MAT-031 CA ALGEBRA A

COURSE SYLLABUS

INSTRUCTOR: ________________________________ OFFICE __________________________

EMAIL: __________________________________ PHONE: _________________________

COURSE DESCRIPTION: MAT-031 CA Algebra A, MAT-032 CA Algebra B is a two semester basic algebra course equivalent in content to and satisfying the requirements of MAT-035. These courses are designed for the student who has not studied algebra previously, or for the student who has found algebra to be a difficult subject. The MAT-031 CA classes require a linked MAT-012 CA Basic Math, component to be taken in conjunction with MAT 031. Topics include signed numbers, variables, integral exponents, linear equations, graphing, polynomials and factoring.

* Students taking MAT-031 CA MUST register for MAT-032 CA.

CREDITS/HOURS: 3 credits (non-degree) 3 hours

PREREQUISITE: MAT-011 with a grade of C or better or by Testing.

GEN’L ED COURSE: No

STUDENT LEARNING OUTCOMES: After completing this course, students should be able to:

1. Evaluate arithmetic and algebraic expressions, including exponential expressions, polynomial expressions, and rational expressions
2. Simplify arithmetic and algebraic expressions, including exponential expressions, and polynomial expressions
3. Solve linear equations in one variable
4. Solving literal equations
5. Solve and graph linear inequalities in one variable
6. Use linear equations in one variable in the solution of verbal problems
7. Graph linear equations in two variable
8. Write an equation of a line given certain conditions
9. Factor the Greatest Common Factor

ASSESSMENT MEASURES: Each of the above listed student learning objectives will be assessed by,

1. Written assignments and/or quizzes
2. Written examinations
3. Other, as announced by the instructor

ELECTRONIC DEVICES: The Department of Mathematics prohibits the use of cell-phones, PDA’s, laptops, headphones, IPODs and other such devices in mathematics classes unless otherwise specified by the grading policy provided by the instructor at the beginning of the semester.

COURSE OF STUDY:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Integers</td>
<td>Chapter 1 - All</td>
</tr>
<tr>
<td>Linear Equations</td>
<td>Chapter 2 - 2.1-2.3</td>
</tr>
<tr>
<td>Literal Equations and Applications)</td>
<td>Chapters 2.4, 2.6, 2.7</td>
</tr>
<tr>
<td>Linear Inequalities</td>
<td>Chapter 2.8</td>
</tr>
<tr>
<td>Graphing in two variables</td>
<td>Chapter 3 – 3.1-3.5</td>
</tr>
<tr>
<td>Polynomials and Properties</td>
<td>Chapter 5 – 5.1-5.3; 5.5-5.6</td>
</tr>
<tr>
<td>Factoring the Greatest Common Factor</td>
<td>Chapter 6.1</td>
</tr>
</tbody>
</table>

GRADING POLICY:

Refer to the instructor’s grading policy on the course outline distributed during the first class.

❖ The departmental final exam is required, and will count for 25% of the overall grade.

❖ Grades in the developmental courses will be assigned as follows:

  - A = 90-100 %
  - B+ = 86-89 %
  - B = 80-85 %
  - C+ = 76-79 %
  - C = 70-75 %
  - F = Below 70 %

❖ At the discretion of the instructor, students with an overall grade between 65% and 69% are eligible for the second chance program. This program allows the student to retake the final exam, within a two week period of time after their final exam. Prior to retesting the exam, an algebra packet is required to be completed.

ATTENDANCE POLICY:

A student who exceeds the allowable maximum number of absences (see chart below) will be given an “E” (unofficial withdrawal) grade.

<table>
<thead>
<tr>
<th>Courses which meet:</th>
<th>Maximum absences:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 times a week</td>
<td>6 absences allowed</td>
</tr>
<tr>
<td>3 times a week</td>
<td>9 absences allowed</td>
</tr>
</tbody>
</table>

Note that two late arrivals or two early departures will equal one absence.

EXTRA HELP:

The Developmental Math Learning Center, in L-127, is a source of tutorial assistance in understanding operations of basic mathematics and in problem solving. The Center does not function for the sole purpose of passing a test, nor is it intended to substitute for classroom teaching. The L-127 can be reached at 201-447-7489 for an exact schedule.
Chapter 1 Introduction to Algebraic Expressions
1.1 Introduction to algebra
1.2 Exponents, Square roots., order of Operations
1.3 Addition of real Numbers
1.4 Subtraction of Real Numbers
1.5 Multiplication and Division of Real Numbers
1.6 Simplifying Expressions

Chapter 2 Equations, Inequalities and Problem Solving
2.1 Addition, Subtraction, Multiplication Division Properties of Equality
2.2 Solving Linear Equations
2.3 Clearing Fractions and Decimals from Equations
2.4 Applications of Linear Equations: Problem Solving
2.7 Mixture and Motion Problem Solving
2.8 Solving Inequalities

Chapter 3 Introduction to Graphing
3.1 Rectangular Coordinate System
3.2 Graphing Linear Equations in 2 Variables
3.3 Slope of a line
3.4 Slope Intercept Form of a Line
3.5 Point Slope Formula

Chapter 5 Polynomials
5.1 Exponents Multiplication and Dividing
5.2 Properties of Exponents
5.3 Negative and Zero Exponents
5.5 Addition and Subtraction of Polynomials
5.6 Multiplication of Polynomials
5.4 (Scientific Notation – Optional)

Chapter 6 Polynomials and Factoring
6.1 Introduction to Factoring: Greatest Common Factor