

R - Senior Math

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This course is designed for fourth year students who do not plan to study a math/science/technical field beyond high school. The course will review topics of Algebra I and Geometry. Students will also be expected to demonstrate proficiency with computation and basic concepts without the use of a calculator. Applications (especially understanding word problems) will be emphasized. Students will receive instruction on and practice with college placement exams such as the Accuplacer used by local area post-secondary institutions.

Graduation Standards

Standard 1 – Reason and model quantitatively, using units and number systems to solve problems.

Standard 2 – Interpret, represent, create and solve algebraic expressions.

Standard 3 – Interpret, analyze, construct, and solve linear, quadratic, and trigonometric functions.

Introduction	Soft Skills
Summary	Students will apply their knowledge of soft skills such as listening, time management, following directions as well as getting to know themselves and their classmates.
Unit 1	Computation Fluency
Summary	Students will perform operations in the real number system including integers, fractions, decimals, Order of Operations. Focus will be computing without a calculator, recognizing equivalent fractions and mixed numbers, ordering, and estimating.
Performance Indicators Assessed in Unit	S1B. Apply properties within the real number system. S1C. Reason quantitatively. S2H. Understand solving equations as a process of reasoning and explain the reasoning.
Unit 2	Applications with Measurement, Fractions, Ratios, and Percents
Summary	Students will practice real world problem solving with measurement, fractions, ratios, and percents. Topics include measurement, rate, and percent problems; simple geometry problems; distribution of a quantity into its fractional parts; recognition of decimals; percent equivalencies; and estimating.
Performance Indicators Assessed in Unit	M1B. Use the properties of rational and irrational numbers. M1C. Reason quantitatively and use units to solve problems. M2B. Write expressions in equivalent forms to solve problems. M2G. Create equations that describe numbers or relationships. M2H. Understand solving equations as a process of reasoning and explain the reasoning. M2I. Solve equations and inequalities in one variable.
Unit 3	Probability
Summary	Students will utilize operations with permutations and combinations, factorials, and probability word problems.
Performance Indicators Assessed	S5A – Summarize, represent, and interpret data on a single count or measurement variable S5B – Summarize, represent, and interpret data on 2 categorical and quantitative variables. S5C – Interpret linear models.

in Unit	S5F – Understand independent and conditional probability and use them to interpret data.		
Unit 4	Algebraic Operations		
Summary	Students will perform operations evaluating simple formulas and expressions, factoring, solving linear and quadratic equations and inequalities, systems of equations, manipulating roots and exponents.		
Performance Indicators Assessed in Unit	S1A – Extend properties of exponents to rational exponents. S1B – Apply properties within the real number system. S1D – Perform arithmetic operations with complex numbers. S2C – Perform arithmetic operations on polynomials. S2D – Understand the relationship between zeros and factors of polynomials. S2J – Solve systems of equations algebraically. S2K – Represent and solve equations and inequalities in two variables graphically.		
Unit 5	Geometry		
Summary	Students will solve problems in plane geometry. Overview of circle properties and equations. Evaluation of area and volume problems		
Performance Indicators Assessed in Unit	S4A – Experiment with transformations in the plane. S4B – Understand congruence in terms of rigid motions. S4H – Understand and apply theorems about circles. S4L – Explain volume formulas and use them to solve problems.		
Unit 6	Real Life Math/Budgeting		
Summary	Student will explore various mathematics that occurs in the marketplace. Students will practice banking, budgeting, and paying bills. Overview of how to use debit, credit, and checks along with deposit and withdrawal slips.		
Performance Indicators Assessed in Unit	S1C – Reason quantitatively and use units to solve problems. S1F – Compute within the real number system. S2B – Write expressions in equivalent forms to solve problems. S2H – Understand solving equations as a process of reasoning and explain the reasoning. S3F – Construct and compare linear, quadratic, and exponential models and solve problems. S4B – Understand congruence in terms of rigid motions. S5C – Interpret linear models.		
**Disclaimer:			
Throughout the entirety of the course, students may take Accuplacer, ASVAB or SAT sample questions at any time to review/test skills. Students attending EMCC will be required to take the Accuplacer exam to obtain a baseline score. The writing/ELA piece of the Accuplacer will not be addressed in this class.			
<u>Accuplacer Testing Score Sheet:</u>			
ACCUPLACER SCORES	Arithmetic & Elementary Algebra		
	AR < 75	AR ≥ 75 EA < 75	AR ≥ 75 EA ≥ 75
Programs Requiring Technical Math: Automotive Technology Building Construction Technology Computer Aided Drafting & Design Computer Repair Technology (MAT 113 or MAT 119 required) Diesel, Truck, & Heavy Equipment Electricians Technology* Fine Woodworking & Cabinetmaking Fire Science Technology	LAM 008	MATL 113	MAT 113

Refrigeration, Air Conditioning, & Heating* Welding Technology*			
Programs Requiring Any Level Math: Career Studies Culinary Arts Digital Graphic Design Early Childhood Education (MAT 107 or MAT 108 recommended) Education (107 or 108 recommended) Emergency Medical Services Health Information Technology (MAT 113 or MAT 119 required) Hospitality & Tourism Management Liberal Studies Medical Assistant (MAS 131 required) Medical Office Technology Outdoor Recreation & Tourism Restaurant & Food Service Management Trade & Technical Occupations	LAM 008	LAM 009 or MATL 113	MAT 101 or MAT 107 or MAT 108 or MAT 113 or MAT 119 or MAT 161 or MAS 131
Programs Requiring an Algebra Pathway: Business Management* Civil Engineering Technology* (MAT 119 or MAT 123 required) Computer Systems Technology Criminal Justice Electrical & Automation Technology* Medical Radiography*	LAM 008	LAM 009	MAT 119

Students are encouraged to enroll in the highest level math courses for which they are qualified.

AR = Arithmetic Score EA = Elementary Algebra Score

Courses appearing in red are considered preparatory courses and do not count toward graduation requirements and do not qualify for financial aid.

ASVAB Minimum Scores:

The minimum score requirements of the different branches of the U.S. Armed Services are listed below:

AIR FORCE AFQT SCORE REQUIREMENTS

Minimum AFQT Score (with High School Diploma): 36

ARMY AFQT SCORE REQUIREMENTS

Minimum AFQT Score (with High School Diploma): 31

COAST GUARD AFQT SCORE REQUIREMENTS

Minimum AFQT Score (with High School Diploma): 40

MARINE CORPS AFQT SCORE REQUIREMENTS

Minimum AFQT Score (with High School Diploma): 32

NAVY AFQT SCORE REQUIREMENTS

Minimum AFQT Score (with High School Diploma): 31

SAT Minimum Scores:

Students are considered college- and career-ready when their SAT section scores meet both the Math and the Evidence-Based Reading and Writing benchmarks. It is important to note that college readiness is a continuum — students scoring below the SAT benchmarks can still be successful in college, especially with additional preparation and perseverance.

Benchmark Values and Section Score Ranges:

SAT College and Career Readiness Benchmarks

- *Evidence-Based Reading and Writing: 480*
- *Math: 530*

11th Grade Benchmarks

- *Evidence-Based Reading and Writing: 460*
- *Math: 510*

10th Grade Benchmarks

- *Evidence-Based Reading and Writing: 430*
- *Math: 480*

9th Grade Benchmarks

- *Evidence-Based Reading and Writing: 410*
- *Math: 450*

Summative Assessments Retake

- Students have the opportunity to retake summative assessments.
- The student must submit a retake form to the teacher within five (5) school days of the date that the summative assessment score is reported to the student.
- The highest score a student can receive on a retake or late assessment is a 75.
- The score achieved on a retake will replace the current score (even if the score is lower).
- If a student is making up a test from an absence, that assessment will be graded up to 100.

Grading of Formative Assessments

- Formative assessments will count as 20% of the grade.
 - Formative assessments may be scored on either a 0-100 scale or a 0-4 scale.
 - The 0-4 scale will be represented in Power School as 4=100, 3=87, 2=77, and 1=67.
 - The method of scoring of formative assessments will be determined by assignment.