Math 1040 Syllabus

Fall 2011

Course Name	College Algebra
Course and Section	Math 1040, sec. 008
Time	Monday and Wednesday at 9:25AM -10:40AM
Location	Centennial Hall, room 102
Textbook	*College Algebra Essentials,* 3rd ed, by Blitzer
Instructor	Richard Neely
Office	ENG Building, room 289
Office hours	Monday, Wednesday 10:45-2:45 by appointment
Office Phone	719-255-3869
E-mail	rneely@uccs.edu (**This is best contact method)**

- **Course Overview**

This course will provide an in-depth study of algebraic equations and inequalities. Comprehension of the underlying algebraic structure will be stressed as well as appropriate algebraic skills. The study will include polynomials, rational, exponential, and logarithmic equations as well as systems of equations and inequalities.

- **Deadlines and important dates**

Aug 22 - First day of class
Sept 8 - Last day to drop with refund
Oct 12 - Exam 1: Text Sections 1.1-1.7, 2.1-2.4, 5.1
Oct 28 - Last day to withdraw without special permission from the dean
Nov 21 - Exam 2: Text Sections 2.5-2.8, 3.1-3.6, 4.1-4.2
Dec 14 - Final Exam, **8:00AM-10: 30AM:** Exam 1 and Exam 2 material plus Text Sections 4.3-4.5

- **Grading Criteria**

A student's grade will be determined by:

Quiz	30 points
Homework	120 points
Two Exams (no calculators allowed)	200 points
Final Exam (no calculators allowed)	150 points
Total	500 points

- **Homework and Testing policies**

  - **<u>Absolutely no late homework will be accepted</u>**. The homework will be assigned from the textbook, and will be due at the beginning of class on the due date. Only selected problems will be graded (each set will be worth 20 points). Homework grades will be posted on Blackboard as soon as they are known.
  - **<u>Absolutely no late tests will be allowed</u>**. If you know in advance that you must miss an exam you are required to **<u>make arrangements with me several days prior to the exam</u>** and take it early in the Disability Services and Testing Center. Students must email or stop by to make an appointment to take those exams (Main Hall room 105). Exam grades will be posted on Blackboard as soon as they are known.

  - **<u>Guaranteed Minimum Grading</u>**

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
93	90	87	83	80	77	73	70	67	63	60	0

NOTE: There are no calculators allowed on any of the examinations!!

- **Additional Assistance**

Students with disabilities who require special assistance should feel free to contact me for any help or accommodation they might need. Please contact me as soon as possible; the sooner I am alerted to any special requirements, the better able I will be to make any necessary arrangements.

- **Other Resources**

The Math Learning Center, 1st floor ENGR bldg, is available to all math students free of charge and without reservation. Check with them for their hours. This is an excellent opportunity to seek alternative explanations of concepts, get expert help with homework, or just meet with your fellow students for a group study session.
There are also rooms available free for reservation in the library—good place for a group to meet. They have chalk or whiteboards but you may want too bring your own chalk and markers and erasers.

- **Note on Academic Honesty**

I expect you to do your own work on all exams. Discussing homework problems with others is welcomed and encouraged.

I reserve the right to change the contents of the syllabus, with notification.

Syllabus detail not provided to students:

Math 104
College Algebra
College Algebra Essentials, Blitzer, 3rd Edition
Adopted Fall 2009

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	1 day
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	2 days
	Quiz on Chapter P- 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	1 day
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	2 days
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	1 day
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	1 day
1.6	Other Types of Equations- factoring (spend most time here), radical on one side, 2 radicals, fractional powers, quadratic form, absolute value	1 day

	1.6 #1,3,4,5,9,10,11,19,23,25,31,33,41,55,63,64,73	
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	1 day
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	1 day
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	1 day
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	1 day
	Test on Chapter 1-2.4, 5.1	1 day
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	1 day
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	1 day
2.8	Distance, Midpoint, Circles- cover completing the square 2.8 #3,13,23,27,33,37,41,47,53,56,59	1 day
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	1 day
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	1 day
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	1 day
3.5	Rationals- Vertical asymptotes, horizontal asymptotes (which you can cross!), sketching 3.5 #3,5,23,29,31,33,49,54,63	1 day
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	1 day
4.1	Exponentials- what is it, graphs, interest , e 4.1 #25,27,33,53,56,61	1 day
4.2	Logarithms- Evaluating, logarithmic form, graphs, domain	1 day

	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	
	Test on Chapter 2.5-4.2	1 day
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	1 day
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	1 day
4.5	Exponential Growth and Decay 4.5 #1,3,5,15,35	1 day
	Extra Days for Reviewing Before Exams, Catch-Up, etc	2 days
	Comprehensive final exam	1 day