Course Prefix and Number: MTE 6  
Credits: 1

Course Title: Exponents, Factoring, and Polynomial Equations

Course Description (as it should appear in the catalog)

Includes techniques of factoring polynomials and using these techniques to solve polynomial equations. Emphasizes applications using polynomial equations solved by factoring. Credits not applicable toward graduation. Prerequisite: placement recommendation or MTE 5. Lecture 4 hours per week for ¼ semester.

General Course Purpose

This course is designed to give the student understanding and practice in evaluating, combining, and factoring polynomials.

Course Objectives (Each item should complete the following sentence.)

Upon completing the course, the student will be able to:

1. Evaluate the product or quotient of two exponential expressions.
2. Evaluate the power of a power of an exponential expression.
3. Evaluate exponential expressions that contain negative exponents.
4. Evaluate exponential expressions that contain combinations of products, quotients, power of a power, and negative exponents.
5. Multiply and divide numbers in scientific notation.
6. Identify an expression as a monomial, binomial, trinomial, or polynomial.
7. Add, subtract, multiply, and divide monomials using the rules of exponents.
8. Add, subtract, and multiply binomials, trinomials, and combinations of binomials and trinomials.
9. Find the greatest common factor from a list of terms and from a polynomial.
10. Factor a polynomial by grouping.
11. Factor trinomials of the form $x^2 + bx + c$
12. Factor trinomials of the form $ax^2 + bx + c$, $a \neq 1$
13. Factor a difference of squares.
14. Factor a sum or difference of two cubes.
15. Solve polynomial equations using factoring techniques.
16. Solve application problems involving polynomial equations and factoring.

Major Topics to be Included

1. Exponents
2. Operations on Polynomials
3. Factoring of Polynomials
4. Polynomial Equations
5. Polynomial Applications

Effective Date of Course Content Summary (Month, Date Year): January 2, 2012