Math 109 MWF
Pre-Calculus Algebra

Text: *Precalculus: Graphs and Models*, 2nd edition, Barnett, Ziegler, and Byleen, McGraw Hill, 2005

Prerequisites: One of: Math 105 with a grade of C or better; Math ACT of 25 or above; or Placement by the Mathematics Department. **A Graphing calculator is required.** A TI-83, TI-86, TI-89, or TI-92 is strongly recommended. The College of Engineering recommends the TI-92.

This is NOT a beginning algebra course. Students are expected to be knowledgable in basic algebra skills and concepts. The text includes many, many opportunities for learning. Each chapter begins with a recommended review and ends with a concise review of concepts covered. Numerous examples are completely worked out in the text and on-line help is available at internet websites.

Lesson	Section and Topic	Assignment
1	Orientation	Get text,calculator for NEXT class and practice on calculator by doing Ex. 1 on page 4 and Ex. 3 on page 8
2	1.1 Using grapher	7,9,14,15,16,21,23,25,29,32,37,41,44,45
3	1.1 Applications	READ Example 5; 49,50,51,53,55,56,57; PREVIEW Sec. 1.2,especially Definitions 1,2,3
4	1.2 Functions	READ Examples 1 through 7; 1-6,9,10,11,13-18,21-24,25,28,29,32,36,37,39,40,41,43,45,46,49,52
5	1.2 Functions cont'd	READ Example 8; 57,59,60,63-66,67,69,75,77,79,80,85,86,87,90,91,92; PREVIEW Sec. 1.3, especially page 39 and Definitions 1 and 2
6	1.3 Function Graphs	READ Examples 1 through 6; 1,4,5,7,8,13,16,20,21,22,27,28,31,35,39,40,51,53,56,57,60,67, 79,81,82,85,91; PREVIEW Sec. 1.4,especially page 63
7	1.3 Function Graphs cont'd	35,39,40,51,53,56,57,60,67,79,81,82,85,91; PREVIEW Sec. 1.4,especially page 63
8	1.4 Transformations	READ Examples 1 through 5; 1,2,3,5,9,11,12,15,20,21,28,29,31,32,35,37,40,43,46,47
9	1.4 Transformations cont'd	52,54,56,59-61,63,65-67,77,80; PREVIEW Sec. 1.5,especially Definitions 1 and 2
10	1.5 Combining Functions	READ Examples 1 through 5; 1,5,6,11,12,13,16,17,20,21,25,26,29,31,35,37,38,41,44,46,47
11	1.5 Combining Functions cont'd	50,64,65,75-79; PREVIEW Sec. 1.6,especially Definitions 1 and 2
12	1.6 Inverse Functions	READ Examples 1,2,3,4; 1,3,6,7,8,13,14,16,22,24,33,34,35,39,40,46,47,49,52
13	1.6 Inverse Functions cont'd	57,62,63,70,71,75-78,81,85,99,100 PREVIEW Sec. 2.1,especially the blue boxes on pages 115,119,122,and 123
14	2.1 Linear Functions	READ Examples 1 through 7; 1,5,6,8,10,12,13,14,17,20,23,25,27,32,35,36,41,42,45,47,50,51,53, 55,56,57,59,63,64,66,68
	Review for Test 1	Study for Test 1 and READ Chapter Review on pages 103 and 104
15	TEST 1 CHAPTER 1	
16	2.1 Applications	READ Example 8; 69,70,72,79,80,89,91,94,95,100,101,102; PREVIEW Sec. 2.2
17	2.2 Linear Models	READ Examples 1,2,3,6; 1-6,8,10,21,24,28,31,40,41, 44,45,48-58,71,73,81-83,85,88; PREVIEW Sec. 2.3,especially the blue boxes on pages 152,153,157
18	2.3 Quadratic Functions	READ Examples 1,2,3,4; 1,3,6-8,15,16,19,22,25,28,29,31,34,37,38,39,43,44,51,52
19	2.3 Applications	READ Examples 5 and 6; 58,59,60,63,65,68,71,72,73; PREVIEW Sec. 2.4, especially Definitions 1,2,3,4
20	2.4 Complex Numbers	READ Examples 1,2,3,4,5,7; 1,5,6,11,14,19,23,24,29,33,34,35,36,39,43,51,73; PREVIEW Sec. 2.5, especially all blue boxes,Example 1,and Theorem 1
21	2.5 Quadratic Models	READ Examples 3,4,5; 1,5,6,19,24,26,33,34,36,42,49,50,59,65,66,87,89,91,94,95,102; PREVIEW Sec. 2.6,especially pages 197 and 201
22	2.6 Other equations	READ Examples 1,2,3,4,6,7; 1,2,5,6,7,10,11,13,15,16,18,19,21,25,29,32,57,58,59,61,62,64; PREVIEW Sec. 2.7,especially Theorems 1,2,3
23	2.7 Inequalities	READ Examples 1 through 6; 1-3,9,10,11,13,15,22, 23,26,29,30,31,38,39,42,43,45,48,52,55-58, 61,81,89,90,92,93
24	3.1 Polynomial Functions	READ Examples 1,2,3,5; 1-5,7,9,10,12,13,16,17,23,24
	Review for Test 2	Study for Test 2 and READ Chapter Review on pages 224 - 226
25	TEST 2 CHAPTER 2	PREVIEW Sec. 3.1,especially Definitions 1 and 2,and Theorems 1,2,3

Lesson	Section and Topic	Assignment
26	3.1 Follow-up	READ Examples 4,6,7,9; 25,27,29,35,37,40,42,45,49,57,61-64,67,68,73,76,83,91,92,95; PREVIEW Sec. 3.2,especially Theorems 1 and 2
27	3.2 Real Zeros	READ Examples 1,2,3,5,7,8 and Input Program SYNDIV into calculator; 3,4,5,6,11,12,17,18,27, 33,34,39,40,47,50,55,58,67,69,70,71,72; PREVIEW Sec. 3.3,especially Theorems 1 through 6
28	3.3 Complex Zeros	READ Examples 1,2,3; 1-3,7,9-11,15-18,21,23,31,32,37-40,45,47,48,54,55,57-60,71-73,89,96,97; PREVIEW Sec. 3.4,especially the colored boxes on pages 288,293,294
29	3.4 Rational Functions	READ Examples 1,3,4,5; 1-5,7,10,12,14,15,17,18,29,33,36,38,42
30	3.4 Follow-up	READ Examples 6,8; 45-49,54,61,63,66,71,74,81,84,86,87,91,92 PREVIEW Sec. 4.1,especially Definitions 1 and 2,and Theorem 1
31	4.1 Exponential Functions	READ Examples 1,2,4,6; 1,2,5-7,11-14,17,18,21,23,26,27,31,33,34,38,39,42,61,63,87,88, 90,95;
	Review for Test 3	Study for Test 3 and READ the Chapter Review on pages 308 - 310
32	TEST 3 CHAPTER 3	PREVIEW Sec. 4.2,especially the formulas on pages 332 and 334
33	4.2 Exponential Models	READ Examples 1,2,3,4,6,7; 2,5,8,9,12,16,17,21,22,23,24; PREVIEW Sec. 4.3,especially Definition 1 and Theorem 1
34	4.3 Logarithmic Functions	READ Examples 1,2,3,4; 1,2,5,6,9,10,13,14,15,17,20,22-25,27,30,47,50,51,54,56,58,60
35	4.3 Follow-up	READ Examples 5,6,7; 31,35,39,42,43,46,61,67,77,78,86,89,92,95; PREVIEW Sec. 4.4
36	4.4 Logarithmic Models	READ Examples 1,2,3,5; 1,2,3,5,6,8,11,14,15,17; PREVIEW Sec. 4.5
37	4.5 Exponential and Logarithmic Equations	READ Examples 1,3,5; 3,8,9,12,13,16,17,19,22-24,27,30,31,32,36
38	4.5 Applications	READ Examples 2,6,7; 33,39,41,43,46,47,55,66,68,69,72,73,77
39	Review for Test 4	Study for Test 4 and READ Chapter Review on pages 373 -374
40	TEST 4 CHAPTER 4	
41	Review for Final - Chapters 1 and 2	REVIEW problems: pages 233 - 237; 3-6,12-15,19-22,24,26,30,33,36,37,42,44, 45,65,67
	Review for Final - Chapters 3 and 4	REVIEW problems: pages 380 - 383;1,4,6,7,9,10,15,24,25,29,32,38,49,54,55, 62,65,66,69

Emergency Evacuation Procedure: A map of this floor is posted near the elevator marking the evacuation route and the **Designated Rescue Area**. This is an area where emergency service personnel will go first to look for individuals who need assistance in exiting the building. Students who may need assistance should identify themselves to the teaching faculty.

Last updated 3 April 2007.