

COURSE NAME:	MATH 0099: Algebra Foundations II
TEXTBOOK	Martin-Gay, Elayn. <i>Developmental Mathematics</i> . 3rd Ed. Upper Saddle River, NJ: Pearson, 2015. ISBN-13: 9780321936875 (Not required to purchase). Instructors will provide MyMathLab access codes.
COURSE CREDIT	3 Units

MATH 0099 Algebra Fundamentals II

Course Objectives:

1. Add and subtract polynomials.
2. Multiply polynomials.
3. Divide a polynomial by a monomial.
4. Divide a polynomial by a binomial using synthetic division. \*
5. Factor a monomial from a polynomial.
6. Factor polynomials by grouping.
7. Factor trinomials of the form  $ax^2 + bx + c$ ,  $a=1$ .
8. Factor trinomials of the form  $ax^2 + bx + c$ ,  $a \neq 1$ .
9. Factor special products.
10. Solve polynomial equations by factoring.
11. Solve application problems involving quadratics.
12. Simplify rational expressions.
13. Determine the value(s) of the variable where a rational expression is undefined.
14. Multiply and divide rational expressions.
15. Add and subtract rational expressions with like and unlike denominators.
16. Simplify complex fractions.
17. Solve rational equations.
18. Find the domain of a rational expression. \*
19. Simplify radicals and expressions containing rational exponents.
20. Perform simple operations involving adding, subtracting and multiplying radicals.
21. Perform simple operations involving dividing radicals and rationalizing denominators (only  $\frac{a}{\sqrt{b}}$  or  $\frac{a}{\sqrt{b+c}}$ ).
22. Solve radical equations.
23. Solve quadratic equations using factoring.
24. Solve quadratic equations using the quadratic formula.
25. Solve quadratic equations using the square root method.
26. Graph quadratic functions using the vertex and intercepts.
27. Solve quadratic equations that have complex solutions. \*

**Objectives measures marked with an \* are optional and may be added at the discretion of the instructor.**