SPRING 2014 SYLLABUS

COURSE:	Math 137 Algebra CRN 11991
DAY AND TIME:	Monday/Wednesday/Friday 11:00-11:50 am
ROOM:	E221
INSTRUCTOR:	D. Patrick Colburn
EMAIL:	patrickcolburn@sbcglobal.net
TEXTBOOK:	Elementary & Intermediate Algebra: Graphs & Models 4th Edition – Bittinger Ellenbogen Johnson
COURSE DESCRIPTION:	Specific outcomes on back. A graphing calculator is required. Instructor will use a Texas Instrument calculator (TI84). This course continues the development of algebraic skills and concepts. The topics include: linear equations, functions and graphs, applications of systems of equations, inequalities, rational expressions and equations, operations of radicals and rational exponents, quadratic equations, exponential and logarithmic functions.
MEASUREMENTS:	There will be a test after every chapter. Grades will be determined by finding the arithmetic mean of all assessments. Homework equates to ½ Chapter Assessment (each based on a check, check minus, and zero nature) as will final exam. Any missing homework may be passed in before the administration of the relevant assessment.
ACADEMIC HONESTY:	At TRCC, we expect the highest standards of academic honesty. The Board of Regents' Prescribed Conduct Policy prohibits cheating on examinations, unauthorized collaboration on assignments, or plagiarism. Anyone caught cheating will receive an "F" for that exam.
MAKE-UP TESTS:	Any test missed on a scheduled day will be made up during the instructor's discretionary days.
HOMEWORK:	Will be collected daily. Place on my desk as you enter the room.
EXTRA HELP:	Available by appointment before class.

*NO CELL PHONES

MAT137 COURSE OUTCOMES

1. Factor an algebraic expression using a combination of greatest common factor, difference of two squares, sum or difference of two cubes, and/or trinomial factoring.
2. Use factoring procedures to solve equations and problems.
3. Solve compound linear inequalities of the form C<ax + b <d. Express answer algebraically, graphically, and using interval notation.
4. Isolate a particular variable in a literal equation.
5. Use quadratic formula to find exact values of a quadratic equation with irrational or imaginary solutions. Approximate the irrational solutions.
6. Solve basic exponential and logarithmic equations.
7. Evaluate basic logarithmic expressions, and convert between logarithmic and exponential form.
8. Solve an exponential equation.
9. Graph a quadratic function by finding the vertex, x- and y-intercepts.
10. Relate the discriminant in the quadratic formula to the graph of a parabola.
11. Graph a basic exponential function.
12. Know the graphical relationship between exponential and logarithmic functions.
13. Express the slope as a rate of change using appropriate units.
14. Write the equation of a linear function given data. Use functional notation in the answer.
15. Write the equation of an exponential function given data. Use functional notation in the answer.
16. Solve a 2 x 2 and 3 x 3 system of equations.
17. State the domain of linear, quadratic, exponential functions.
18. Evaluate functions using numerical and algebraic values.
19. Identify domain (inputs) and range (outputs) graphically for basic functions.
20. Interpret functional notation in a variety of application problems.
21. Determine if a relation is a function by looking at a graph, table, or equation.
22. Solve a rational equation and check for extraneous solutions.
23. Solve a radical equation that produces a second-degree equation. Check for extraneous solutions.
24. Know and apply the rules of integer and fractional exponents
25. Add, subtract, multiply, divide rational expressions. Reduce the answers.
26. Simplify a complex fraction.
27. Know the meaning of rational exponents and their relationship to radical form.
28. Simplify radical expressions with emphasis on cube roots and lower.
29. Rewrite radical expressions by rationalizing numerator or denominator.
30. Add, subtract, multiply, and divide radical expressions.
31. Solve application problems involving the Pythagorean Theorem.
32. Given a quadratic model, find and interpret the maximum or minimum values, and the intercepts
33. Solve an application problem involving quadratic equations.
34. Solve an application problem that involves rational expressions
35. Solve an application problem involving a given exponential model.
36. Solve applications involving linear systems.