Salisbury University Department of Mathematical Sciences

MATH 135 :   College Algebra: A Modeling Approach
Syllabus (Tentative)

Description: A modeling approach to algebraic topics used in problem solving. Topics include equations and functions; polynomial, exponential and logarithmic functions: graphing and data analysis/modeling. Emphasis on skill development, problem solving, critical thinking, working in teams, use of graphing calculators and communicating effectively. 3 Hour(s) Credit: Meets three hours per week. Meets General Education IVB or IVC.

Prerequisites: High school Algebra I and II.

Credit: Credit may only be received for one of MATH 100, MATH 135, and MATH 140

Intended Audience: Students interested in improving their algebraic and problem-solving skills in preparation for taking courses in statistics, applied calculus, or science; or for students seeking a quantitative course in general education.

Objective: To develop students' problem solving skills using techniques of algebra through numeric, analytic, graphical, and symbolic approaches. Emphasis is placed on development of skills in applying algebraic techniques, critical thinking, and working in teams, using graphing calculators, and communicating effectively both orally and in writing.

Textbooks: *College Algebra*, by Julie Miller, 2nd edition.

Technology: A TI 83+, or an equivalent graphing calculator, is required.

Topic	Weeks
Review	1
Review of algebraic fundamentals, applications	
Equations	1.5
Basic equations, modeling	
Coordinates and Graphs	1.5
Graphing, linear equations, modeling	
Functions	2
Functional notation, graphs, equations, average rate of change, transformations, combining, modeling	
Polynomial and Rational Functions	2
Quadratic, polynomial, rational functions, modeling	
Exponential and Logarithmic Functions	2
Exponential and logarithmic functions, laws of logarithms, modeling	
Systems of Equations	2
Systems of equations in two variables, modeling	
Tests, Review, or Optional Topics	2
Inequalities, systems of equations in several variables	
Total	**14**

Evaluation

Assignments, Quizzes, Classwork	$20 - 40\%$
Tests	$30 - 60\%$
Comprehensive Final Examination	$20 - 30\%$

- Free tutoring is available for this course in the Spring and Fall semesters.

- Clear descriptions of thought processes, evidence of critical thinking, and effective communication must be demonstrated in written work.

- **Writing Across the Curriculum:** Students will be expected to communicate mathematics and mathematical ideas effectively in speech and writing. At the University Writing Center, trained consultants are ready to help you at any stage of the writing process. In addition to the important writing instruction that occurs in the classroom and during professors' office hours, the Center offers another site for learning about writing. **All students are encouraged to make use of these important services.**

- **NOTE:** Once a student has received credit, including transfer credit, for a course, credit may not be received for any course with material that is equivalent to it or is a prerequisite for it.