



South Portland, Maine 04106

Title: College Algebra	Catalog Number: Math 140
Credit Hours: 3 from SMCC	1.0 from PHS
Instructor: Mrs. Travers	Classroom Location: H-5
Course Offered: Full Year	Class Meeting Times: Period 8

Year 2024-2025

Course Syllabus – College Algebra – MATH 140

Course Description

This course covers variables and symbols; scientific notation; formulas and literal equations; slope, intercepts, and equations of lines; graphs of linear and quadratic functions; graphs of linear inequalities; solving systems of linear equations; polynomials, products and factors; roots, rational exponents, and complex numbers; rational expressions; solving linear, quadratic, and higher order equations; solving linear inequalities; an introduction to exponential and logarithmic functions, and applied problem solving.

Prerequisite: MATH 040, MATH 050, its equivalent or Placement test

Course Objectives

After successfully completing the course, the student will be able to:

POLYNOMIALS, FACTORING AND RATIONAL EXPRESSIONS

- Perform operations with rational algebraic expressions and solve rational equations.
- Factor and perform operations with polynomials.

LINEAR EQUATIONS AND INEQUALITIES

- Solve and graph linear equations and inequalities in one and two variables.
- Solve systems of two and three linear equations.

RATIONAL EXPONENTS/ RADICAL EXPRESSIONS

- Simplify, perform operations and solve equations with radical expressions and rational exponents.
- Perform operations with complex numbers.

EXPONENTS/ LOGARITHMS

- Apply the properties of exponential and logarithmic functions to solve equations.
- Graph exponential and logarithmic functions.
- Solve applications involving exponential growth and decay.

QUADRATIC EQUATIONS

- Solve quadratic equations and inequalities.
- Graph quadratic functions.

ABSOLUTE VALUE

- Solve absolute value equations and inequalities.
- Graph absolute value functions.

FUNCTIONS

- Use interval notation to identify the intervals where a function is increasing, decreasing and constant.
- Interpret function notation.
- Determine the domain and range of a function.

TROUBLES WITH My Math Lab? – Be sure to go to the BROWSER CHECK on the dashboard of this MML course to check your web browser. This will ensure you have all the necessary plug-ins. When all else fails, call tech support at 844-292-7015 or visit <https://support.pearson.com/getsupport/s/>.

Course Requirements

Students are expected to attend all scheduled classes, do the homework assigned each day for the next class, take tests, and be active participants in the class. Students are automatically registered for MML which is billed through the bursar's office. There are required electronic assignments in My Math Lab.

- Homework for each section.
- Mastery quizzes for each chapter.
- Exams as outlined in the Pacing Guide.

Grading Policy**Homework/Classwork- (10%)**

- The process is more important than the result and if it isn't on paper, I can't grade it.
- All homework assignments are due at the start of the next class.
 - Late work is not accepted
 - One homework may be excused per quarter-no questions asked
- The points you will receive are as follows provided appropriate work is evident:
 - 4 – all assigned problems attempted
 - 3 – most assigned problems attempted
 - 2 – half of assigned problems attempted
 - 1 – less than half of assigned problems attempted

- 0 – incomplete or no work provided

Graded Work (25%)

- **Follow-Ups-**
 - On demand quick HW check-ins after discussion
 - Be prepared for one everyday
- **Graded Assignments-**
 - Take home follow-ups or group activities/tasks

Summative Assessments (65%)

- **Quizzes-** (50 points)
 - Typically, 2 per quarter unless special circumstances arise
 - Routinely shorter in length than tests.
- **Unit Tests-** (100 points)
 - Typically, 2 per quarter
 - Designed to determine proficiency on major standards.
- **CCAs-** (50 or 100 points)
 - Typically given in the 2nd and 3rd quarters

Text, Tools, and/or Supplies

1. *Algebra for College Students*, Lial, Hornsby, & McGinnis, 9th ed., Pearson, 2020 we have 7th
2. Access to My Math Lab we don't have this for all
3. Scientific calculator

Course Expectations

Participation/Preparation for Class:

- **BE ON TIME.** If you are late to class, you must have a pass or you will be marked tardy.
- **Be prepared for class:** bring all your materials to class. (Chromebook, binder, calculator, pencils, etc.)
- **Respect yourself, each other, your surroundings, and me.**
 - Allow classmates to think and finish thoughts for themselves
 - Remember, everyone learns differently and may be distracted by different things. Be considerate.

Attendance:

- It is your responsibility to check Google Classroom for missed work while absent in order to be ready for the next class and avoid a zero.
- Be sure to obtain/copy any class notes and make an honest attempt at the associated assignment. I am looking for effort not perfection so make notes on the things you need me to clarify.
- If you miss a quiz or test when absent, you must make it up within 2 days of your return.
- If you are absent the day before a test or quiz and return the day of the test or quiz, you are still responsible for taking the test or quiz at that time.
- Special circumstances may arise so please communicate with me ahead of time when possible.

Topical Outline of Instruction

Chapter R Review of the Real Number System

Chapter 1 Linear Equations, Inequalities & Applications **1.1-1.3, 1.5-1.7 only**

- 1.1 Linear Equations in One Variable
- 1.2 Formulas and Percent
- 1.3 Applications of Linear Equations
- 1.5 Linear Inequalities in One Variable
- 1.6 Set Operations and Compound Inequalities (Objectives 3 & 5 only)
- 1.7 Absolute Value Equations (Objectives 1-4)

Chapter 2 Linear Equations, Graphs, and Functions **all sections**

- 2.1 Linear Equations in Two Variables (Objectives 1-6 only)
- 2.2 The Slope of a Line
- 2.3 Writing Equations of Lines
- 2.4 Linear Inequalities in Two Variables
- 2.5 Introduction to Relations and Functions
- 2.6 Function Notation and Linear Functions

Chapter 3 Systems of Linear Equations **all sections**

- 3.1 Systems of Linear Equations in Two Variables
- 3.2 Systems of Linear Equations in Three Variables (Objectives 1 & 2 only)
- 3.3 Applications of Systems of Linear Equations (Objectives 1–3 only)

Chapter 4 Exponents, Polynomials, & Polynomial Functions **all sections**

- 4.1 Integer Exponents
- 4.2 Scientific Notation
- 4.3 Adding and Subtracting Polynomials
- 4.4 Polynomial Functions (Objectives 1 & 2 only)
- 4.5 Multiplying Polynomials (Objectives 1–5 only)
- 4.6 Dividing Polynomials (Objective 1 only) (If time allows.)

Chapter 5 Factoring **all sections**

- 5.1 Greatest Common Factors and Factoring by Grouping
- 5.2 Factoring Trinomials (Objectives 1, 2, & 4 only)
- 5.3 Special Factoring
- 5.4 No Lecture – Factoring Review assignment in MML only.
- 5.5 Solving Equations by the Zero-Factor Property

Chapter 6 Rational Expressions and Functions 6.1-6.5 only

- 6.1 Rational Expressions and Functions; Multiplying and Dividing
- 6.2 Add and Subtract Rational Expressions (Skip Objective 2 – Find LCD in context.)
- 6.3 Complex Fractions (Objective 1, 2, & 4)
- 6.4 Equations with Rational Expressions (Objectives 1 & 2 only)
- 6.5 Applications of Rational Expressions (Objectives 1-3, & 5 only)

Chapter 7 Roots, Radicals, & Root Functions all sections

- 7.1 Radical Expressions (Objectives 1, 2, 4, & 5 only)
- 7.2 Rational Exponents
- 7.3 Simplifying Radicals (Skip objectives 4, 6, & 7)
- 7.4 Adding and Subtracting Radical Expressions
- 7.5 Multiplying and Dividing Radical Expressions
- 7.6 Solving Equations with Radicals
- 7.7 Complex Numbers (If time allows.)

Chapter 8 Quadratic Equations & Inequalities 8.1–8.2 & 8.5 only

- 8.1 The Square Root Property and Completing the Square
- 8.2 The Quadratic Formula (Objectives 2 & 3 only)
- 8.5 Polynomial and Rational Inequalities (Objective 1 only)

Chapter 9 Additional Graphs of Functions and Relations 9.2-9.3 & 9.5 only

- 9.2 Graphs of Quadratic Functions (Objectives 1-3 only)
- 9.3 More About Parabolas and Their Applications
(Objectives 1, 2, 3, & 4 only; for objective 1, begin with example 3 to exclude finding the vertex by completing the square)
- 9.5 Piecewise Linear Functions (Objective 1 only)

Chapter 10 Inverse, Exponential, & Logarithmic Functions 10.2 & 10.3 only

- 10.2 Exponential Functions
- 10.3 Logarithmic Functions (Objectives 1-5 only)

Study Skills above and below are slightly different because we have a different book

In addition to the topics noted above, the textbook does a good job discussing study skills. Look for these as follows:

Using Your Math Textbook	p S-1
Reading Your Math Textbook	p S-2
Taking Lecture Notes	p S-3
Completing Your Homework	p S-4
Using Study Cards	p S-5

Managing Your Time	p S-6
Reviewing a Chapter	p S-7
Taking Math Tests	p S-8
Analyzing Your Test Results	p S-9
Preparing for Your Math Final Exam	p S-10

End-of-Course Evaluation **Is this new?**

Students complete evaluations for each course attended at SMCC. Evaluations are submitted online and can be accessed through the student portal. Students can access the course evaluations beginning one week before the end of classes. The deadline for submission of evaluations occurs Monday at 5 p.m. following the last day of the class. You will receive an e-mail to your student e-mail account when course evaluations are available.

ADA Statement **Does this apply to HS especially ours?**

Southern Maine Community College values diversity and is committed to promoting equity and inclusion at all institutional levels.

If you have a disability and wish to request accommodations please contact the Director of Disability Services, Heather Jackson, at 207-741-5923 or via email at hjackson@smccme.edu. Appointments are available by Zoom and in person on both the Brunswick and South Portland campuses. Walk-in appointments are welcome. Documentation of your disability is required, but please do not let the absence of documentation prevent you from seeking accommodation. If you think you may qualify, please contact our office.

The Learning Commons:

The library, tutoring and writing centers, and reference/research assistance (typically located on the second floor of South Portland's Campus Center and in the Midcoast's LL Bean Learning Commons and Health Science Center) will be fully available online during the fall 2020 semester. Here you can find free academic support through individually scheduled and drop in, online tutoring. You can also find information literacy/research librarians, and professional academic strategy/planning mentoring online. While the physical space of the Learning Commons will not be available at this time, we can also work with you to set up zoom classrooms for small group study. Services are offered by appointment or as drop-in assistance.

To access services:

- Visit My Learning in My Maine Guide or
- Select the "tutoring needed" button if it appears inside your Brightspace course.

Whether On Site or Online, students have consistently reported that the Learning Commons is a friendly, risk-free, and helpful place to seek academic support. It has also been shown that

those who make use of the Learning Commons do better in a course than those who do not. We strongly encourage you to take advantage of this valuable and enjoyable resource.

We don't have access to Brightspace (only Maine people do) or any on campus things for obvious reasons.

Withdrawal Policy

A student may withdraw from a course only during the semester in which s/he is registered for that course. The withdrawal period is the second through twelfth week of the Fall and Spring semesters and the second through ninth week of twelve-week Summer courses. This period is pro-rated for shorter-length courses, usually 75 percent of course meeting times; please check with the Registration Office. To withdraw from a course, a student must complete and submit the appropriate course withdrawal form, available at the Registration Office. This process must be completed either in person or by using SMCC e-mail accounts.

Plagiarism Statement

If an instructor suspects that a student has knowingly committed a violation defined in the Maine Community College System Policy on Student Grade Appeals and Academic Misconduct, the instructor has the authority to review the alleged misconduct and determine the grade that the student should receive for the assignment and the course. The instructor may assign a failing grade for the assignment or course and may require the student to complete additional work for the course. The instructor may consult with the department chair and/or the College's chief academic officer prior to making such decisions. If a student seeks to challenge an instructor's determination, the student should submit a grade appeal. Grade appeal forms are available in the Advising Office on the South Portland Campus or in the administrative offices in the Learning Commons on the Midcoast Campus. An instructor may also refer the matter to the College's disciplinary officer for review under the procedures of the MCCS Student Code of Conduct.

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