

# MATHEMATICS (MATH)

## Accelerated Math (AMATH)

### AMATH 097 Corequisite Intermediate Algebra 7 Credits

Introduces the study of linear equations and systems, properties of exponents, operations on polynomials, factoring, and quadratic equations with additional support with algebra techniques. Students should take this course if they plan to pursue a pathway that requires MATH 141 (STEM) or MATH 147 (Business) or if they plan to transfer to a university that requires MATH 097 for admission.

**Prerequisite:** Prerequisite: Qualifying placement for MATH 092 or ABE 065 or an S in ABE 064.

### AMATH 141 Corequisite Precalculus I 8 Credits

Covers power, exponential, and logarithmic functions and analytic geometry with additional support with algebra techniques. Students who plan to pursue Science, Engineering, or Math (SEM) pathways should take this course.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH 097 or equivalent.

## Mathematics (CMATH)

### CMATH 107 Clippers Math In Society 5 Credits

Gives students the opportunity to complete MATH& 107 in one quarter with prerequisite support as needed. Explores a variety of mathematical topics presenting mathematics as an art and as a tool for understanding the world around us. Designed for non-science majors. Specific topics may be drawn from geometry, number theory, set theory, and the history of mathematics. Students will earn credit for either MATH 095 or MATH& 107 at the conclusion of the course.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH 092 or an S in ABE 065.

### CMATH 146 Clippers Introduction to Statistics 7 Credits

Gives students the opportunity to complete MATH& 146 in one quarter with prerequisite support, as needed. Covers basic probability and descriptive and inferential statistics. Students will earn credit for either MATH 095 and MATH 096 or MATH 096 and MATH& 146 at the conclusion of the course.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH 092 or an S in ABE 065.

## Mathematics (MATH)

### MATH 092 Mathematical Reasoning 5 Credits

Introduces operations with rational numbers, applications, problem solving skills, expressions, solving linear equations, and graphing linear relationships.

**Prerequisite:** Prerequisite: Qualifying placement for MATH 092 or ABE 065 or an S in ABE 064.

### MATH 095 Intermediate Algebra Essentials 5 Credits

Introduces the study of linear equations and polynomials, systems of linear equations, properties of positive exponents, operations on polynomials, basic factoring, and analyzing graphs of linear, quadratic, and exponential functions. Students should take this course if they plan to pursue a pathway that requires MATH& 146 or MATH& 107.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH 092 or an S in ABE 065.

### MATH 096 Applied Algebra Topics 2 Credits

Provides algebraic foundations by introducing the vocabulary, problem solving strategies, critical thinking, mathematical concepts, and technical skills needed to be successful. Students placing below college level on the CPT for these classes, or who are self-placing should take this class.

**Prerequisite:** Prerequisite: MATH 095 with a C or better or appropriate placement.

### MATH 097 Intermediate Algebra 5 Credits

Introduces the study of linear equations and polynomials, including equation of a line, systems of linear equations, properties of exponents, operations on polynomials, factoring, and solving factorable quadratic equations. Students should take this course if they plan to pursue a pathway that requires MATH 099 (STEM) or MATH 147 (Business) or if they plan to transfer to a university that requires MATH 097 for admission.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH 092 or an S in ABE 065.

### MATH 098 Algebraic Methods 5 Credits

Focuses on the geometric and algebraic skills needed for success in precalculus and calculus. Students who plan to pursue Science, Engineering, or Math (SEM) pathways should take this course.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH 097 or equivalent.

### MATH 099 Functions and Advanced Algebraic Methods 3 Credits

Strengthens algebraic foundations for quadratic, rational, and radical expressions and equations. Introduces students to function notation and logarithms. Students who plan to pursue Science, Engineering, or Math (SEM) pathways should take this course.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH 097 or equivalent.

### MATH 101 Technical Mathematics I 5 Credits

Covers the theories and applications of mathematics used in technical fields with emphasis on problem solving strategies, measurement, algebra, geometry, unit conversions and the metric system.

**Prerequisite:** Prerequisite: Qualifying placement for MATH 092 or ABE 065 or an S in ABE 064.

### MATH 147 Precalculus for Business/Social Science 5 Credits

Covers properties and applications of elementary algebraic, exponential, and logarithmic functions relevant to business, economics, and social sciences. Recommended for students studying business or economics.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH 097 or equivalent.

**Distribution Requirements:** Quantitative, Natural Science

### MATH 205 Linear Algebra 5 Credits

Covers vectors, matrices, linear transformations, eigenvalues and eigenvectors.

**Prerequisite:** Prerequisite: MATH& 151 with a C or better

**Distribution Requirements:** Quantitative, Natural Science

**MATH 214 Undergraduate Research I 1-6 Credits**

Prepares students to successfully complete their own scientific research project by introducing the use of the scientific method, ethics, research methods, proposal writing, and presentation techniques. Provides a framework for students to design, plan, and carry out their own scientific research project in collaboration with peers and mentors.

**Prerequisite:** Prerequisite: MATH& 141 or MATH& 146 or instructor's permission.

**MATH 215 Undergraduate Research II 1-5 Credits**

Continues to prepare students to successfully complete their own scientific research project by introducing the use of the scientific method, ethics, research methods, proposal writing, and presentation techniques. Provides a framework for students to design, plan, and carry out their own scientific research project in collaboration with peers and mentors.

**Prerequisite:** Prerequisite: MATH 214.

**MATH 238 Differential Equations 5 Credits**

Introduces the theory of ordinary differential equations with applications to biological, chemical, and/or physical systems.

**Prerequisite:** Prerequisite: MATH& 151 and MATH& 152 with a C or better.

**Distribution Requirements:** Quantitative, Natural Science

**MATH 305 Linear Algebra 5 Credits**

Covers vectors, matrices, linear transformations, eigenvalues and eigenvectors.

**Prerequisite:** Prerequisite: Either MATH& 151 with a C or better OR CS 350 and CS 360 (with C or better in both CS classes.)

**Distribution Requirements:** Natural Science, Quantitative

## Mathematics (CCN) (MATH&)

**MATH& 107 Math In Society 5 Credits**

Explores a variety of mathematical topics presenting mathematics as a form of art and as a tool for understanding the world around us. Designed for non-science majors. Specific topics may be drawn from geometry, number theory, set theory, and the history of mathematics.

**Prerequisite:** Prerequisite: MATH 095 with a C or better or appropriate placement.

**Distribution Requirements:** Quantitative, Natural Science

**MATH& 141 Precalculus I 5 Credits**

Covers power, exponential, and logarithmic functions and analytic geometry. Students who plan to pursue a Science, Engineering, or Math (SEM) pathway should take this course.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH 098 or MATH 099 or equivalent.

**Distribution Requirements:** Quantitative, Natural Science

**MATH& 142 Precalculus II 5 Credits**

Covers trigonometric, polynomial, and rational functions and their applications.

**Prerequisite:** Prerequisite: Appropriate placement or a C or better in MATH& 141 or equivalent.

**Distribution Requirements:** Quantitative, Natural Science

**MATH& 146 Introduction to Statistics 5 Credits**

Covers basic probability, descriptive statistics, and inferential statistics.

**Prerequisite:** Prerequisite: MATH 096 with a C or better.

**Distribution Requirements:** Quantitative, Natural Science

**MATH& 148 Business Calculus 5 Credits**

Covers introductory calculus for students of business and social science.

**Prerequisite:** Prerequisite: MATH 147 with a C or better or appropriate placement.

**Distribution Requirements:** Quantitative, Natural Science

**MATH& 151 Calculus I 5 Credits**

Covers differential calculus of single-variable functions.

**Prerequisite:** Prerequisite: MATH& 142 with a C or better

**Distribution Requirements:** Quantitative, Natural Science

**MATH& 152 Calculus II 5 Credits**

Covers integral calculus of single-variable functions.

**Prerequisite:** Prerequisite: MATH& 151 with a C or better.

**Distribution Requirements:** Quantitative, Natural Science

**MATH& 153 Calculus III 5 Credits**

Covers advanced calculus topics including infinite series, Taylor polynomials, Taylor series representation of functions and calculus in polar coordinates and in parametric equations. Continuation of MATH& 152.

**Prerequisite:** Prerequisite: MATH& 152 with a C or better.

**Distribution Requirements:** Quantitative, Natural Science

**MATH& 254 Calculus IV 5 Credits**

Covers analytic geometry in three dimensions and multivariable calculus.

**Prerequisite:** Prerequisite: MATH& 151 and MATH& 152 with a C or better.

**Distribution Requirements:** Quantitative, Natural Science