SCHOOL OF STEM SYLLABUS

TERM:

INSTRUCTOR:

COURSE CODE: MAT-100

OFFICE HOURS:

COURSE TITLE: College Algebra

OFFICE LOCATION:

DAY(S) AND TIME(S):

EMAIL:

LOCATION:

PHONE:

COURSE PREREQUISITE: Complete MAT 070/073 – Basic Algebra, or College Placement Test Algebra 76 or SAT 530

CREDITS: 3

COURSE DESCRIPTION:
This course teaches the essentials of college algebra.The topics include polynomials, first-degree equations, word problems, graphing,systems of linear equations, factoring, exponents, quadratic equations, matrices, and radicals.

STUDENT LEARNING OUTCOMES:
Upon successful completion of this course, students will be able to:

1.Apply mathematical concepts to real-life problems; Interpret and presentdata in a variety of ways; Apply mathematical concepts to problem solving.

2.Solve systems of linear equations including two or more variables, absolutevalue, matrices, and inequalities.

3.Distinguish between a relation and a function and perform basic operations(addition, subtraction, multiplication, division, and composition) withfunctions; Find the domain and range of functions; Represent functionsverbally, graphically, numerically, and algebraically.

4.Solve polynomial, radicals, and exponential equations.

5.Analyze basic properties (intercepts, domain, and range) of graphs offunctions.

6.Solve quadratic equations using the completing the square method and thequadratic formula.

7.Perform the arithmetic operation with complex numbers.

TEXTBOOK AND SUPPLEMENTAL MATERIALS:

MATH 100 – College Algebra, Custom Edition for Hudson County Community College. [Taken From: Algebra for College Students, 3rd Edition, Allen R. Angel]

GRADING POLICY:

Homework: Students are required to do all homework assignments on MyMathLab.	**Homework:** Students are required to do all homework assignments on MyMathLab.
Exams: There will be three departmental exams and a comprehensive final exam.	**Exams:** There will be three departmental exams and a comprehensive final exam.
Evaluation Criteria: Test 1 20%	**Evaluation Criteria:** Test 1 20%

SAMPLE COURSE SCHEDULE:

Topic	MymathLab Homework
1.2 Sets and other Basic Concepts 1.5 Exponents	**Chapters 1.2 and 1.5** 1.2.49, 1.2.51,1.2.53, 1.2.57, 1.2.69, 1.2.71, 1.2.73, 1.2.79, 1.2.83, 1.5.37, 1.5.41, 1.5.57, 1.5.60, 1.5.61, 1.5.67, 1.5.69, 1.5.95, 1.5.109, 1.5.117, 1.5.121
2.1 Solving Linear Equations 2.2 Problem Solving and Using Formulas 2.3 Applications of Algebra	**Chapters 2.1, 2.2, and 2.3** 2.1.46, 2.1.54, 2.1.61, 2.1.73, 2.1.77, 2.1.94, 2. 97, 2.2.15, 2.2.21, 2.2.23, 2.2.45, 2.2.49, 2.2.57, 2.2.63, 2.3.23, 2.3.25, 2.3.31, 2.3.45, 2.3.57, 2.3.72
2.5 Solving Linear Inequalities 2.6 Solving Equations and Inequalities Containing Absolute Value	**Chapters 2.5 and 2.6** 2.5.13, 2.5.15, 2.5.31, 2.5.41, 2.5.43, 2.5.45, 2.5.49, 2.5.59, 2.5.69, 2.6.15, 2.6.47,

	2.6.53, 2.6.59, 2.6.63, 2.6.69, 2.6.74, 2.6.75, 2.6.81, 2.6.83, 2.6.89.
Exam 1	**(Chapter 1 – 2)**
3.1 Graphs 3.2 Functions 3.3 Linear Functions And Graphs	**Chapters 3.1, 3.2, and 3.3** 3.1.17, 3.1.21, 3.1.27, 3.1.31, 3.1.35, 3.1.39, 3.1.45, 3.1.93, 3.2.17, 3.2.19, 3.2.25, 3.2.41, 3.2.45, 3.2.47, 3.3.13, 3.3.15, 3.3.23, 3.3.41, 3.3.43, 3.3.59.
3.4 The slope –intercept form of a Linear Equation 3.5 The Point-Slope Form of a Linear Equation 3.6 The algebra of Functions	**Chapters 3.4, 3.5. and 3.6** 3.4.13, 3.4.19, 3.4.21, 3.4.29, 3.4.35, 3.4.43, 3.4.45, 3.5.5, 3.5.7, 3.5.11, 3.5.15, 3.5.17, 3.5.19, 3.5.25, 3.5.35, 3.5.39, 3.6.11, 3.6.15, 3.6.23, 3.6.31,
4.1 Solving Systems of Linear Equations in Two Variables 4.2 Solving Systems of Linear Equations in Three Variables 4.5 Solving Systems of Equations Using Determinant	**Chapter 4.1, 4.2, 4.3, and 4.5** 4.1.11, 4.1.15, 4.1.25, 4.1.39, 4.1.41, 4.1.53, 4.1.59, 4.1.61, 4.1.63, 4.1.89, 4.2.3, 4.2. 7, 4.2.15, 4.2.17, 4.2.21, 4.3.5, 4.5.7, 4.5.11, 4.5.61, 4.5.63
5.1 Addition and Subtraction of Polynomials 5.2 Multiplication of Polynomials 5.3 Division of Polynomials (Synthetic Division)	**Chapters 5.1, 5.2, 5.3, 5.4, and 5.5** 5.1.35, 5.1.41, 5.1.55, 5.1.77, 5.1.79, 5.1.91, 5.2.13, 5.2.21, 5.2.27, 5.2.31, 5.2.49, 5.2.69, 5.2.85, 5.2.91, 5.2.93, 5.3.25, 5.3.31, 5.3.45, 5.3.61, 5.3.71
5.4 Factoring By Grouping 5.5 Factoring Trinomials 5.6 Special Factoring Formulas	5.4.37, 5.4.45, 5.4.53, 5.5.13, 5.5.15, 5.5.29, 5.5.31, 5.5.37, 5.5.61 5.5.65, 5.5.69, 5.5.75, 5.5.89, 5.6.11, 5.6.21, 5.6.31, 5.6.51, 5.6.53, 5.6.75, 5.6.87
Exam 2	**(Chapter 3 – 5)**
6.1 The Domain of Rational Functions and Multiplications and Division of Rational Expressions 6.2 Addition and Subtraction of Rational Expressions 6.3 Complex Fractions 6.4 Solving Rational Equations	**Chapters 6.1, 6.2, 6.3, and 6.4** 6.1.11,6.1.21, 6.1.25, 6.1.37, 6.1.39, 6.1.46, 6.1.55, 6.1.59, 6.1.69, 6.2.5, 6.2.11, 6.2.13, 6.2.36, 6.2.45, 6.2.47, 6.3.12, 6.3.13, 6.3.16, 6.4.17, 6.4.25
7.2 Rational Exponents 7.3 Simplifying Radicals	**Chapters 7.2, 7.3, and 7.4** 7.2.51, 7.2.91, 7.3.9, 7.3.33, 7.3.48, 7.3.50,

7.4 Additing, Subtracting, and Multiplying Radicals	7.3.57, 7.3.61, 7.3.63,7.3.69, 7.3.81, 7.3.93, 7.3.97, 7.4.9, 7.4.19, 7.4.53, 7.4.59, 7.4.61, 7.4.65, 7.4.107
7.5 Dividing Radicals 7.6 Solving Radical Equations 7.7 Complex Numbers	**Chapters 7.5, 7.6, and 7.7** 7.5.11, 7.5.13, 7.5.53, 7.5.68, 7.5.71, 7.5.93, 7.6.15, 7.6.16, 7.6.33, 7.7.23, 7.7.27, 7.7.35,7.7.35 7.7.51, 7.7.65, 7.7.77, 7.7.83, 7.7.93, 7.7.95, 7.7.101
8.1 Solving Quadratic Eqns. By Completing The Square 8.2 Quadratic Eqns: Applications and Problem Solving 8.5 Graphing quadratic Functions	**Chapters 8.1, 8.2 and 8.5** 8.1.13, 8.1.21, 8.1.33, 8.1.39, 8.1.41, 8.1.43, 8.1.49, 8.1.57, 8.1.87, 8.2.29, 8.2.30, 8.2.31, 8.2.39, 8.2.41, 8.2.45, 8.2.47, 8.3.15,8.5.17, 8.5.19, 8.5.63
Exam 3	**(Chapter 6 – 8)**
Review	
Comprehensive Final	**ALL CHAPTERS**

HCCC POLICIES, STATEMENTS, AND SERVICES:
https://www.hccc.edu/administration/academic-affairs/syllabus-addendum.html