**Typical Math Pathways Marshfield Grades 7-12**

**Technical College, Strong Preparation** 7- Grade 7 Math

1. Grade 8 Math
2. Algebra 1 R/H
3. Geometry R/H
4. Algebra 2 R/H
5. Math 107 H then Math 118 PS or AS Technical Math

**Technical College, Typical Preparation** 7- Grade 7 Math

1. Grade 8 Math
2. Algebra 1 R
3. Geometry R
4. Algebra 2 R
5. AS Technical Math

**Technical College, Minimum Preparation** 7- Grade 7 Math

1. Grade 8 Math
2. Pre-Algebra
3. Customized Algebra 1 or Algebra 1 R 11- Customized Geometry or Geometry R

12- Customized Algebra 2 or AS Technical Math

These pathways are examples of the sequencing of math classes and are intended as a guide in planning course selection. Other pathways

are possible. Please consult a counselor or math instructor if you have questions.

**Four Year University, Strong Preparation-Option 1** 7- Grade 7 Advanced Math

1. Algebra 1
2. Geometry R/H
3. Algebra 2 R/H
4. Pre-Calculus H AB/BC and/or AP Statistics PS 12- AP Calculus PS AB/BC and/or AP Statistics PS

# Four Year University, Strong Preparation-Option 2

1. Grade 7 Advanced Math or Grade 7 Math
2. Grade 8 Advanced Math or Grade 8 Math
3. Algebra 1 R/H
4. Geometry R/H **and** Algebra 2 R/H
5. Pre-Calculus H AB/BC and/or AP Statistics PS 12- AP Calculus PS AB/BC and/or AP Statistics PS

# Four Year University, Typical Preparation

1. Grade 7 Math
2. Grade 8 Math
3. Algebra 1 R/H
4. Geometry R/H
5. Algebra 2 R/H
6. Math 107 H then Math 118 PS or Pre-Calculus H AB/BC

# Four Year University,

**Minimum Preparation – Option 1**

1. Grade 7 Math
2. Grade 8 Math
3. Algebra 1 R/H or Customized Algebra 1 R 10- Geometry R/H or Customized Geometry R 11- Algebra 2 R/H or Customized Algebra 2 R 12- AS Technical Math

# Four Year University,

**Minimum Preparation – Option 2**

1. Grade 7 Math
2. Grade 8 Math
3. Pre-Algebra
4. Algebra 1 R or Customized Algebra 1 R 11- Geometry R or Customized Geometry R 12- Algebra 2 R or Customized Algebra 2 R

# PRE-ALGEBRA (201) Credit: 1

Pre-Algebra is designed to meet the needs of students who benefit from personalized pathways and multiple instructional strategies in the classroom. Students learn Pre-Algebra standards with the help of tailored instruction, computerized resources, mini-seminars, and a teacher serving the facilitator and coach in a flexible learning environment. The primary instructional tool will be an online resource, allowing students flexibility to demonstrate proficiency in objectives, in a self-paced environment. Additional supplemental resources are determined and used to help all students become successful in demonstrating proficiency.

**NOTE: A calculator is required for this course.** PREREQUISITES: Grade 8 Math and instructor’s recommendation.

# CUSTOMIZED ALGEBRA 1 (202) Credit: 1

Customized Algebra is designed to meet the needs of students who benefit from personalized pathways and multiple instructional strategies in the classroom. Students learn Algebra 1 standards with the help of tailored instruction, computerized resources, mini-seminars, and a teacher serving the facilitator and coach in a flexible learning environment. The primary instructional tool will be an online resource, allowing students flexibility to demonstrate proficiency in objectives, in a self-paced environment. Additional supplemental resources are determined and used to help all students become successful in demonstrating proficiency.

# NOTE: A calculator is required for this course. NOTE: This is a NCAA approved course.

PREREQUISITES: Grade 8 Math or Pre-Algebra (201) or instructor’s recommendation.

# CUSTOMIZED GEOMETRY (203) Credit: 1

Customized Geometry is designed to meet the needs of students who benefit from personalized pathways and multiple instructional strategies in the classroom. Students learn Geometry standards with the help of tailored instruction, computerized resources, mini-seminars, and a teacher serving the facilitator and coach in a flexible learning environment. The primary instructional tool will be an online resource, allowing students flexibility to demonstrate proficiency in objectives, in a self-paced environment. Additional supplemental resources are determined and used to help all students become successful in demonstrating proficiency.

# NOTE: A calculator is required for this course. NOTE: This is a NCAA approved course.

PREREQUISITES: Customized Algebra 1 (202) or instructor’s recommendation.

# CUSTOMIZED ALGEBRA 2 (204) Credit: 1

Customized Algebra 2 is designed to meet the needs of students who benefit from personalized pathways and multiple instructional strategies in the classroom. Students learn Algebra 2 standards with the help of tailored instruction, computerized resources, mini-seminars, and a teacher serving the facilitator and coach in a flexible learning environment. The primary instructional tool will be an online resource, allowing students flexibility to demonstrate proficiency in objectives, in a self-paced environment. Additional supplemental resources are determined and used to help all students become successful in demonstrating proficiency.

# NOTE: A calculator is required for this course. NOTE: This is a NCAA approved course.

PREREQUISITES: Customized Geometry (203) or instructor’s recommendation.

# ALGEBRA 1 (205) Credit: 1

Develop the algebraic concepts and skills necessary for further math study. Use properties to evaluate expressions and operations on polynomials. Writing, solving and graphing linear equations and inequalities using multiple representations. Solving systems of linear equations and quadratic equations using multiple representations.

# NOTE: A calculator is required for this course. It may be a scientific or graphing calculator.

**NOTE: This is a NCAA approved course.**

PREREQUISITE: Grade 8 Math or Pre-Algebra (201).

# ALGEBRA 1 Honors (206) Credit: 1

Develop the algebraic concepts and skills necessary for further math study. Use properties to evaluate expressions and operations on polynomials. Writing, solving and graphing linear equations and inequalities using multiple representations. Solving systems of linear equations and quadratic equations using multiple representations. This course will cover much of the same material as Algebra 1, but in more depth and at an accelerated pace. Additional topics will be included.

# REQUIREMENTS: This course is for the student with skills and motivation to take on an accelerated and more rigorous Algebra curriculum. Students are expected to participate in class and complete daily assignments. Considerable amount of time on homework is expected outside of class.

**NOTE: A calculator is required for this course. It may be a scientific or graphing calculator.**

**NOTE: This is a NCAA approved course.** PREQUISITE: Grade 8 Advanced Math or a grade of at least “B” in Grade 8 Math.

# GEOMETRY (211) Credit: 1

Use geometric terminology and notation to describe 2-D and 3-D objects. Apply properties of polygons and circles. Use formulas to calculate length, angle measure, midpoint, slope, area, and volume. Reason proportionally and solve trigonometric equations. Use the coordinate plane to characterize geometric properties.

NOTE: A calculator is required for this course. It may be a scientific or graphing calculator.

**NOTE: This is a NCAA approved course.** PREREQUISITE: Customized Algebra 1 (202), or Algebra 1R (205) or Algebra 1H (206).

# GEOMETRY Honors (212) Credit: 1

Learn plane and solid geometry, apply theorems while developing logical reasoning and problem solving through original proofs, non-routine problems, and an introduction to analytic geometry. Theory is emphasized.

# REQUIREMENTS: This course emphasizes the theory of geometric concepts. Students will examine and write proofs frequently. Students are expected to participate in class, complete daily assignments, projects, quizzes, and tests. Considerable amount of time on homework is expected outside of class.

**NOTE: A calculator is required for this course. It may be a scientific or graphing calculator.**

**NOTE: This is a NCAA approved course.** PREREQUISITES: Algebra 1 H (206) or a grade of at least “B” in Algebra 1R (205).

# ALGEBRA 2 (207) Credit: 1

This course involves the study of linear functions, complex numbers, absolute value equation, systems of equations, quadratic equations and functions, polynomial equations and functions, inverses and radical functions, exponential and logarithmic functions, rational functions, trigonometric functions, conic sections, sequence and series, probability, and statistics.

# NOTE: A graphing calculator is highly recommended. NOTE: This is a NCAA approved course.

PREREQUISITE: Geometry R (211) or Geometry H (212) or Customized Geometry R (203).

# ALGEBRA 2 Honors (208) Credit: 1

This course involves the study of linear functions, complex numbers, absolute value equation, systems of equations, matrices, quadratic equations and functions, polynomial equations and functions, inverses and radical functions, exponential and logarithmic functions, rational functions, trigonometric functions, conic sections, sequence and series, probability, and statistics.

# REQUIREMENTS: This course is for the student with skills and motivation to take on an accelerated and more rigorous Algebra 2 curriculum. Students are expected to participate in class, complete daily assignments, projects, quizzes and tests. Considerable amount of time on homework is expected outside of class.

**NOTE: A graphing calculator is required for this course.**

**NOTE: This is a NCAA approved course.** PREREQUISITES: Geometry H (212) or instructor’s recommendation.



# AS TECHNICAL MATH PS (227) Credit: 1

This course is comparable to the (first general math) course offered at Mid-State Technical College called Intermediate Algebra with Applications. Students will earn Wisconsin Technical College Advanced Standing with a B or better both semesters of this course. Topics to be covered will include: real numbers; solving linear, quadratic and rational expressions; percent, proportions and variation; functions and graphs; formula rearrangement; operations with polynomials; and solving systems of equations. Emphasis will be on the application of skills to technical problems.

# NOTE: This course will also help students to prepare for a Math College Placement Exam.

**NOTE: A calculator is required for this course. It may be a scientific or graphing calculator.**

PREQUISITES: Senior Standing **and** completion of three credits of high school mathematics.



# MATH 107 –

**INTERMEDIATE ALGEBRA H (209) Credit: 1/2**

Emphasizes algebraic techniques with polynomials, rational expressions, exponents and radicals, linear and quadratic equations, and inequalities. Introduction to functions, their graphs and analytic geometry.

# NOTE: This is only offered in the fall semester. All students who sign up for this course may sit for the UW System placement test in Mathematics to place into Math

**118. This course will help students prepare for the UW System placement test in mathematics. This class meets for one semester.**

# NOTE: A scientific calculator and a graphing calculator are required for this course.

**NOTE: This is a NCAA approved course.** PREREQUISITE: Senior Standing **and** completion of three credits of high school mathematics.



# DC MATH 118 –

**PRECALCULUS ALGEBRA PS (210) Credit: 1/2**

Definition of function; linear and non-linear functions and graphs including logarithmic and exponential functions; systems of linear equations; theory of polynomial equations and optional topics such as mathematical induction, matrix solution of linear systems and Cramer’s rule. Course fees: If second attempt is necessary for UW-Placement Exam, estimated cost is $30.

# NOTE: This is only offered in the spring semester. Students must have tested into Math 118 through the UW Math Placement Exam to take Math 118 for college credit. Students may opt to take Math 118 solely for high school credit under the UW grading policy.

NOTE: A scientific and a graphing calculator are required for this course.

**NOTE: This is a NCAA approved course.** PREREQUISITES: Senior standing **and** Completion of Three Credits of High School Mathematics and Math 107 H (209), or teacher recommendation.

# PRE-CALCULUS AB Honors (218) Credit: 1

Prepare for AP Calculus AB (221). Emphasis will include: trigonometry, analytic geometry, mathematical functions, limits and elementary concepts of calculus.

# REQUIREMENTS: This rigorous course prepares students for AP Calculus AB. Students are expected to participate in class, complete daily assignments, projects, quizzes and tests. Considerable amount of time on homework is expected outside of class.

**NOTE: A graphing calculator is required for this course.**

**NOTE: This is a NCAA approved course.** PREREQUISITES: Algebra 2 H (208), or consent of Algebra 2 R (207) instructor, or consent of Customized Algebra 2 (204) instructor.

# PRE-CALCULUS BC Honors (219) Credit: 1

Prepare for AP Calculus BC (222). Topics include trigonometry, analytic geometry, functions, limits, and derivatives.

# REQUIREMENTS: This course prepares students for AP Calculus BC and covers several chapters of Calculus material. Its pace is more accelerated than Pre-Calculus AB. Students are expected to participate in class, complete daily assignments, projects, quizzes and tests. Considerable amount of time on homework is expected outside of class.

**NOTE: A graphing calculator is required for this course.**

**NOTE: This is a NCAA approved course.** PREREQUISITES: Algebra 2 H (208) or and recommendation of instructor.

# AP CALCULUS AB PS (221) Credit: 1

Study limits, derivatives, and integrals. After learning techniques of differentiation, apply derivatives to function analysis, rates of change, and optimization. After learning techniques of integration, use integrals to find areas, volumes, displacement, and net change. Examine slope fields and significant mathematical theorems. This course is equivalent to one semester of college calculus and up to 5 college credits may be earned if you are successful on the AP exam.

# REQUIREMENT: This is a college level course that covers the material of one college semester of calculus. Students should have a strong foundation of math skills from prerequisite courses. Students are expected to participate in class, complete daily assignments, projects, quizzes, and tests. Considerable amount of time on homework is expected outside of class. Students are expected to memorize formulas and unit circle values.

**NOTE: A graphing calculator is required for this course.**

# NOTE: This is a NCAA approved course.

PREREQUISITES: Pre-Calculus AB H (218) or Pre-Calculus BC H (219)

# AP CALCULUS BC PS (222) Credit: 1

This course covers all the topics of AP Calculus AB

(221) and more. After mastering more complex techniques of integration, apply concepts to polar and parametric equations. Investigate the convergence of infinite series, and construct Taylor Polynomials. This course is equivalent to two semesters of college calculus, and up to 10 college credits may be earned if you are successful on the AP exam. **REQUIREMENTS: This is a college level course that covers the material of two college semesters of calculus. Content is covered at a brisk pace. Students should have a strong foundation of math skills from prerequisite courses. Students are expected to participate in class, complete daily assignments, projects, quizzes and tests. Considerable amount of time on homework is expected outside of class. Students are expected to memorize formulas and unit circle values.**

# NOTE: A graphing calculator is required for this course.

**NOTE: This is a NCAA approved course.**

PREREQUISITES: Pre-Calculus BC H (219).

# AP STATISTICS PS (223) Credit: 1

This Advanced Placement course is taught as an activity-based course in which students actively construct their own understanding of the concepts and techniques of statistics. Student questions are encouraged and tend to be an extension to the given topic.

# Note: This is a college level course that covers the material of one college semester of statistics. Students should have a strong foundation of math skills from prerequisite courses. Students are expected to participate in class, complete daily assignments, projects, quizzes, and tests. Considerable amount of time on homework is expected outside of class.

**NOTE: A graphing calculator is required for this course.**

# NOTE: This is a NCAA approved course.

PREREQUISITES: Algebra 1 (205 or 206), Geometry (211

or 212), and Algebra 2 (207 or 208).

# MTSS MATH

**INTERVENTION (230) Elective Credit: ½ or 1**

# (Does not count as a math credit)

This course is a Tier 2 Intervention designed for students who lag well behind their peers and demonstrate weak progress on screening measures. The course will begin with an assessment to determine what skills each student needs to focus on. Students will receive individualized instruction and basic skills practice in areas of need. Biweekly progress monitoring will be used to make decisions for future skills and content covered.

**Note: A calculator is recommended for this course.** PREREQUISITE: This course is only for students who have been identified by district screening measure