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| San Bernardino Valley College Curriculum Approved: 10/09/2006 Board Approval:  Unique course Identification Number: |
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| 1. CATALOG DESCRIPTION:    1. Department Information: Division:        Mathematics, Business & Computer Technology Department:  Mathematics Course ID:    MATH095 Course Title:  Intermediate Algebra  |  |  | | --- | --- | | Units: | 4 |  |  |  | | --- | --- | | Lecture: | 4 contact hour(s) per week 64 - 72 contact hours per semester |  * 1. Prerequisite:      + MATH 090 or eligibility for MATH 095 as determined through the SBVC assessment process, or BUSCAL 091   2. Catalog Description: Builds on the skills of solving equations, manipulating polynomials, factoring, and algebraic fractions. This course includes simplifying complex fractions, finding real solutions to quadratic and rational equations, an introduction to linear inequalities, rational exponents and radicals, graphing equations of straight lines, solving linear systems of equations and application problems throughout the different topics.   3. Schedule Description: This course includes simplifying complex fractions, rational exponents and radicals, graphing equations of straight lines, and solving linear systems of equations.  1. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1 2. COURSE OBJECTIVES FOR STUDENTS: Upon successful completion of the course the student should be able to:    1. Solve simple linear and compound linear inequalities    2. Apply the principles of exponents to the new concepts of radicals    3. Simplify complex fractions    4. Solve equations involving rational expressions    5. Distinguish and use the most efficient methods of solving a quadratic equation    6. Construct graphs of linear equations    7. Construct linear equations from graphic information    8. Communicate the processes involved in learning the skills listed above 3. COURSE CONTENT:    1. **Lecture:**       * Linear inequalities  1. Review linear equations  2. Linear inequalities  3. Compound inequalities  4. Absolute value equations and inequalities       * Rational expressions  1. Review operations with rational expressions  2. Complex fractions  3. Solving equations involving rational expressions  4. Applications       * Rational exponents and radicals  1. Rational exponents  2. Radicals  3. Operations with radicals  4. Solve equations containing radicals  5. Complex numbers       * Quadratic equations  1. Solutions by factoring  2. Completing the square  3. The quadratic formula       * Linear equations in two variables  1. The rectangular coordinate system  2. Slope of a line  3. Equations of lines       * Systems of equations  1. Systems of linear equations in two variables   2. Systems of linear equations in three variables      1. METHODS OF INSTRUCTION (May include any, but do not require all, of the following):    1. Lecture    2. Class and/or small group discussion    3. Classroom demonstrations    4. All instructors will utilize lecture and discussion. Specific reading and problem assignments will reinforce and extend classroom presentations. Students will be required to perform specific problem solving strategies. Note: Instructors may include the following instructional techniques: drill at the chalkboard, practice exams, computer-aided instruction, group work.      1. TYPICAL OUT-OF-CLASS ASSIGNMENTS:    1. Reading assignments are required and may include (but are not limited to) the following:       * Read the section introducing solving equations involving rational expressions. Apply the concept of extraneous solutions.    2. Writing assignments are required and may include (but are not limited to) the following:       * Problem solving assignment that allows students to demonstrate proficiency in finding the least common denominator and determining extraneous solutions. For example, solve the equation for the variable x:   (x – 4)/(x2 – 5x) = 2/(x2 – 25)   * 1. Critical thinking assignments are required and may include (but are not limited to) the following:      + Explain how the least common denominator can be used to simplify an equation containing rational expressions. Discuss the possibility for an equation containing rational expressions to have no solution.      1. METHODS OF EVALUATION    1. Class participation    2. Examinations    3. Homework    4. Quizzes    5. Cumulative finals or certifications    6. Worksheets        1. TYPICAL TEXT(S):    1. Aufmann, R.N Intermediate Algebra: An Applied Approach. Houghton Mifflin, 2006.    2. Bittinger, M.L Intermediate Algebra. Addison Wesley, 2003.    3. McKeague, C.P Intermediate Algebra. 6th ed. Thomson, 2003.      1. OTHER SUPPLIES REQUIRED OF STUDENTS:    1. None |