

Math 137 Intermediate Algebra, 3 Credits

Instructor: Joan M. Casey (860)-501-1288, jcasey@trcc.commnet.edu

Prerequisite: Acceptable placement score or Math 095

FALL 2011, Tues/Thurs 5:30pm -8:15pm

Required Text and Materials:

Intermediate Algebra, Functions & Authentic Applications, Fourth Edition, Jay Lehmann, Prentice Hall.

TI 83 or TI 84 Graphing Calculator

Notebook (Bring to every class)

Grading Policy:

There will be 4 tests, each worth 20% of your grade.

There will be 4 quizzes, the average of the quizzes will be worth 20% of your grade

A letter grade will be given at the end of the semester; grade equivalents are as follows:

A 93 - 100 B+ 87 - 89 C+ 77 - 79 D+ 67 - 69

A- 90 - 92 B 83 - 86 C 73 - 76 D 60 - 66

B- 80 - 82 C- 70 - 72 F Below 60

Statement on Disabilities: If you are a student with a disability and believe you will need accommodations for this course, it is your responsibility to contact the Disabilities Counseling Service at 383-5240. To avoid any delay in the receipt of accommodations, you should contact the counselor as soon as possible.

OTHER:

Attendance at EVERY class is expected.

If you will be absent on the day of a scheduled test, **please notify me PRIOR to the test** so that arrangements can be made. Tests that are missed, without my prior knowledge, cannot be made up.

NO CELLPHONES or TEXTING during class.

Students are alerted to any **school closings & delays** through the Three Rivers web site: www.trcc.commnet.edu.

TASC is the college's **free tutoring** and academic success center. Meeting with me is another option. I will be available 15 minutes prior to and 15 minutes beyond each regularly scheduled class.

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 that requires the use of logarithms.

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 or logarithmic 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 2×2 and 3×3 system of equations.
17. State the domain of linear, quadratic, exponential and logarithmic 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 or logarithmic model.
36. Solve applications involving linear systems.

37. Find the six trigonometric values of an acute angle
38. Solve triangles using right triangle trig, distinguish between the angle of depression and elevation.
Solve applied problems using right triangle trigonometry