scientific
Algebra 2, Prep Algebra 2, Algebra 2 Honors	TI-83, 83+, 84, 84+, or TI-84 Color
AP Calculus AB, BC	TI-83, 83+, 84, 84+, or TI-84 Color
AP Statistics	TI-83, 83+, 84, 84+, or TI-84 Color
Business Math	TI-83, 83+, 84, 84+, or TI-84 Color
College Prep Math	TI-83, 83+, 84, 84+, or TI-84 Color
Functions, Statistics & Trig - Honors	TI-83, 83+, 84, 84+, or TI-84 Color
Geometry, Prep Geometry, Geometry Honors	Scientific
Pre-Calculus Honors	TI-83, 83+, 84, 84+, or TI-84 Color

**ALGEBRA 1**

One Year Course

**Grade 9**

**No Prerequisite:** Department Placement  
Course Number: MA129

The Algebra I course will focus on skills in the 20-23 range of the ACT College and Career Readiness Standards. This includes the study of the order of operations, properties of the real number system, equations, systems of equations, polynomials, exponents and radicals, products and factoring, graphical representations in the coordinate plane, basic probability and statistics concepts, basic Algebra properties, Pythagorean Theorem, basic properties of similar figures and an introduction to relations and functions. Algebra I students are expected to demonstrate proficiency in each focus skill that is taught. *Please see page 1 of this section for the required calculator for this course.*

**ALGEBRA 2**

One Year Course

**Grades 10, 11**

**Prerequisite:** Geometry  
Course Number: MA149

The Algebra 2 course will focus on skills in the 28-32 range of the ACT College and Career Readiness Standards. Topics include matrices, complex numbers, logarithmic and exponential functions, rational expressions, quadratics, trigonometry, graphical representations in the coordinate plane, and probability and statistics. Algebra 2 students are expected to demonstrate proficiency in each focus skill that is taught. *Please see page 1 of this section for the required calculator for this course.*

**ALGEBRA 2-HONORS**

One Year Course

**Grades 9, 10**

**Prerequisite:** Geometry (A level work), Honors Geometry (A or B level work) or Department Approval  
Course Number: MA169

The Honors Algebra 2 course covers the material taught in Algebra 2 in greater depth. Students in Honors Algebra 2 are expected to demonstrate proficiency in the focus and extension skills that are taught. *Please see page 1 of this section for the required calculator for this course.*

**AP CALCULUS AB-HONORS**

One Year Course

**Grade 11, 12**

**Prerequisite:** Honors Pre-Calculus (A or B level work) or Department Approval  
Course Number: MA180/MA190

Calculus is a rigorous mathematics course intended for those students who are interested in pursuing careers in mathematics, science, engineering, or business. The course content is similar to that offered in freshman level Calculus classes at most major universities. Topics included in the syllabus will be a brief review of trigonometry and some advanced algebra topics, limits, differential calculus and its applications, and integral calculus and its applications. *Please see page 1 of this section for the required calculator for this course.*

Upon successful completion of this course students may elect to take the Advanced Placement Calculus AB Exam in May. Based on the performance on this test, college credits (usually 4 or 5) may be earned.

**AP CALCULUS BC-HONORS**

One Year Course

**Grades 11, 12***Prerequisite:* AP Calculus AB (A or B level work) or Department Approval**Course Numbers: MA198/MA210**

This course serves a follow-up to AP Calculus AB so students can fulfill the curricular expectations of AP Calculus BC. The course will involve an in-depth review of the AP Calculus AB subject matter of limits, Differential Calculus and Integral Calculus with the additional content that AP Calculus BC requires of these topics. The majority of the course will focus on topics unique to AP Calculus BC. These include Parametric, Vector and Polar functions, additional methods of integration, Geometric, Harmonic and Alternating Series, MacLaurin and Taylor Series, testing for series convergence as well as error bounds for series.

Upon successful completion of this course, students may elect to take the AP Calculus BC Exam in May. Based on the performance on this test, college credits above and beyond those earned in AP Calculus AB may be earned (usually 4 or 5 credits).

**AP COMPUTER SCIENCE – JAVA HONORS**

One Year Course

**Grades 11-12***Prerequisite: Computer Science 1 & 2 and Department Approval*

Course Number: MA221/222

*By request, this course is eligible to fulfill 2 credits of the Math Graduation Requirement. Please see your counselor for complete information.*

See the course description in the Computer Science Section on page 61.

**AP STATISTICS HONORS**

One Year Course

**Grades 10, 11, 12***Prerequisite:* Algebra 2, Algebra 2 Honors or Department Approval

Course Number: MA288/MA289

\*Zero Hour Course Number: MA04Z

The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. The class has four basic themes:

- Exploring Data: Describing patterns and departures from patterns
- Sampling and Experimentation: Planning and conducting a study
- Anticipating Patterns: Exploring random phenomena using probability and simulation
- Statistical Inference: Estimating population parameters and testing hypotheses

**\*THIS COURSE OFFERED BEFORE SCHOOL  
7:00 AM-7:45 AM (ZERO HOUR)**

**It is intended that students enrolled in this course take the Advanced Placement examination in AP Statistics in the spring of their year of study. Please see page 1 of this section for the required calculator for this course.**

**BUSINESS MATH**

One Semester Course

**Grades 11-12****Prerequisite:** *Algebra 2 or Honors Algebra 2*

Course Number:

MA415

This course covers... basic operations, percents, basic statistics, simple interest, compound interest, trade and cost discounts, markup and markdown, annuities, and mortgages. These topics are all taught in context with business/consumer applications and also using Excel. *Please see page 1 of this section for the required calculator for this course.*

**COLLEGE PREP MATH**

One Year Course

**Grades 12****Prerequisite:** *Algebra 2 or FST*

Course Number: MA112

College Prep Math is an excellent course for the student who wants to increase his/her math skills and problem solving abilities. College Prep Math begins with a review of the major topics of Algebra 2. The course then covers probability and statistics. Second semester the students will prepare for the EMPT (Early Math Placement Test) conducted by the University of Wisconsin System. The ultimate goal of taking the class should be to improve his/her math skills to avoid remedial math placement as a freshman in college. Please see page 1 of this section for the required calculator for this course.

Recommendation: Students taking College Prep Math must have successfully completed both semesters of Algebra 2. This course is not intended for students who have successfully completed Pre-Calculus or Calculus.

**DIGITAL ELECTRONICS-HONORS AS**

One Year Course

**Grades 10-12****No Prerequisite:**

**Principles of  
Engineering is  
recommended**



*By request, this course is eligible to fulfill 2 credits of the Math Graduation Requirement. Please see your counselor for complete information.*

See the course description in the Technology Education and Engineering Section on page 101.

Course Numbers:

Semester 1: TE434

Semester 2: TE435

WCTC **Advanced Standing****FUNCTIONS, STATISTICS & TRIG - HONORS**

One Year Course

**Grade 11-12****Prerequisite:** Algebra 2

Course Number: MA290/MA300

The Functions, Statistics and Trigonometry course will focus on skills in the 33-36 range of the ACT College and Career Readiness Standards. Topics include: graphing polynomial and rational functions, inverse and composite functions, conic sections, complex numbers, vectors, unit circle trigonometry, trig identities, probability, and statistics. FST students are expected to demonstrate proficiency in each focus skill that is taught. *Please see page 1 of this section for the required calculator for this course.*

**GEOMETRY**

One Year Course

**Grades 9-12****Prerequisite: Algebra 1**

Course Number: MA319

The Geometry course will focus on skills in the 24-27 range of the ACT College and Career Readiness Standards. Topics include the properties of triangles and quadrilaterals, measurement, volume, slope, linear equations and inequalities, coordinate geometry and trigonometry. Geometry students are expected to demonstrate proficiency in each focus skill that is taught. *Please see page 1 of this section for the required calculator for this course.*

**GEOMETRY-HONORS**

One Year Course

**Grades 9-10****Prerequisite:** Algebra 1 (A or B level work) or Department Approval

Course Number: MA329

The Honors Geometry course covers the material taught in Geometry in greater depth. Students in Honors Geometry are expected to demonstrate proficiency in the focus and extension skills that are taught. *Please see page 1 of this section for the required calculator for this course.*

**PRE-CALCULUS-HONORS**

One Year Course

**Grades 9-12****Prerequisite:** Algebra 2 (A level work), Honors Algebra 2 (A or B level work), FST or Department Approval

Course Number: MA440/MA450

Honors Pre-Calculus is an advanced course in high school mathematics. It presents the mathematics that follows the study of algebra and geometry and precedes the rigorous study of calculus. It is designed and recommended for those who seek careers in mathematics, science, business, engineering or other technical fields. Topics studied include the following: review of algebraic concepts; functions and relations; circular, trigonometric, polynomial, algebraic, logarithmic and exponential functions. *Please see page 1 of this section for the required calculator for this course.*

Prep Algebra, Prep Algebra/Geometry and Prep Geometry form a three year sequence in which Algebra 1 and Geometry are taught over 3 years instead of 2. *Teacher recommendation is required for a student to register for any of these three courses.* After this three year sequence, a student with teacher approval may register for Prep Algebra 2 for a fourth year of math.

**PREP ALGEBRA**

One Year Course

**Grade 9****No Prerequisite: Department Placement**

Course Numbers: MA611/MA612

Prep Algebra course covers the same material taught in Algebra but at a slower pace. Students are expected to demonstrate proficiency in the essential skills that are taught. *Please see page 1 of this section for the required calculator for this course.*

**PREP ALGEBRA/GEOMETRY**

One Year Course

**Grade 10****Prerequisite: Prep Algebra**

Course Numbers: MA621/MA622

Prep Algebra/Geometry will cover the remaining skills from Algebra and then begin the essential skills from Geometry. Students are expected to demonstrate proficiency in the essential skills that are taught. *Please see page 1 of this section for the required calculator for this course.*

**PREP GEOMETRY**

One Year Course

**Grade 11*****Prerequisite: Prep Algebra/Geometry***

Course Numbers: MA631/MA632

Prep Geometry course covers the same material taught in Geometry but at a slower pace. Students are expected to demonstrate proficiency in the essential skills that are taught. *Please see page 1 of this section for the required calculator for this course.*

**PREP ALGEBRA 2**

One Year Course

**Grade 11-12*****Prerequisite: Geometry or Prep Geometry,  
Teacher Recommendation***

Course Numbers: MA146/MA147

Prep Algebra 2 course covers most of the curriculum taught in Algebra 2 but at a slower pace. Students are expected to demonstrate proficiency in the essential skills that are taught. *Please see page 1 of this section for the required calculator for this course.*