Intermediate Algebra
MAT 137

INSTRUCTOR: Brian F. Kennedy
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REQUIRED TEXT
Intermediate Algebra 4th ed. by Lehmann, a graphing calculator is also required.

CREDIT: 3 credit hours

COURSE DESCRIPTION
This course continues the development of algebraic skills and concepts. The topics include: linear equations, functions, applications of systems of equations, inequalities, rational expressions and equations, operations on radicals and rational exponents, quadratic equations, exponential and logarithmic functions, and basic right triangle trigonometry.

PREREQUISITE: MAT 095 or acceptable placement score.

GRADING POLICY
A student will receive one of the following grades: A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F, I, W, P or Audit. Determination of that grade will be based on the following. Throughout the semester there will be four, 100 point exams (an exam will be announced at least one week prior to its administration). A comprehensive final exam worth 200 points. Quizzes and projects throughout the semester totaling 75 points. Your final grade will be computed by totaling all the points earned on the four tests, quizzes and final exam grade then dividing that total by the 675 possible points.

Grade Equivalents:	A 93 - 100	B 83 - 86	C 73 - 76	D 63 - 66
	A- 90 - 92	B- 80 - 82	C- 70 - 72	D- 60 - 62
	B+ 87 - 89	C+ 77 - 79	D+ 67 - 69	F 59 or less

Quizzes will be during the first 15 minutes of class and cannot be made up. No test can be made up without prior arrangement with the instructor. All makeup tests will take place during final exam week.

COLLEGE WITHDRAWAL POLICY
Course withdrawals are accepted up until the week before classes end. Specific dates are posted in the academic calendar and withdrawal forms are available online or at the Registrar's office. The withdrawal does not have to be signed by the instructor but it is strongly recommended that you speak with your instructor before withdrawing. If you are receiving financial aid you must contact their office for approval before withdrawing. If necessary, you can withdraw over the phone by calling the Registrar's Office at 860-892-5756.

DISABILITIES STATEMENT
If you have a hidden or visible disability which may require classroom or test-taking modifications, please see me as soon as possible. If you have not already done so, please be sure to register with Chris Scarborough.

ACADEMIC INTEGRITY POLICY
All students are expected to demonstrate their knowledge of the material on each quiz and test. Any student caught cheating will receive a zero on that test.

CLASS CANCELATION POLICY
If class is canceled by the instructor a notice will be placed on the classroom door. If time permits, the class will be notified by email.

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COURSE OUTLINE (subject to change)

Date	Chapters (Sections) covered
1/19	
1/24	Ch.1.6, Right triangle trigonometry
1/26	Right triangle trig. 2.1
1/31	Ch. 2.2 - 2.3
2/7	Review
2/9	Test #1
2/14	Ch. 3.2 - 3.3
2/16	Ch. 4.1 - 4.2
2/21	Ch. 4.3 - 4.4
2/23	Ch. 4.5, 5.2
2284	Ch. 5.3 - 5.4
3/1	Ch. 5.5-5.6
3/6	Review
3/8	Test #2
3/13	Ch. 6.1 - 6.3
3/15	Ch. 6.4 - 6.5
3/27	Ch. 6.6, 7.1, 7.2
3/29	Ch. 7.3, 7.5
4/3	Ch. 7.6, 7.7
4/5	Review
4/10	Test #3
4/12	Ch. 8.1, 8.2
4/17	Ch. 8.3, 8.5
4/19	Ch. 8.6,
4/24	Ch. 9.1, 9.2
4/26	Ch. 9.5
5/1	Review
5/3	Test # 4
5/8	Review for Final Exam
5/10	Final Exam part I
5/15	Final Exam part II

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 x 2 and 3 x 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