The College of Staten Island
Department of Mathematics

COURSE OUTLINE
Mth 030 - Intermediate Algebra   Spring, 2007
DM,SB,JCD

Text: Intermediate Algebra, by J.Kaufmann / K. Schwitters **8th ed.**, Brooks/Cole, Thomson Learning
Calculator   (No Graphing or Programmable Calculators)

Week	Lecture	Section	Topics	Homework Problems
I	1	2.1	**Solving Linear Equations** and Word Problems	Pg. 51: 17, 19, 21, 23, 35, 39, 41, 43, 51, 53
	2	2.2 2.4	Equations in Fractional Form and Formulas	Pg. 59: 3, 7, 15, 31 Pg. 77: 17, 19, 21, 25, 27, 37
	3	2.5	Solving Linear Inequalities	Pg. 86: 1, 3, 5, 9, 11,13, 19, 23, 25, 27, 39, 47, 63
	4	2.7	Solving Absolute Value Equations	Pg.101: 15, 27, 37, 45, 47, 55
II	5	2.7	Solving Absolute Value Inequalities	Pg. 101: 3, 5, 9, 13, 23, 43
	6	7.1	**Rectangular Coordinate System** Graphing Linear Equations in One Variable	Pg. 346: 29, 30, 31, 32 $y = -5$, $x = 4$
	7	7.1	**Graphing Linear Equations** in Two Variables by setting up a table of values	Pg. 346: 13, 15, 19, 21 $y = \dfrac{1}{2}x + 3$, $y = -\dfrac{1}{4}x - 1$ (set up table of values)
	8	7.1	**Graphing Linear Equations** in Two Variables by using **Intercept method.** Reading Graphs	Pg. 346: 1 – 9 odd, 20, 27,40, 41, 43 (Intercept method) Pg. 347: 38, 39 Handout
III	9	7.3	**Graphing Linear Inequalities**	Pg. 361: 1, 5, 9, 15, 19 (Table or Intercept Method)
	10	7.4	**Slope Formula** Slope – Graphing a line given a point and slope	Pg. 371: 21, 23, 25 Pg. 372: 41-45 odd, 55,56,57, 66, 67
	11	7.5	**Equation of a Line** - Point Slope Form	Pg. 383: 1 - 5 odd, 9, 13, 19 - 23odd, 26, 27 Write final equations in slope-intercept form.
	12	7.5	**Equation of a Line** - Slope Intercept Form Equation of a Line - Graphing	Pg. 384: 43, 45, 49 – 61 odd
IV	13	7.5	**Parallel and Perpendicular Lines**	Pg. 383: 31, 32, 35, 37, 39, 72, 73 Write final equations in slope-intercept form.
	14	10.1	**Solving a System of Two Linear** Equations by **Graphing** Additional homework problems	Pg. 493: 1, 2, 13 1) 3x - 2y = 6 2) y = 3x + 1 x + 2y = 2 2x + y = 6

	15	10.1	Solving a System of Two Linear Equations by **Substitution Method**	Pg. 494: 11, 13, 15, 16
	16	10.2	Solving a System of Two Linear Equations using **Elimination –by-Addition Method**	Pg. 502: 1, 3, 5, 9, 11, 17, 19
V	17		**Review**	Pg. 104: 1 - 7 odd, 15 - 21 odd, 25, 26, 28, 33, 34, 39, 41, 43, 44, 47 Pg. 388: 1,4, 8 (Use $y = mx + b$ form), 11,12,14, 16, 17, 20, 23, 25, 29,37,39,40 Pg. 542: 1 - 4 , 7
	18		**Exam #1**	
	19	3.1	**Polynomials** - Addition and Subtraction	Pg. 113: 15, 16, 25, 27, 35, 39, 53
	20	3.2	Monomials - Products and Quotients	Pg. 120: 3 - 9 odd; 21, 29, 37, 39, 49,59, 61
VI	21	3.3	Multiplying Polynomials	Pg. 127: 1,3,13, 17, 19, 21, 23, 33 - 37 odd, 41,53, 55
	22	3.4	**Factoring** - Common Factor	Pg. 135: 25, 27, 29, 31, 35, 39
	23	3.4	Factoring - Common Factor and Solving Equations	Pg. 135: 65, 67, 73 – 79 odd, 87
	24	3.5	Factoring the difference of Two Squares and Solving Equations	Pg. 142: 1, 3, 5, 11, 21 - 25 odd, 57, 59, $3x^3 - 27x = 0$
VII	25	3.6	Factoring Trinomials ($a = 1$)	Pg. 150: 1 - 9 odd, 15, 17,41, 45
	26	3.6	Factoring Trinomials ($a > 1$) **Additional homework problems**	Pg. 150: 23, 39, 57, 63, 67,77, 79, 89 1) $2x^2 + 7x + 3$, 2) $3x^2 - 8x + 5$ 3) $3y^2 - 7y - 6$, 4) $5a^2 + 18a - 8$
	27	3.7	**Solving Equations and Problem Solving**	Pg. 156: 1,5,7, 9,13, 17, 23, 55
	28		**Review**	Pg. 160: 1,2,5 - 8,10,11,12,15,18,24, 25,30,34-36, 39,40,4 6,47,49,60,68
VIII	29		**Exam #2**	
	30	4.1 4.5	Simplifying **Rational Expressions** **Dividing** a Polynomial by a Monomial	Pg. 170: 7, 9, 15, 17, 19, 20, 21, 23 Pg. 200: 3, 5, 7, 9, 10
	31	4.2	Rational Expressions - **Multiply** and **Divide**	Pg. 176: 5, 9, 13, 21, 26, 27, 31, 32
	32	4.3	Rational Expressions - **Addition and Subtraction**	Pg. 184: 1, 3, 13, 17, 23, 35,49, 53, 61

IX	33	4.4	**More Rational Expressions -** Addition and Subtraction	Pg. 193: 1, 5, 9, 13, 15
	34	4.6	**Fractional Equations**	Pg. 208: 3, 5, 9, 11, 15, 19, 25, 29, 37
	35	5.1	Zero and Negative Integers as **Exponents**	Pg. 231: 1, 3, 5, 11, 17, 21, 33, 35, 45, 61, 63, 69
	36	5.2	**Roots and Radicals** - Simplify	Pg. 242: 1 - 7 odd, 11, 21 - 25odd, 29, 31 45, 55
X	37	5.3	Radicals - **Combining** and **Simplifying** Radicals	Pg. 248: 1 - 9 odd, 10, 23, 27
	38	5.4	Radicals – **Products and Quotients** Additional homework problems	Pg. 254: 1, 3, 5, 15, 31, 33, 43 $\dfrac{1}{\sqrt{2}}, \dfrac{2}{\sqrt{3}}, \sqrt{\dfrac{2}{7}}, \dfrac{\sqrt{35}}{\sqrt{7}}$, and 53, 55
	39	5.5	**Solving Radical Equations**	Pg. 260: 1 -15 odd, 33
	40	5.6	**Rational Exponents**	Pg. 266: 1, 2, 3, 5, 7, 13, 14, 15, 16, 31, 32 35, 45 - 49 odd
XI	41	5.7	**Scientific Notation** (Conversion only)	Pg. 271: 1 - 17 odd, 21, 27, 29
	42		**Review**	Pg. 221: 1,2,3,5,11,12,14 - 19, 23, 24, 26,27,30 Pg. 275: 1,2,4,7,9,10,12,13,14,19,25, 28,30,33,43,46,49,55 , $\dfrac{3}{\sqrt{2}}$, $\dfrac{\sqrt{3}}{\sqrt{8}}$
	43		**Exam #3**	
	44	6.1	**Complex Numbers** (no Division)	Pg. 285: 11,13, 27, 33, 35, 43, 47, 63, 65, 73, 77, 81
XII	45	6.2	**Solving Quadratic Equations** and Applications (Pythagorean Theorem)	Pg. 293: 1, 4, 9, 35, 37, 39, 53, 57, 61, 63, 71, 75, 87
	46	6.3	Solving Quadratic Equations using **Completing the Square**	Pg. 299: 1, 3, 15, 21, 23, 25, 47
	47	6.4	**Quadratic Formula**	Pg. 307: 11, 13, 15, 17, 25, 29, 35
	48	8.1	**Graphing a Parabola** by plotting points & symmetry	Pg. 401: 1 - 11 odd, 17, 19
XIII	49	8.1	**Graphing a Parabola** using $y = (x - h)^2 + k$ or $y - k = (x - h)^2$	Pg. 401: 13, 15, 21, 23, 25, 27, 29 (use vertex point, y-intercept and axis of symmetry to graph)
	50	8.2	**Graphing the Circle**	Pg.408: 23, 25, 27, 31, 35, 37, 39,45, 47

	51		**Review**	Pg. 328: 1-5odd,13, 14, 16, 17, 18, 20, 22, 23 Pg. 425: 1, 3, 4, (Find vertex, y-intercept and graph), 10 - 13 (find the center and radius of the circle), 37 ,38
	52		**Exam #4**	
XIV	53		Review	
	54		Review	
	55		Review	
	56		Review	