

**MAT 121 –College Algebra
Section G11**

Fall Semester, 2011

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: 7:45 – 9:00 a.m., MWF, EDBH 133

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 several 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. The bookstore doesn't HAVE the darn access code bundles, this semester. Go to <http://pearsonmylab.com> purchase access to MyLab directly (no access code, just direct purchase). The price is \$80. To save money, you don't have to buy a hard-copy textbook.
- **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 MyLab, where you will be doing your homework. USE **Firefox 3.6** (Internet Explorer 9 has "issues.") or IE8.

Pearson Learning MyLab: Online delivery of homework will be performed by MyLab, powered by MathXL, a product of Pearson Learning. As a learning tool, MyLab offers video lectures, exercises, quizzes, and on-demand help, when you get stuck on a problem. An electronic version of the textbook is also provided on the website.

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.

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/hoursloc-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 – 7:45			Prep		
7:45 – 9:00	MAT 121 G11 EDBH 133		MAT 121 G11 EDBH 133		MAT 121 G11 EDBH 133
9:10 – 10:45	Office/Prep	8:00 – 12:00 Office/Prep By Appt.	Office/Prep	8:00 – 12:00 Office/Prep By Appt.	Office/Prep
11:00 - 12:00	Lunch				Lunch
12:10 - 1:00	MAT 202 G11 EDBH 131	MAT 202 G11 EDBH 131	MAT 202 G11 EDBH 131	MAT 202 G11 EDBH 131	MAT 202 G11 EDBH 131
1:10 – 2:00		Office/Prep	Office/Prep By Appt.	Office/Prep.	
2:10 – 3:00					

Appointments are available if you can't make my office hours, and Drop-Ins are generally welcome.

Phone: 970-339-6238

Office: EDBH 134K