

MAT137_Maurice_S14

INTERMEDIATE ALGEBRA (MATH 137)

CRN 10414

INSTRUCTOR – BARBARA MAURICE

ROOM E 221

M/W 2:00 – 3:15

OFFICE: C 206; OFFICE PHONE: 860-215-9452

OFFICE HOURS: MW 1:00 - 2:00; TR 12:00 - 1:00

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COURSE DESCRIPTION

A graphing calculator is recommended. 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

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

MATH 137 OUTCOMES

Linear Functions

Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and/or using technology

Determine identifying characteristics of linear functions

Model and solve real world applications with linear functions (e.g., car depreciation) and systems of linear equations

Quadratic Functions and/or Expressions

Provide multiple representations of quadratic functions or expressions by hand and/or using technology

Determine identifying characteristics of quadratic functions or expressions (e.g., factors)

Evaluate, simplify, and perform operations on quadratic functions or expressions

Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically

Solve real world applications involving quadratic equations and functions

Exponential Functions and/or Expressions

Provide multiple representations (e.g., tables, graphs, symbols) of exponential functions or expressions by hand and/or using technology

Determine identifying characteristics of exponential functions or expressions

Evaluate, simplify, and perform operations on exponential functions or expressions

Identify real world applications involving exponential functions and/or solve graphically

Rational Functions and/or Expressions

Provide multiple representations of simple rational functions or expressions by hand and/or using technology

Determine identifying characteristics of rational functions or expressions

Evaluate, simplify, and perform operations on simple rational functions or expressions

Solve simple rational equations algebraically and/or graphically

Solve real world applications involving rational functions

Radical Functions and/or Expressions

Provide multiple representations of simple radical functions or expressions by hand and/or using technology, with primary emphasis on square root

Determine identifying characteristics of radical functions or expressions

Evaluate, simplify, and perform operations on simple radical functions or expressions

Solve simple radical equations algebraically and/or graphically

Solve real world applications involving radical functions

Identify imaginary numbers

Mathematical Practices

Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning

TENTATIVE SCHEDULE

M	1/27	Graphing equations, linear equations and intercepts	3.2-3.3
W	1/29	Slope, slope intercept form	3.5-3.6
M	2/3	Point slope form	3.7
W	2/5	Functions	3.8
M	2/10	Polynomials and polynomial functions; Intro to polynomial factorization and equations	5.3-6.1
W	2/12	Trinomials: x^2 ; Trinomials: ax^2	6.2-6.3
M	2/17	President's Day – classes not in session	
W	2/19	Difference of squares, sums and differences of cubes	6.4-6.5

M	2/24	Applications of polynomial equations	6.7
W	2/26	Review	
M	3/3	TEST # 1	
W	3/5	Rational expressions and functions, mult./div.	5.8, 7.1-7.2
M	3/10	Addition/subtraction; LCD	7.3-7.4
W	3/12	Rational equations	7.6
3/17 – 3/23 Spring Break			
M	3/24	Applications, formulas	7.7-7.8
W	3/26	Radicals	10.1
M	3/31	Rational numbers as exponents	10.2
W	4/2	Multiplying radical expressions	10.3
M	4/7	Expressions containing several radical terms	10.5
W	4/9	Solving radical equations, applications	10.6-10.7
M	4/14	Complex numbers, review	10.8
W	4/16	TEST # 2	
M	4/21	Quadratic equations, the quadratic formula	11.1-11.2
W	4/23	Solutions and applications of quadratic equations	11.3-11.4
M	4/28	Quadratic functions and their graphs	11.6-11.7
W	4/30	Exponential functions and equations	12.2-12.6
M	5/5	Applications, review	12.7
W	5/7	TEST #3	
M	5/12	Make up	
M	5/12	Last day to withdraw from classes	
W	5/14	Review	
M	5/18	FINAL EXAM	

F 5/30 Grades available on web (www.online.commnet.edu)

Attendance/Homework/Requirements

It is strongly suggested that students make every effort to attend ALL classes. 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.

CELL PHONES MUST BE TURNED OFF DURING 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 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. A Final Exam, which will be worth two test grades, will be given at the end of the semester. 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

Digication

All students are required to maintain an online learning portfolio in Digication that uses the college template.

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.

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.

Math 137 Homework (ASK BOB)

Do all odd numbered problems with the exception of eoo which means every other odd.

- 3.2 7 – 53, 73 – 81
- 3.3 7 – 19, 21 – 53, 73 – 81
- 3.5 11 – 59 eoo, 61 – 71
- 3.6 19 – 33, 37 – 41, 45, 49 – 61, 65 – 75, 85, 86
- 3.7 13 – 29 eoo, 33 – 69 eoo, 81 – 93
- 3.8 9 – 19, 21 – 51, 53 – 57, 81, 85, 95, 99, 101 – 111
- 5.3 9 – 37 eoo, 41 – 53 eoo, 55 – 69, 73, 79, 91, 95

- 6.1 23 – 39 eoo, 45 – 89 eoo, 91 – 101
- 6.2 9 – 41 eoo, 47 – 65
- 6.3 9 – 33 eoo, 57, 61 – 69
- 6.4 9 - 59 odd, 87, 89, 103, 105
- 6.5 11 – 29, 47, 49
- 6.6 5 – 63 odd
- 6.7 5 – 35

- 7.1 9 – 11, 13 – 19, 23 – 33, 39 – 47, 57, 59, 61, 79 – 83
- 7.2 7 – 21, 45 – 55
- 7.3 5 – 21, 34 – 49
- 7.4 5 - 41
- 7.6 11 – 39, 49, 51, 55
- 7.7 7 – 35
- 7.8 13, 15, 19, 25, 29

- 10.1 9 – 27, 33 – 37, 39 – 45, 69 – 73, 93, 105
- 10.2 9 – 61 eoo, 77 – 87, 91 – 107 eoo
- 10.3 7, 13, 17, 23, 27, 35, 47, 57, 59, 63, 67
- 10.5 7, 13, 17, 19, 31, 33, 35, 41, 45, 51
- 10.6 7 – 13, 21, 27
- 10.7 13 – 27, 45
- 10.8 9 – 19

- 11.1 13 – 31, 37, 41, 57 – 61, 65 – 69, 71, 81, 85, 87
- 11.2 7 – 29, 33, 39, 43, 45
- 11.3 7 - 17
- 11.4 1 – 11, 35 – 41
- 11.6 15 – 67 eoo
- 11.7 9 – 41

- 12.2 11 – 29, 45 – 49
- 12.6 9 – 25
- 12.7 1 – 9, 21

