SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
SYLLABUS *(Tentative)*

MATH 100 *College Algebra: A Modeling Approach*

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, working in teams, using graphing calculators, and communicating effectively both orally and in writing.

Intended for: Students other than mathematics, physics, and chemistry majors interested in improving their algebraic and problem solving skills in preparation for taking courses in statistics or applied calculus; or for students seeking a quantitative course in general education.

Prerequisites: High school Algebra I and II.

Text: "Fundamentals of Algebraic Modeling: An Introduction to Mathematical Modeling with Algebra and Statistics," by Timmons, Johnson, and McCook; Thomson, Brooks/Cole Publishers, 4th edition, 2006.

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

Topics	**Weeks**
Review	1.5
Review of algebraic fundamentals, applications	
Graphing	1.5
Graphing linear equations and inequalities. Writing equations of lines, applications.	
Functions	2.0
Functional notation, linear functions, linear functions and data, direct and inverse variation, nonlinear functions, power functions, exponential functions, applications	
Applications of Functions	3.0
Fitting linear functions to data, fitting nonlinear functions to data, fitting exponential and power functions to data, testing goodness of fit, applications	
Systems of Equations	2.0
Solving systems by graphing, solving systems algebraically, systems of nonlinear functions, applications	
Probability Models	2.0
Theoretical probability, odds, permutations and combinations, applications	
Tests, Review, or Optional Topics	2.0
Goodness of fit criteria, modeling with statistics and applications	

EVALUATION

Graded written assignments and quizzes	25% - 35%
Two or Three Tests	50%
Final Examination	15% - 25%

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

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

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.

DCC/lsa 3/2005