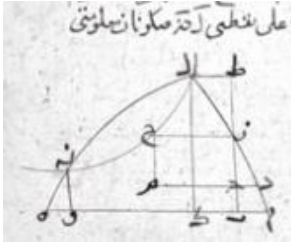


Math 54 - Section 5443  
 Beginning Algebra  
 5:15-8:10: Tues. in Math 3  
 and Thurs. in SOC 12



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Math 12

Office Hours: MTWR 9:20-10:40, or by appointment.

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**Course Description:** Math 54, Beginning Algebra, is an introductory course that develops the real number system and introduces the use of variable expressions and equations in problem solving. The properties of the real numbers, square roots, arithmetic of variable expressions (including polynomials and algebraic fractions), solving linear equations and inequalities, factoring, and an introduction to the Cartesian coordinate system and the equations and graphs of linear equations in two variables are studied. Also, an introduction to Pythagorean Theorem and basic geometric formulas, and some dimensional analysis with modeling applications are involved.

**Credit Hours:** 4

**Text(s):** *Beginning Algebra*, 12<sup>th</sup> Edition **Authors:** Lial/Hornsby/MCGinnis;

**ISBN-13:** 978-0-321-96933-0

**Course Objectives:**

Successful students will have studied and demonstrated their understanding of the following:

1. Integers, Rationals, and Irrationals and their position on the Real Number Line.
2. The commutative, associative, distributive, identity, inverse properties of operations on Reals.
3. The meaning of variables in algebraic expressions and in modeling applications.
4. Parsing algebraic expressions with integer exponents using the order of operations.
5. The use of properties of (in)equality to solve linear equations and inequalities.
6. Creating algebraic models for real world situations (word problems).
7. Polynomial arithmetic, including multiplying and factoring polynomials.
8. Factoring quadratic polynomials, especially quadratics with rational zeros.
9. Solving rational equations that reduce to linear or simple quadratic equations.
10. Roots and radicals including solving simple radical equations.
11. The Cartesian coordinate system and graphing linear solution sets, using slope and point-slope forms.
12. Use the method of completing the square to solve quadratic equations like  $x^2 + 2px + q = 0$  where  $p$  and  $q$  are integers.

## Grade Distribution:

Homework	10%
Quizzes	10%
Chapter Tests	60%
Final Exam	20%

## Letter Grade Distribution:

$\geq 90.00$	A	70.00 - 79.99	C
80.00 - 89.99	B	60.00 - 69.99	D
.	.	$\leq 59.99$	F

Grades in the **C** range represent performance that **meets minimal expectations**; Grades in the **B** range represent performance that is **substantially better** than the minimal expectations; Grades in the **A** range represent work that is **excellent**. Strive to be excellent!

**Note:** At least a “C” grade is required in this course to progress to Math 40 or 44.

## Course Policies:

- **Homework**

- Homework involves mostly deducing solutions for exercises at the end of each section in the text and writing these in your homework notebook. Homework will be assigned regularly but routinely collected.

In addition to the problems from the text, we will use the online homework system at <https://www.myopenmath.com/>. This is a free and open homework system for which more detailed information will be provided in class.

To join the course you will need an email address (you’re encouraged to use your mycod.us address) and the following:

The course ID: **32148** and the enrollment key: **radical**

- **Notebook**

- Taking notes is a critical component of attending class. Studies have shown that the act of taking hand written notes actually improves your ability to recall the information presented. Also, notes provide you with an effective way to review what you are learning. For these reasons, you are strongly urged to take careful notes! These will be occasionally reviewed and assessed for completeness based on what has been covered in lecture.

Things to take note of are:

- \* All steps of all examples
- \* Definitions and Theorems
- \* Using blank lines to organize your notes

Feel free to compare your notes with others or—and this can be especially effective for study—rewrite your notes with more explanations for yourself.

- **Quizzes**

- There will be regular, short, graded quizzes. These are meant to provide a more frequent feedback on your work.

- **Calculators**

- You will not need a calculator in this course. While you are invited to experiment with calculators to confirm hand calculations, you will not need to use them. Calculators are not allowed during the exams.

- **Attendance and Absences**

- Attendance is expected and will be noted. If you're not there, you missed it. Excessive absences are cause for dismissal, as per the college catalog.
- Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials and to learn what was missed.
- It is the student's responsibility to drop all classes in which he/she is no longer participating or attending.
- It is the instructor's discretion to drop a student for excessive absences or non-participation any time during the allowed drop/withdrawal period for the course.
- Student who remain enrolled in a class beyond the published withdrawal deadline, as stated in the class schedule, *must* receive an evaluative letter grade in the class. (A 'W' grade cannot be assigned during the final grading for students till appearing on the roster.)
- The final grade in this class will be affected by active participation, including attendance, as indicated in the in-class quiz scores.

- **Cell Phones**

- Turn off your cell phone during class. You may not receive calls or messages in class.

**Note: No makeup quizzes will be given. Only legitimate excuses (with a doctor's note, say) will allow a makeup exam.**

### **Academic Honesty Policy**

In addition to skills and knowledge, College of the Desert aims to teach students appropriate ethical and professional standards of conduct. The college catalog specifies that students are expected to "be honest and ethical at all times in the pursuit of academic goals. Students who are found to be in violation of the Student Conduct Standards and Procedures will receive a grade of zero on the assignment, quiz, or exam in question and may be referred for disciplinary action in accordance with Student Disciplinary Procedures." Any attempt to deceive a faculty member or to help another student to do so will be considered a violation of this standard.

Week	Tentative Course Schedule:
Week 1, Jan. 29	<ul style="list-style-type: none"> <li>• §1.1 Exponents, Order of Operations, and Inequality</li> <li>• §1.2 Variables, Expressions, and Equations</li> <li>• §1.3 Real Numbers and the numberline.</li> <li>• §1.4 Adding and Subtracting Real Numbers</li> <li>• §1.5 Multiplying and Dividing Real Numbers</li> </ul>
Week 2, Feb. 5	<ul style="list-style-type: none"> <li>• §1.6 Properties of Real Numbers</li> <li>• §1.7 Simplifying Expressions.</li> <li>• §2.1 The Addition Property of Equality</li> <li>• §2.2 The Multiplication Property of Equality</li> <li>• §2.3 More on Solving Linear Equations</li> </ul>
Week 3, Feb. 12	<ul style="list-style-type: none"> <li>• §2.4 Applications of Linear Equations</li> <li>• §2.5 Formulas and Additional Applications from Geometry</li> <li>• §2.6 Ratio, Proportion and Percent.</li> <li>• §2.7 Further Applications of Linear Equations.</li> <li>• §2.8 Solving Linear Inequalities</li> </ul>
Week 4, Feb. 19	<ul style="list-style-type: none"> <li>• Review and Test 1</li> <li>• §3.1 Linear Equations and Rectangular Coordinates</li> <li>• §3.2 Graphing Linear Equations in Two Variables</li> </ul>
Week 5, Feb. 26	<ul style="list-style-type: none"> <li>• §3.3 The Slope of a Line.</li> <li>• §3.4 Slope-Intercept Form of a Linear Equation.</li> <li>• §3.5 Point-Slope of a Linear Equation and Modeling &amp;</li> <li>• §3.6 Graphing Linear Equations in Two Variables</li> <li>• §3.7 Introduction to Functions</li> </ul>
Week 6, Mar. 5	<ul style="list-style-type: none"> <li>• §4.1 Solving Systems of Linear Equations by Graphing.</li> <li>• §4.2 Solving Systems of Linear Equations by Substitution.</li> <li>• §4.3 Solving Systems of Linear Equations by Elimination.</li> <li>• §4.4 Applications of Linear Systems.</li> <li>• §4.5 Solving Systems of Linear Inequalities</li> </ul>
Week 7, Mar. 12	<ul style="list-style-type: none"> <li>• Review and Test 2</li> <li>• §5.1 Exponents and Polynomials</li> <li>• §5.2 Integer Exponents and the Quotient Rule</li> <li>• §5.3 Scientific Notation</li> <li>• §5.4 Adding, Subtracting and Graphing Polynomials</li> <li>• §5.5 Multiplying Polynomials</li> </ul>
Week 8, Mar. 19	<ul style="list-style-type: none"> <li>• §5.6 Special Products</li> <li>• §5.7 Dividing Polynomials</li> <li>• §6.1 The Greatest Common Factor</li> <li>• §6.2 Factoring Trinomials</li> </ul>
Week 9, April 2	<ul style="list-style-type: none"> <li>• §6.3 More on Factoring Trinomials</li> <li>• §6.4 Special Factoring Techniques</li> <li>• §6.5 Solving Quadratics Using the Zero-Factor Property</li> <li>• §6.6 Applications of Quadratic Equations</li> <li>• Review</li> </ul>

Week	Tentative Course Schedule:
Week 10, April 9	<ul style="list-style-type: none"> <li>• Test 3</li> <li>• §7.1 The Fundamental Property of Rational Expressions</li> <li>• §7.2 Multiplying and Dividing Rational Expressions</li> <li>• §7.3 Least Common Denominators</li> </ul>
Week 11, April 16	<ul style="list-style-type: none"> <li>• §7.4 Adding and Subtracting Rational Expressions</li> <li>• §7.5 Complex Fractions</li> <li>• §7.6 Solving Equations with Rational Expressions</li> <li>• §7.7 Applications of Rational Expressions</li> <li>• §7.8 Variation</li> </ul>
Week 12, April 23	<ul style="list-style-type: none"> <li>• §8.1 Evaluating Roots</li> <li>• §8.2 Multiplying, Dividing, and Simplifying Radicals</li> <li>• §8.3 Adding and Subtracting Radicals</li> <li>• §8.4 Rationalizing the Denominator</li> <li>• §8.5 More Simplifying and Operations with Radicals</li> <li>• §8.6 Solving Equations with Radicals</li> <li>• Chapters Review</li> </ul>
Week 13, Apr. 30	<ul style="list-style-type: none"> <li>• Test 4</li> <li>• §9.1 Solving Quadratic Equations by the Square Root Property</li> <li>• §9.2 Solving Quadratic Equations by Completing the Square</li> </ul>
Week 14, May 7	<ul style="list-style-type: none"> <li>• §9.3 The Quadratic Formula</li> <li>• §9.4 Graphing Parabolas</li> </ul>
Week 15, May 14	<ul style="list-style-type: none"> <li>• Test 5 and review for final exam.</li> </ul>
Week 16, May 21	<ul style="list-style-type: none"> <li>• There are no regular classes during the final week.</li> <li>• The final exam is scheduled for Tuesday, May 22, 6-8pm.</li> </ul>