

## Math 107: College Algebra and Quantitative Reasoning

Text: *Explorations in College Algebra, fifth edition*, Kime, Clark and Michael, Wiley 2011

Course Description: Elementary models of real world situations and use of technologies. Modeling linear and exponential functions and their graphs, systems of linear equations, algebraic patterns, and proportional reasoning.

Graphing calculator is required. TI83 or TI84 is preferred.

Restriction: Education majors ONLY.

Prerequisites: ACT score of at least 19: Placement in Math 107 by the Mathematics Department

Placement Exam: or Math 92 with a grade of C or better.

Note: Only one Math 100, Math 105, Math 107, Math 109 may be used for degree credit.

Outline:

- Introduction to Data and Functions
- Rates of Change and Linear Functions
- When Lines Meet: Linear Systems
- The Laws of Exponents
- Growth and Decay: An Introduction to Exponential Functions

Lesson	Section and Topic	Assignment	
1.	Introduction		
2.	1.1 Describing Single-Variable Data	# 3-5, 7, 8, 10, 12-14, 16, 17	WP
3.	1.2 Describing Relationships Between Two Variables	# 7-11, 13, 14	WP
4.	1.3 Introduction to Functions	# 1-5, 12	WP
5-6.	1.4 The Language of Functions	# 1, 4-11, 13, 16, 17	
7.	1.5 Visualizing Functions	# 1-10, 15, 16, 18, 30	WP
8.	2.3 The Average Rate of Change is the Slope	# 1-7, 9, 11, 13, 16, 18, 19	WP
9.	Review	Chapt. 1 sections 1-5 Chapt. 2 section 3 Chapt. 1 Review : 1, 4, 6, 11, 13ac, 14, 15, 17-20 Chapt. 2 Review: 3, 4	
10.	Test 1		
11.	2.5 Linear Functions	# 4-15, 17, 18-24 even	WP
12.	2.6 Visualizing Linear Functions	# 1-7, 9, 10, 13	WP
13.	2.7 Constructing Graphs and Equations of Linear Functions	# 1-8, 11-17, 19, 24	WP
14.	2.8 Special Cases	# 1-6, 9-14, 16, 18-23	WP
15-16.	2.9 Breaking the Line: Piecewise Linear Functions	# 1-4, 10, 11 (worksheet)	WP
17.	2.10 Constructing Linear Models of Data	# 1-4, 6, 13, 15	WP
18.	Review	Check Your Understanding : # 1-4, 7, 10, 17, 20, 22, 25, 29, 30, 32-39, 42, 46-53 Chapt 2 Review: #3-6, 9, 12-14, 16, 17, 19	
19.	Test 2		
20.	3.1 Interpreting Intersection Points	#1-7, 10, 12	WP
21.	3.2 Solving Linear Systems	#1-6, 9, 10, 12-16, 23, 24	WP

[illegible]