MAT 121 –College Algebra   **Spring Semester, 2011**
Section G11

INSTRUCTOR: Dr. Harry S. (Steve) Mills, EDBH 134K, 970-339-6238, E-mail: Use mail tool on MyAims course website. (Click on Classlist from the main Navigation bar and then click on "Mills, Harry.")   Emergency e-mail: steve.mills@aims.edu

Class Time and Place: 8:45 – 10:00 a.m., MWF, EDBH 143

Catalog Description: Includes a brief review of intermediate algebra, equations and inequalities, and covers functions, exponential and logarithmic functions, theory of equations, graphs, and linear and nonlinear systems with a selection of serveral topics from among graphing of the conic sections, sequences and series, permutations and combinations, and the binomial theorem. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 099 or assessment. Four credits.

Prerequisites: Completion of MAT 099 with a 'C' or better, ACT Math score greater than or equal to 23, or assessment score.

Required Materials:

● **Textbook:** College Algebra by Dugopolskiy, 5th Edition. Textbook bundled with Access Code is available in the College Bookstore. Access to CourseCompass may also be purchased separately from http://www.coursecompass.com. Access to CourseCompass is *required*.

● **Scientific Calculator:** The TI 30X IIB or comparable product with a Previous Entry feature. When you can see what you entered, you'll make fewer mistakes, be able to fix any mistakes you make, and explore patterns. GRAPHING CALCULATORS AND CELLPHONES ARE NOT PERMITTED ON TESTS!!!

Course Website: To access the website, login to http:www.aims.edu and click on My Courses tab. Then click on College Algebra. Important course information and a link to CourseCompass, where you will be doing your homework.

Pearson Learning CourseCompass: Online delivery of homework will be performed by CourseCompass with MyMathLab, a product of Pearson Learning. As a learning tool, MyMathLab offers video lectures, exercises, quizzes, and on-demand help, when you get stuck on a problem.

Grades: Three Categories: Tests, Homework, Final Test.

- **Test** Average will count 60% of the final grade. (Replace the lowest of these with your Final Exam grade.)

- **Homework** will count 20% of the final grade.
  Homework is assigned and completed online through CourseCompass, and MyMathLab will deliver extra instruction, tutorials, and generate as many guided examples as you ask.   It's the meat-and-potatoes of your outside-the-classroom activities.

- **Final Test** will count 20% of the final grade.

Grading Scale:
90% - 100% A
80% - 89% B
70% - 79% C
60% - 69% D

General Education Competencies: This course satisfies the following General Education competencies: Critical Thinking, Technology, and Mathematics. It also satisfies the Aims requirement for Writing. Refer to Aims Community College catalog for descriptions.

Learning Outcomes:
A.   Be familiar with set notations, subsets of the real numbers and properties of real numbers.
B.   Perform algebraic manipulations including working with exponents, radicals, polynomial operations, factoring and algebraic fractions.
C.   Solve the following types of equations: linear, quadratic, equations involving radicals, equations in quadratic form and equations involving absolute value.
D.   Work with formulas including formula evaluation and solving a formula for any of the variables.
E.   Read and analyze problems in the form of word problem applications and obtain solutions using equations.
F.   Solve first degree inequalities, higher degree inequalities and inequalities involving absolute value.
G.   Recognize and graph linear functions, rational functions, absolute value functions, and graph inequalities in two variables.
H.   Work with function notation and demonstrate knowledge of the meaning "function".
I.   Demonstrate an understanding of function composition, one-to-one functions and inverse functions.
J.   Evaluate and graph exponential functions.
K.   Evaluate and graph logarithmic functions.
L.   Work problems and solve equations containing exponential and logarithmic functions.
M. Use at least two of the following techniques to solve linear and non-linear systems of the equations: substitution, addition, Gaussian elimination, Cramer's rule.
N. Have some familiarity with matrices and operations involving matrices.
O. Graph systems of inequalities.
P. Graph conic sections including circles, parabolas, ellipses and hyperbolas.
Q. Identify the conic section represented by a given second degree equation.
R. Work with series notation and sequence formulas, and counting principles.
S. Apply the Binomial Theorem.
T. Demonstrate an understanding of proof by mathematical induction.
U. Present topics in theory of equations.
V. Perform synthetic division.
W. Use the Remainder Theorem and the Factor Theorem to factor and evaluate polynomials.
X. Solve polynomial equations using the Rational Root Theorem and/or approximation techniques.
Y. Write and speak clearly and logically about topics related to algebra.
Z. Demonstrate the ability to select and apply contemporary forms of technology to solve problems or compile information in the study of algebra.

Assessment Statement: Assessment is an important part of the educational process... The college needs to look at the acquisition and application of skills that are taught across the curriculum, rather than in any particular course. This means that a college-wide process of assessment of student work also takes place on a regular schedule. So the take-home test will be looked at by 3rd parties, separate from the course.

The assessment tool *we* will use for MAT 121 is a take-home test worth 20 points applied toward your Test 3 score. I will assess it for your grade, and others will assess it for the college's grade. If there is any reason you prefer not to have your assignments submitted for this college-wide assessment process, please let me know in writing within two weeks of receiving this statement.

If you have any further questions, comments, or concerns about the college-wide assessment process, please ask.

Tutoring Information: Drop-in, individual, and guided study group tutoring is available to currently enrolled Aims students. For available subjects, hours, and additional questions, please call 339-6541 for Greeley, 667-4611 Ext. 3304 for Loveland, and 303-718-5905 for Fort Lupton services. Also, please visit our website at http://www.aims.edu/student/learning-commons/tsi/index.php for current information.

Students with Disabilities: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Disability Access Services (DAS) office privately to discuss her/his specific needs. Please be aware that before most accommodations can be allowed in class they must be approved through the DAS office. Students should contact the DAS office at 970-339-6388 or disabilities@aims.edu to set up an appointment to discuss the process of requesting reasonable accommodations. DAS is located in the College Center in the One-Stop Shop area on the 1st floor.

Student Conduct: *Let common sense and common courtesy prevail!*

If they do *not* prevail, the student will be held to the letter and spirit of the Aims Policy Manual #5-601 (See the Aims website for a full description.). You must abide by these policies. Ignorance is no excuse!

Violations of student conduct policy will be dealt with at my discretion. Sanctions for disruptive behavior include a grade of 'F', expulsion from the course, and expulsion from the college. The same sanctions apply to any violation of Aims student conduct policy.

My Weekly Schedule:

	Monday	Tuesday	Wednesday	Thursday	Friday
7:00 – 8:00		By Appt.	By Appt.	By Appt.	
8:00 – 8:45			Office		
8:45 – 10:00	MAT 121 G11 EDBH 143	Office	MAT 121 G11 EDBH 143	Office	MAT 121 G11 EDBH 143
10:10 - 11:00	Office 10:00 – 11:45	By Appt.	Office 10:10 – 11:30	By Appt.	Office 10:00 – 11:45
11:10 - 12:00			Lunch 11:30 – 12:00	Lunch	
12:10 - 1:00	MAT 201 G11 EDBH 143	MAT 201 G11 EDBH 143	MAT 201 G11 EDBH 143	MAT 201 G11 EDBH 143	MAT 201 G11 EDBH 143
1:10 – 2:00	Lunch	Lunch 1:00 – 1:30	Office	Office	Lunch
2:10 – 3:00		Office 1:30 – 3:00	By Appt.	By Appt.	

Appointments are available if you can't make my office hours. If I start getting regular appointments at unlisted hours, I reserve the right to modify this schedule. Hours marked "Office" are times I set aside for students, specifically.

Office hours are set up to get 'most everyone help before or after class meets, to help those who are commuting to class with their schedules. I'm also setting office hours on Tuesday and Thursday, for students who have that block of time open, otherwise.

Any time you drop by and I'm in my office, I'm usually ready to help you with questions, and I'm in and around the office most of the day.