

## MATH 125 - ALGEBRA FOR THE MANAGEMENT AND SOCIAL SCIENCES

Section: 003

Spring Quarter, 2011

Classroom: GTM 321

INSTRUCTOR: Charles Patterson

Office: GTM 332

Phone: 257-3224

Office Hours: 1:00-4:00 MW --- 11:00-12:00/1:00-3:00/4:00-5:00 TR

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**ALEKS Course Code: VTNNU-6CPGP**

**COURSE PREREQUISITES:** Math 101 (or 100) , or placement by exam, or a Math ACT score greater than or equal to 26, or a Math SAT score greater than or equal to 590.

**COURSE GOALS:** To understand the concepts and perform the calculations concerning linear and quadratic equations and functions, graphs, matrices, systems of linear equations, mathematics of finance, sets, probability and statistics, exponential and logarithmic functions.

**TEXTBOOK:** Mathematics with Applications (10<sup>th</sup> edition) by Lial/Hungerford/Holcomb

**ATTENDANCE REGULATIONS:** Any student that has 3 (10% of the class meetings) unexcused absences may have their final average drop one letter grade. Any student that has 6 (20% of the class meetings) or more unexcused absences may receive a final grade of F regardless of his/her final average. A student, who is not present when roll is checked or who leaves before class is dismissed, will be considered absent for the day. **A student who misses two consecutive class meetings must contact me by the following class meeting to discuss the reason for absence and to notify me of his/her plans to remain enrolled in the class.** Excuses for absences must be submitted within three class days after return to class and/or school. Respectfully pay attention for the entire period. *Please turn off cell phones and pagers before entering the classroom. It is disturbing to everyone when they ring during class.*

**GRADE DETERMINATION PROCEDURE:** The instructor will schedule 4 tests worth 100 points each and a 150 point comprehensive final. **Be prepared to present Louisiana Tech ID on test days.** Homework will count at most 50 points and will consist of graded homework assignments and quizzes on WebWork. This 50 point grade will be averaged with the four test grades and comprehensive final to determine a student's grade in the class. In the event of a question regarding an exam grade or final grade, it will be the responsibility of the student to retain and present graded materials which have been returned for student possession.

**LATE HOMEWORK/MISSED EXAMS:** Late homework will only be accepted for an excused absence and must be handed in immediately. Make-ups will be allowed for exams only in the case of an excused absence (generally a doctor's excuse which I have called and verified or an official university excuse). You must contact me by the class meeting following a missed exam to discuss your reason for missing the exam and to determine the possibility of a make-up exam. Make-ups will be another exam or the comprehensive final exam as specified by me.

**GRADE SCALE:** The usual grading scale will be used:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Below 60%	F

**STUDENTS NEEDING SPECIAL ACCOMMODATIONS:** Students needing testing accommodations or classroom accommodations based on a disability are encouraged to discuss the need with me as soon as possible.

**HONOR CODE AND ACADEMIC MISCONDUCT POLICY:** Refer to the "Academic Misconduct" section of the Tech Catalog. If it is determined that academic misconduct has occurred, the penalty may range from dismissal from the University to a failing grade in the course. For more details on the honor code, refer to <http://www.latech.edu/documents/honor-code.pdf>.

## MATH 125

### Course Outline and Assignments

Section	Topic	Assignment
2.5	Polynomial and Rational Inequalities	3, 9, 17, 19, 29, 33, 35
3.1	Functions	9, 11, 13, 17, 20, 21, 27, 33, 35
3.2	Graphs of Functions	3, 5, 9, 11, 15, 47, 50
3.3	Applications of Linear Functions	1, 5, 7, 17, 29, 33a, 35, 37, 39, 45-48 (all), 51bc
3.4	Quadratic Functions	7, 11, 23, 29, 31, 37, 40, 43
3.5	Applications of Quadratic Functions	1acd, 4, 6bc, 7
4.1	Exponential Functions	1-6 (all), 13, 15, 17, 19abc, 35, 45
4.2	Applications of Exponential Functions	2, 3, 5b, 9b, 13
4.3	Logarithmic Functions	1-41 (odd), 49, 54, 55
4.4	Logarithmic and Exponential Equations	1-17 (odd), 23-39 (odd), 51, 54, 67, 69
5.1	Simple Interest and Discount	3, 7, 9, 17, 21, 25, 31, 33, 37
5.2	Compound Interest	9, 15, 19, 25, 33, 35, 43, 45, 46
5.3	Future Value of an Annuity & Sinking Funds	25, 29, 31, 35, 37, 43, 48
5.4	Present Value of an Annuity & Amortization	13, 15, 19, 27, 31, 39-42 (all), 47, 65
6.4	Basic Matrix Operations	1-8 (all), 9-19 (odd)
6.1	The Gauss-Jordan Method (2 x 2)	9, 11, 13, 15
6.2	The Gauss-Jordan Method (3 x 3)	39, 41, 43, 47, 49, 51
6.5	Matrix Products and Inverses	1-7 (odd), 9, 11, 17, 29, 33, 35, 41
8.1	Sets	1-9 (odd), 13-47 (odd)
8.2	Applications of Venn Diagrams	1-7 (odd), 8, 11, 13, 19, 21, 24
8.3	Introduction to Probability	3-7 (odd), 12-17 (all), 19-29 (odd), 34
8.4	Basic Concepts of Probability	1-7 (odd), 9, 15 / 19, 21, 27, 44, 61, 65
9.2	Multiplication Principle, Permutations, and Combinations	1-19 (odd), 27, 29, 39, 41, 47, 55, 57
10.1	Frequency Distributions & Stem-and-Leaf Plots	3 / 13
10.2	Measures of Central Tendency	1, 3, 7, 10, 15, 17, 23, 25
10.3	Measures of Variation	5, 11 / 19, 21, 25, 29ab
10.4	Normal Distribution	5, 7, 9-17 (odd), 23, 25, 29, 31-37 (all)

**NOTE:** (all) - all problems (odd) - odd numbered problems