

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

_____ Transfer course

X A.A. degree applicable course

COURSE NUMBER AND TITLE: Math 50 - Beginning Algebra

UNIT VALUE: 4

MINIMUM NUMBER OF SEMESTER HOURS: 64

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS:

PREREQUISITE: A minimum grade of "C" in Math 15 or eligibility determined through the math placement process.

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE: Elementary algebra which emphasizes mathematical reasoning, problem solving, and real-world applications using numerical, algebraic, and graphical models. Topics include problem-solving techniques, algebraic expressions, polynomials, linear equations, linear inequalities, linear and nonlinear graphs, systems of linear equations in two variables, integer exponents, proportions, and radicals.

SPECIFIC COURSE OBJECTIVES: Successful students will be able to:

1. Use the properties of real numbers, order of operations, and properties of integer exponents (including scientific notation) to simplify and reorganize polynomial expressions.
2. Formulate algebraic expressions and equations using variables to represent relations from tables, graphs, problem situations, and geometric diagrams.
3. Analyze and solve linear equations, inequalities, and two variable systems of linear equations and interpret the solutions.
4. Analyze the connections between the numeric, algebraic, and graphic representations of linear relations and of quadratic relations.
5. Solve application problems involving linear, quadratic, proportional, and rational relationships and interpret the solutions.
6. Apply the principles of radicals in solving quadratic equations and equations resulting from the Pythagorean theorem.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE: At least the following topics will be covered:

1. Use of properties of real numbers, order of operations, and properties of integer exponents (including scientific notation) to reorganize and simplify polynomial expressions.
2. Introduction to the concept of variables to represent relationships from tables, graphs, problem situations, and geometric diagrams.
3. Comprehensive coverage of linear relationships including the formulations, graphing, analyzing and solving of linear equations, linear inequalities, and two variable systems of linear equations.

4. Use of various problem-solving strategies to analyze problems and to formulate and carry out appropriate solution strategies.
5. Exposure to a variety of nonlinear relationships and their graphs.
6. The distributive property and factoring. To include factoring the greatest common factor from a polynomial and quadratics of the form $x^2 + bx + c$.
7. Relationship between the factored form of a quadratic expression and its graph. Also, use of the factored form to solve quadratic equations resulting from application problems.
8. Introduction to rational equations and proportions using similar triangle relationships, percents, rates, or slopes resulting from application problems or literal formulas.
9. Solving application problems involving radicals including those resulting from the Pythagorean Theorem.
10. Additional topics may be included at instructor's discretion.

REQUIRED READING:

Aufmann, Richard N., Vernon C. Barker, and Joanne S. Lockwood. Beginning Algebra with Applications. 3rd Edition. Boston: Houghton Mifflin, 1992.

OR

Larson, Roland E., and Robert P. Hostetler. Elementary Algebra. 2nd Edition. Lexington, MA: D.C. Heath and Company, 1992.

OR

Warr, Alison, Catherine Curtis, and Penny Slingerland. Interactive Mathematics II. 1st edition. Orlando: Harcourt Brace and Co., 1997.

SUGGESTED READING: None

REQUIRED WRITING: Algebra problem-solving exercises on homework assignments, quizzes, and written tests are appropriate. In addition, students may be required to write reports from one paragraph to several pages explaining concepts or explaining and interpreting solutions to non-routine or applied problems.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short term classes.

Outside assignments include reading the textbook, reviewing lecture material, and completing the assigned problem sets, as deemed necessary by the instructor.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

This course may be offered as a distance education course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply. (See guidelines for preparation for definitions.)

- telecourse
- mediated instruction
- computer assisted instruction

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students): A possible grading policy is as follows:

Class Participation	0 - 10%
Homework	0 - 20%
Written Exams	60 - 80%
Final Exam	20 - 40%

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes _____ No X Number of times course may be taken for credit: 1

If yes, identify specific provision of Title 5 Division 2 section(s) 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: Shannon Lienhart **EXTENSION:** 2423

SIGNATURES:

SIGNATURES ON FILE