Mat137S (Fall 2017)

Intermediate Algebra with Embedded Tutor

Course Description: This course cultivates understanding and different representations of functions. The course covers linear, quadratic, exponential, rational, radical functions, equations, and expressions, and operations on them with emphasis on modeling and solving real world problems.

Instructor: Professor Paul Centore

Email: pcentore@trcc.commnet.edu

Communication will occur by email and Blackboard. Please make sure that your email address in MyCommNet is accurate. Check your email regularly to be informed of any schedule changes.

Office Hours:	Monday	1245-125	Adjunct Office Suite
	Tuesday	1145-1225	Adjunct Office Suite
	or by appointment		

Lectures:	Monday	130-245	rm. D221
	Wednesday	130-245	rm. D221
Embedded Tutor:	Wednesday	300-350	rm. D219

Textbook (print or electronic): Stefan Baratto & Barry Bergman, *Elementary and Intermediate Algebra, 5th Edition*

ALEKS (required): An electronic version of the text is included with an ALEKS 360 account.

Class Code for ALEKS: MXM3U-QT3KE

Support: Tutoring and Academic Success Center (TASC), rm. D209.
Also, I will be available after class for extra help.

Coursework:

ALEKS pie:	Wed, September 27	1159 pm	100 topics due
	Wed, October 25	1159 pm	200 topics due
	Wed, November 15	1159 pm	300 topics due
	Wed, December 13	1159 pm	all topics due
Hand-In Assignments:	Wed, September 13	130 (start of class, not end)	
	Wed, October 4	130 (start of class, not end)	
	Mon, October 30	130 (start of class, not end)	
	Mon, November 20	130 (start of class, not end)	
Tests:	Wed, September 20	130-245	Sect. 6.1 – 6.4
	Mon, October 16	130-245	Sect. 9.1 – 9.3, 9.6
	Mon, November 6	130-245	Sect. 7.1 – 7.6
	Mon, December 4	130-245	Sect. 8.1 – 8.4
Final Exam:	end of term		

Grading:

Tests	40%
ALEKS pie	20%
Hand-in assignments	20%
Final exam	20%

Course Outline

Section	Topic	Extra Exercises (if needed)
Ch. 6		
6.1	An Introduction to factoring	486: 1, 13, 31, 39, 43, 59, 67, 71, 79, 82
6.2	Factoring special products	497: 1, 6, 13, 23, 25, 43, 51, 53, 59, 60, 65, 69
6.3	Factoring: Trial and Error	507: 17, 22, 43, 53, 54, 57
6.4	Factoring: The ac method	517: 2, 15, 21, 31, 32, 38, 40, 59, 60, 78, 82
6.5	Factoring strategies	524: 1, 17, 23, 31, 43, 44, 53, 59, 77, 81
6.6	Factoring and problem solving	537: 5, 10, 21, 35, 45, 53, 58, 72, 90
Ch. 9		
9.1	Simplifying rational expressions	699: 2, 10, 18, 25, 36, 48, 67, 74, 79
9.2	Multiplying and dividing rational expressions	710: 2, 6, 11, 17, 28, 34, 37, 44
9.3	Adding and subtracting rational expressions	721: 1, 11, 23, 33, 36, 43, 55, 60
9.6	Rational equations and problem solving	762: 2, 3, 18, 25, 51, 61, 67, 81
Ch. 7		
7.1	Roots and radicals	560: 1, 9, 14, 38, 49, 50, 57, 58, 69, 72
7.2	Simplifying radical expressions	573: 1, 2, 10, 26, 27, 41, 49, 71, 72
7.3	Operations on radicals	584: 1, 6, 11, 20, 33, 58, 61, 67, 75, 89
7.4	Solving radical equations	593: 4, 8, 9, 16, 26, 27, 40, 48
7.5	Rational exponents	603: 1, 5, 6, 15, 23, 33, 46, 53, 65, 69
7.6	Complex numbers	611: 1, 5, 11, 15, 27, 36, 40, 51, 55
Ch. 8		
8.1	Solving quadratic equations	633: 1, 8, 11, 22, 34, 35, 46, 55, 63, 83
8.2	The quadratic formula	651: 2, 5, 8, 21, 29, 46, 55, 72, 73
8.3	An introduction to parabolas	665: 1, 2, 3, 9, 14, 21, 25, 35, 45
8.4	Quadratic equations and problem solving	678: 1, 3, 6, 23, 31, 35, 37
Ch.10		
10.4	Exponential functions	819: 1, 2, 3, 10, 25, 37, 51, 59
10.7	Logarithmic and exponential equations	859: 1, 2, 14, 21, 31, 39, 47, 53, 57

Course Objectives and Outcomes

At the completion of MAT137S, the student will be able to do the following:

Linear Functions

1) Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and/or using technology
2) Determine identifying characteristics of linear functions
3) Model and solve real world applications with linear functions (e.g., car depreciation) and systems of linear equations

Quadratic Functions and/or Expressions

1) Provide multiple representations of quadratic functions or expressions by hand and/or using technology
2) Determine identifying characteristics of quadratic functions or expressions (e.g., factors)
3) Evaluate, simplify, and perform operations on quadratic functions or expressions
4) Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically
5) Solve real world applications involving quadratic equations and functions

Exponential Functions and/or Expressions

1) Provide multiple representations (e.g., tables, graphs, symbols) of exponential functions or expressions by hand and/or using technology
2) Determine identifying characteristics of exponential functions or expressions
3) Evaluate, simplify, and perform operations on exponential functions or expressions
4) Identify real world applications involving exponential functions and/or solve graphically

Rational Functions and/or Expressions

1) Provide multiple representations of simple rational functions or expressions by hand and/or using technology
2) Determine identifying characteristics of rational functions or expressions
3) Evaluate, simplify, and perform operations on simple rational functions or expressions
4) Solve simple rational equations algebraically and/or graphically
5) Solve real world applications involving rational functions

Radical Functions and/or Expressions

1) Provide multiple representations of simple radical functions or expressions by hand and/or using technology, with primary emphasis on square root
2) Determine identifying characteristics of radical functions or expressions
3) Evaluate, simplify, and perform operations on simple radical functions or expressions
4) Solve simple radical equations algebraically and/or graphically
5) Solve real world applications involving radical functions
6) Identify imaginary numbers

Grade Equivalents

A	93 – 100
A-	90 – 93
B+	87 -89
B	83 – 86
B-	80 – 82
C+	77 – 79
C	73 – 76
C-	70 – 72
D+	67 – 69
D	63 – 66
D-	60 – 62
F	< 60