

**PALOMAR COLLEGE**  
**COURSE OUTLINE OF RECORD FOR**  
**DEGREE CREDIT COURSE**

\_\_\_\_\_ Transfer Course  X  A.A. Degree applicable course  
(check all that apply)

**COURSE NUMBER AND TITLE:** MATH 50B Beginning Algebra Part II

**UNIT VALUE:** 2

**MINIMUM NUMBER OF SEMESTER HOURS:** 32

**BASIC SKILLS REQUIREMENTS:** Appropriate language and computational skills.

**ENTRANCE REQUIREMENTS**

**PREREQUISITE:** A minimum grade of "C" in Math 50A

**COREQUISITE:** None

**RECOMMENDED PREPARATION:** None

**SCOPE OF COURSE:** Second part of Math 50 with emphasis on 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. Not open to students with credit in Math 50.

**SPECIFIC COURSE OBJECTIVES:** Successful students will be able to:

1. Use the properties of integer exponents (including scientific notation) to simplify and reorganize polynomial expressions and rational functions.
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 multiple representations (numeric, algebraic, and graphic) of linear and 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. Use of variables to represent relationships from tables, graphs, problem situations, and geometric diagrams.
3. Use linear relationships to formulate equations, graph, analyze and solve problems, solve 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 factoring 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 and 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. 5th Edition. Boston: Houghton Mifflin, 2000.

OR

Tussy, Alan S. and Gustafson, R. David. Elementary Algebra. 2<sup>nd</sup> Edition. Pacific Grove, CA: Brooks/Cole, 2002.

### **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

### **DISTANCE LEARNING:**

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

Yes  No

**If yes, check all that apply:**

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

**GRADING POLICY AND STANDARDS** (include methods of determining whether the stated objectives have been met by students):

|                     |          |
|---------------------|----------|
| 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  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: Cindy Torgison**

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| <b>SIGNATURES ON FILE</b> |
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