MAT137_BMAURICE_S/12

INTERMEDIATE ALGEBRA (MATH 137) – ROOM E 221
CRN 10414
INSTRUCTOR – BARBARA MAURICE
SPRING 2011
M/W 2:00-3:15
OFFICE: C 206; OFFICE PHONE 383-5221
OFFICE HOURS: MW: 1:00- 2:00; TR 12:00-1:00
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COURSE DESCRIPTION
A graphing calculator is required. Instructor will use a Texas Instrument calculator (TI83). 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.

PREREQUISITE
Acceptable placement score or Math 095 with a "C" grade or better.

TEXTBOOK
Intermediate Algebra – Functions and Authentic Applications by Jay Lehmann (Fourth Edition).

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 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

TENTATIVE SCHEDULE

M	1/23	Functions	1.6
W	1/25	Linear Functions	2.1-2.3
M	1/30	Trigonometry	Handout
W	2/1	Trigonometry	Handout
M	2/6	Systems of Linear Equations	3.2-3.3
W	2/8	Review	
M	2/13	TEST #1 (CH. 1– 3 & TRIG)	
W	2/15	Exponential Functions	4.1-4.2
M	2/20	President's Day Observed – Classes Not in Session	
W	2/22	Exponents Functions continued	4.3-4.5
M	2/27	Logarithmic Functions	5.2-5.3
W	2/29	Logarithmic Functions continued	5.4-5.6
M	3/5	Review	
W	3/7	TEST #2 (CH. 4 – 5)	

M	3/12	Polynomial Functions	6.1-6.2
W	3/14	Polynomial Functions continued	6.3-6.4
3/18 – 3/25		Spring Break	
M	3/26	Polynomial Functions continued	6.5-6.6
W	3/28	Quadratic Functions	7.1-7.2
M	4/2	Quadratic Functions continued	7.3&7.5
W	4/4	Quadratic Functions continued	7.6-7.7
M	4/9	Review	
W	4/11	TEST #3 (CH. 6 – 7)	
M	4/16	Rational Functions	8.1-8.2
W	4/18	Rational Functions continued	8.3
M	4/23	Rational Functions continued	8.5-8.6
W	4/25	Radical Functions	9.1-9.2
M	4/30	Radical Functions continued	9.5
W	5/2	Review	
M	5/7	TEST #4 (CH. 8– 9) Last Day to Withdraw from Classes	
W	5/9	Make-up	
M	5/14	To be used as needed	
	5/23	Grades available on web	

Attendance/Homework/Requirements

It is strongly suggested that students make every effort to attend ALL classes. More than three absences during the semester will jeopardize the student's success in the course. Homework will be assigned on a daily basis. All homework assignments must be completed. Students will be required to have a two-section math notebook. One section is to be dedicated to class notes while the other section will be dedicated to homework. The student's math notebook should be available to the instructor at each class. Students are allowed to use a calculator.

Classroom Behavior

This is a college course for committed students, and I expect you to maintain proper decorum in the classroom. All cell phones, Blackberries, text messaging devices, etc….must be turned off during class. All MP3 players, laptops, and other electronic devices must be turned off as well.
Treat your fellow students and your instructor with maturity and respect at all times. Immature behaviors will simply not be tolerated; if I am forced to address a behavior issue more than once, you will be asked to leave and not return to class.

Methods of Evaluation/Make-ups

Tests will be announced. Unannounced quizzes may be given at the discretion of the instructor. 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:

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

College Withdrawal Policy

week of classes. From the 11th week through the end of the 13th week, a student may withdraw with the signature of the instructor or advisor.

Statement on Disabilities

If you have a question regarding a disability that may affect your progress in this course, please contact one of the college's Disability Service Providers as soon as possible. Chris Scarborough (860-892-5751/Room A-119) generally works with students who have Learning Disabilities, Attention Deficit Disorder, or Asperger's Syndrome (Chris's position is part-time). Kathleen Gray (860-885-2328/Room A-119) generally works with students who have physical, visual, hearing, medical, mobility, or psychiatric disabilities. Please note that an instructor cannot provide disability academic adjustments until a student provides the necessary paperwork from the college's Office of Disability Services to the instructor. Also, academic adjustments take effect when the instructor receives the paperwork from a student- academic adjustments are not provided retroactively.

Communications regarding closings, cancellations, and delays: In the event a decision is made to cancel or delay classes or to close school completely, this decision will be communicated in the following ways:

Radio and Television Announcements will be made on the following stations:

- TV Channel 3 – WFSB
- TV Channel 30 – WVIT NBC Connecticut News 30

- TV Channel 8 – WTNH
- WTIC/WRCH/WZMX Radio – Hartford
- WICH/WCTY/WNLC/WKNL Radio – Norwich/New London
- WSUB/Q105 Radio – Groton/New London
- WINY Radio – Putnam
- WADK Radio – Westerly
- WILI Radio – Willimantic
- WDRC Radio – Hartford

The College's website will also have announcements regarding any delays, cancellations or closings. This information may be obtained by accessing www.trcc.commnet.edu.

The myCommnet Alert Notification System will also be used to deliver important information to students, faculty, and staff regarding weather-related class cancellations. The system delivers both email messages, and text messages over cellular phones to those individuals who are registered. To register, log on to your myCommnet account at http://my.commnet.edu/ and follow the link to myCommnet Alert.

HOMEWORK ASSIGNMENTS – ASK "BOB"

1.5 1 – 33 odd
1.6 1 – 23 odd, 31 – 41 odd
2.2 1, 3, 5, 7, 11, 13, 17
2.3 1 – 33 odd, 47 – 55 odd, 57, 58, 59 – 62, 67 – 73 odd, 79
3.2 1, 3, 9, 13, 17, 21, 25, 29, 33, 37, 39, 49, 55, 57
3.3 1, 3, 5, 7, 11, 13
4.1 1 – 67 odd, 71, 77, 85, 89
4.2 1 – 69 odd
4.3 1, 5, 7, 11, 13, 15, 17, 19, 21, 23, 27, 33, 39, 41, 43
4.4 1, 5 – 35 odd, 41 – 47 odd
4.5 1, 5, 9, 11, 15, 17, 21
5.2 1 – 39 odd
5.3 1 – 53 odd
5.4 5, 7, 9, 13, 15, 19, 21
5.5 1 – 29 odd
5.6 1 – 19 odd
6.1 31 – 55 odd, 67 – 73 odd
6.2 1 – 91 every other odd
6.3 1 – 59 odd, 69, 71
6.4 1 – 71 odd
6.5 1 – 81 odd
6.6 1 – 63 0dd
7.1 1 – 19 odd
7.2 1, 5, 11, 17, 37, 41, 43, 47, 55
7.3 3, 7, 9, 11, 19 – 67 odd
7.4 1, 7, 9, 13, 17, 23, 27, 35, 39
7.5 1, 3, 5, 29, 33, 63, 65, 67
7.6 1, 5, 9, 21, 23, 25
8.1 1 – 51 every other odd
8.2 13, 15, 17, 23, 27, 35
8.3 3, 7, 17, 23, 29, 37
8.4 3, 7, 9
8.5 3, 7, 9, 13, 25, 27
9.1 1 – 69 odd
9.5 9, 27, 33, 37, 39