

MAT137 Shane Gibson

INTERMEDIATE ALGEBRA (MATH 137)

CRN 11991

INSTRUCTOR – SHANE GIBSON

SPRING 2013

ROOM E 221

MWF 11-11:50am

OFFICE: ; OFFICE PHONE:

OFFICE HOURS: Monday: 12-1pm, Wednesday: 12-1pm, Thursday: 5:30-6:30pm

E-MAIL: sgibson@trcc.commnet.edu

MYMATHLAB COURSE ID: gibson51252

COURSE DESCRIPTION

This course uses MyMathLabs for online homework and quizzes, which requires an access code from the textbook. 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. Because this class utilizes online assessments, communication through your @trcc.commnet.edu email address (for example mine is sgibson@trcc.commnet.edu) will be ideal.

PREREQUISITE

Acceptable placement score or Math 095 with a “C” grade or better.

TEXTBOOK

Elementary & Intermediate Algebra: Graphs & Models 4th edition – Bittinger Ellenbogen Johnson

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.
39. Solve applied problems using right triangle trigonometry

TENTATIVE SCHEDULE

Week 1	1/28	Factoring	6.5 – 6.7
Week 2	2/4	Trigonometry	Handout
Week 3	2/11	Rational Expressions	7.1-7.3
Week 4	2/18	Rational Expressions continued	7.3 – 7.6
Week 5	2/25	Applications and Formulas, and Review	7.7-7.8, Review
Week 6	3/4	Test # 1 (CH. 6 – 7), Systems of Equations	9.1-9.2
Week 7	3/11	Radical expressions and exponents	10.1-10.3
Week 8	3/18	Radical Expressions continued	10.3 – 10.6
Week 9	4/8	Review, Test # 2 (CH. 9-10)	
Week 10	4/15	Quadratic equations	11.1 – 11.5
Week 11	4/22	Quadratic equations continued	11.5-11.8, Review
Week 12	4/29	Test # 3 (CH. 11), Inverse and Exponential Functions	12.1-12.3
Week 13	5/6	Inverse functions and exponential functions continued	12.3 – 12.6
Week 14		Review, Test # 4 (CH. 12)	

Attendance/Homework/Requirements

It is strongly suggested that students make every effort to attend ALL classes. More than two absences during the semester will jeopardize the student's success in the course. Homework and quizzes will be assigned through MyMathLabs on a weekly basis. All homework assignments must be completed. A graphing calculator is recommended, but no calculators of any kind will be allowed during exams.

CELL PHONES MUST BE SILENT DURING CLASS.

Methods of Evaluation/Make-ups

Tests will be announced. Tests that are missed for any reason cannot be made up (with the exception of snow conditions). If a student misses one of the first THREE tests, a make-up test will be given at the end of the semester. A student can also use this make-up test to improve their lowest test grade. Final grades will be assigned according to the following:

<u>CLASS AVERAGE</u>	<u>FINAL GRADE</u>
90 -100	A- / A
80 - 89	B- / B+
70 - 79	C- / C+
60 - 69	D- / D+
Below 60	F

Statement on Disabilities

If you are a student with a disability and believe you will need accommodations for this class, 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. Please note that I cannot provide accommodations based upon disability until I have received an accommodation letter from the Disabilities Counselor. Your cooperation is appreciated.

Class Cancellation

The Three Rivers web site provides a full listing of radio and television stations that alert students to school closings and delays. Go to: www.trcc.commnet.edu and click on General Information and Weather Procedures.