

University of Colorado at Colorado Springs  
Math 1040 Section 2  
College Algebra  
9:25 am – 10:40 am  
Monday and Wednesday  
Room: Engr 109

Instructor: Virginia Ramos

Office: Engr 289      Office phone: 255-3869      E-mail: vramos@uccs.edu

Home phone: 635-9385

Office hours: 11am to noon on Monday and Wednesday, or by appointment, for help with algebra, or come join me for visiting/lunch.

Textbook: *College Algebra Essentials*, Blitzer, 3<sup>rd</sup> Edition

Grade: Homework (**no late homework will be accepted**) will count towards 5% of the final grade. Homework is due on Monday for the sections covered the week before. The pre-test is worth 5%. Chapter tests will be worth 20% each, there will be three. A comprehensive final exam will be worth at least 30% of the final grade.

**Make-up Tests: Unless arrangements have been made before a scheduled exam, no make-up exams will be allowed.** The Disability Services Office is handling make-up exams and arrangements must be made through this office *after* I have agreed that a make-up exam is appropriate. Main Hall, Room 105, 719-255-3354, dservice@uccs.edu

*If you have a disability for which you are requesting an accommodation, you are encouraged to contact Disability Services within the first week of classes. Contact information: Main Hall, Room 105, 719-255-3354, dservice@uccs.edu*

*If you are a military student with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact me no later than the first week of class to discuss the class attendance policy. Please see the Military Students website for more information: <http://www.uccs.edu/~military/>.*

**Important Dates:**

September 8    Drop the course and receive 100% tuition refund.

October 28    Last day to drop without special permission of the dean.

**Final Exam: December 14 from 8 am to 10:30 am Wednesday.**

My other class is Math 1040, 8 am to 9:15 am engr 109 on Monday/Wednesday.

Math 104  
College Algebra  
College Algebra Essentials, Blitzer, 3rd Edition  
Fall 2011

*Of course, this schedule may change during the semester as needed.*

P.2-P.3	Exponents-cover rules of exponents (skip Sci. Notation) Radicals and Rational Exponents-cover roots and fractional powers P.2 #7,17,19,25,31,41,45,48,51,57,58,59 P.3 #1,3,5,7,9,13,18,25,28,35,41,45,49,55,56,57,59,66,83,85,86,87,95	August 22
P.4-P.6	Polynomials- degree, +, - multiplication of binomial and binomial and binomial and trinomial Factoring- greatest common factor, FOIL backwards, difference of squares, sum and difference of cubes (briefly!) Rationals- never have 0 in denominator, factor and cancel, multiplication, division, addition and subtraction, complex rationals P.4 #5,11,13,17,18,21,24,27,29,31,41,48,61,75,77 P.5 #5,7,17,21,25,29,35,39,41,49,57,59,65,69,74,81,83 P.6 #1,11,17,20,25,30,31,41,45,46,51,57,61	August 22
	<b>Quiz on Chapter P-</b> for students who don't have the skills necessary for Math 104, please recommend they take Math 090 (through extended studies) or take a more extensive Pre-Algebra type course at PPCC	<b>August 24</b>
1.1-1.3	Graphs- Cartesian coordinate system, x-axis, y-axis, origin, quadrants, ordered pair, plot solutions, absolute value, x-intercept, y-intercept Linears- solving Rationals- solving Models 1.1 #5,7,14,15,23,41,43,75-78 1.2 #7,13,14,15,19,22,27,33,40,41,45,69,71,73,76 1.3 #5,19,25-27,33,36,45	August 24 & 29
1.4	Complex Numbers-define i, define complex number, +, -, multiply, conjugate, divide, square roots of negatives 1.4 #3,5,9,10,13,16,19,21,24,28,31,35,37	August 31
1.5	Quadratics- What is it? Solve by factoring (include zero product principle), square root property (briefly), quadratic equation (include properties of the discriminant). The Pythagorean Theorem should also be covered. Wait to cover solving by completing the square until 2.8. 1.5 #1,3,5,6,7,9,10,15,21,65,69,71,75,77,83-87,140,143	September 7

1.6	Other Types of Equations- factoring (spend most time here), radical on one side, 2 radicals, fractional powers, quadratic form, absolute value 1.6 #1,3,4,5,9,10,11,19,23,25,31,33,41,55,63,64,73	September 12
1.7	Inequalities- $<$ , $>$ signs, interval notation, set builder notation, number lines, solving linear inequalities, compound inequalities 1.7 #5,11,17,19,29,33,41,48,51,55,65,71	September 14
2.1-2.2	Functions- relations, function definition, domain, range, function notation, piecewise functions, increasing, decreasing, constant, relative extrema. 2.1 #5,9,29,37,55,57,59,61,63,79,82,89 2.2 #1,12,13,35,37	September 19
2.3-2.4	Linear Functions and Slope- slope, slope intercept, point slope, standard form, horizontal line, vertical line, parallel lines, perpendicular lines, slope as average rate of change 2.3 #5,9,17,18,25,26,27,33,37,41,57 2.4 #1,7,11,15,20,25	September 21
5.1	Systems of Linear Equations- consistent, inconsistent, dependent, Addition Method, Substitution method 5.1 #5,9,12,15,19,23,24,31,33,36	September 26
	Review	September 28
	<b><i>Test on Chapter 1-2.4, 5.1</i></b>	<b><i>October 3</i></b>
2.5	Transformations- vertical, horizontal shifts, stretches and compressions, reflections 2.5 #17,19,21,23,25,27,29,31,53,57,61,68,81,85,87	October 5
2.6-2.7	Combinations, Composite, Inverse 2.6 #9,11,19,27,33,36,53,56,60,67,69 2.7 #3,9,15,20,23,29,31,33,39	October 10
2.8	Distance, Midpoint, Circles- cover completing the square 2.8 #3,13,23,27,33,37,41,47,53,56,59	October 12
3.1	Quadratics- vertex formula, completing the square, x and y intercepts, maximum and minimum values 3.1 #5,6,11,13,14,17,25,29,31,33,65,69	October 17
3.2	Polynomials- Definition, degree, smooth and continuous, leading coefficient test, number of peaks and valleys, finding x intercepts and multiplicity 3.2 #1,7,9,11,13,19,23,25,29,41a-c,e,43a-c,e,57a-c,e	October 19
3.3-3.4	Dividing polynomials, Zeros of Polynomials- Division, Synthetic division, Remainder Theorem, Fundamental Theorem of Algebra, Finding all zeros, conjugate pair theorem 3.3 #6,13,17,21,33 3.4 #3,7,9,11,15,17,21,27(only 1st sentence),29(only 1st sentence), 42,43,54	October 24
	Review	Oct 26

	<b><i>Test on Chapter 2.5-3.4</i></b>	<b><i>October 31</i></b>
3.5	Rationals- Vertical asymptotes, horizontal asymptotes (which you can cross!), sketching 3.5 #3,5,23,29,31,33,49,54,63	November 2
3.6	Polynomial and Rational Inequalities- Temporarily set =0, find undefined, draw number line, choose test points 3.6 #5,15,29,35,42,47,53	November 7
4.1	Exponentials- what is it, graphs, interest , e 4.1 #25,27,33,53,56,61	November 9
4.2	Logarithms- Evaluating, logarithmic form, graphs, domain 4.2 #1,3,5,7,9,11,13,15,17,19,21,25,29,31,33,37,41,59,61,75,77,81,83,85,87,89,91,94	November 14
	Review	November 16
	<b><i>Test on Chapter 3.5-4.2</i></b>	<b><i>November 21</i></b>
4.3	Properties of Logs 4.3 #3,5,9,13,15,21,25,28,29,35,37,41,47,51,55,61,65,69	November 28
4.4	Exponential and Logarithmic Equations 4.4 #3,5,17,21,23,29,33,45,49,51,55,59,63,67,71,79,80,85	November 30
4.5	Exponential Growth and Decay 4.5 #1,3,5,15,35	December 5
	Review	December 7
	<b><i>Comprehensive final exam</i></b>	<b><i>December 12</i></b>

A Supplemental Instruction (SI) component is provided for all students who want to improve their understanding of the material taught in this course. SI sessions are led by a student who has already mastered the course material and has been trained to facilitate group sessions where students can meet to compare class notes, review and discuss important concepts, develop strategies for studying, and prepare for exams. Attendance at SI sessions is free and voluntary. Students may attend as many times as they choose. SI sessions begin the second week of class and continue throughout the semester. A session schedule will be announced in class. For information about the program and session schedule/updates, visit: [http://www.uccs.edu/~mlc/si\\_and\\_help.html](http://www.uccs.edu/~mlc/si_and_help.html).

The MLC hours:

Monday 9:00am – 7:00pm

Friday 8:00 am – 4:30 pm

Tuesday – Thursday 8:00 am – 8:00 pm

Sunday 11:00 am – 2:00 pm