

COLLEGE OF STATEN ISLAND
DEPARTMENT OF MATHEMATICS
COURSE OUTLINE
MTH 102 -- Mathematics for Liberal Arts

Fall 2004

TEXT: Mathematical Excursions by Aufmann/Lockwood/Nation/Clegg;
Houghton Mifflin Company

REQUIRED: Scientific Calculator

LESSON	SECTION	TOPICS	HOMEWORK PROBLEMS
1,2,3	5.1 pgs.240-251	FIRST DEGREE EQUATIONS	
		Solving First-Degree Equations	252/1,3,5,9,11,17,25,35
		Applications	252/42,43,47,48,60b
		Literal Equations	256/71,75,77,79,90
4,5,6	5.2 pgs.257-267	RATES, RATIOS & PROPORTIONS	
		Rates	270/3,8,9,10,14,17
		Ratios	271/21a,b,27,28a,29,31
		Proportions	274/35,43,53,56,58,59
7,8,9	5.3 pgs.277-291	PERCENTS	
		Percents	291/5,7,8,18
		Percent problems: The basic percent equations	293/24a,b,27
		Percent increase and decrease	296/30,31a,b,c,d,33c,e,f,35
10		PROBLEM SESSION; Chapter 5	318/2,7,9,10,13,15,16,18a,b,c
11,12	8.2 pgs.467-482	PERIMETERS & AREAS of PLANE FIGURES	
		Perimeter of Plane Geometric Figures	484/1-15 in class 484/17,23,25,29,31,35
		Area of Plane Geometric Figures	486/47,50,53,57,61,65,69,71
13		Review for Test 1	
14		TEST 1	
15,16	11.1 pgs.694-700	THE COUNTING PRINCIPLE	
		Counting by making a list/table/tree diagram The Counting Principle	702/1,3,5,7,9,10,15,17,19,20
17,18	11.2 pgs.704-714	PERMUTATIONS and COMBINATIONS	
		Factorials, Permutations	714/1,3,5,7,13,15,45,47,53,69,70
		Applying Several Counting Techniques Permutations of Indistinguishable Objects	
		Combinations	714/25,27,29,37,39,49,51,57

LESSON	SECTION	TOPICS	HOMEWORK PROBLEMS
19,20,21	11.3 pgs.717-726	PROBABILITY and ODDS Introduction to Probability Empirical Probability Applications to Genetics Calculating Odds	727/1,3,7,9,13,27,31,35,37,39,41,43 45,47,49 728/61,63 729/67,69,73,75,79,80,83,85a,b
22		PROBLEM SESSIONS; Chapter 11	762/5,15,18,21,22,28,33,41 764/1,2,3,5,10,13
23,24	12.1 pgs.768-775	MEASURES of CENTRAL TENDENCY Arithmetic Mean, Median, Mode The Weighted Mean	777/1,3,5,6,11a,b,15a,b 777/17,19,21,23,27,29,31,33a,b,c
25,26	12.2 pgs.781-787	MEASURES of DISPERSION The Range, Standard Deviation (sample only), Variance	789/1,2,3,4,5,7,9,13,14,15,16
27,28	12.3 pgs.795-801	MEASURES of RELATIVE POSITIONS Percentiles, Quartiles Box & Whisker Plots Stem & Leaf Diagrams	802/11,12,13,14,15a,b,c 803/17,19,21 801/1,2
29,30	12.4 pgs.805-811 Omit tables	NORMAL DISTRIBUTIONS Frequency Distributions and Histograms Normal Distributions and Empirical Rules	838/14a,b,c,15a,b 818/1,2 818/3a,b,c,5a,b,6a,b,7a,b,8a,b
31		PROBLEM SESSION; Chapter 12	840/1,2,3,5,6a,b,7a,b
32		REVIEW for TEST 2	
33		TEST 2	
34,35,36, 37,38		SUPPLEMENTAL MATERIAL	Packet to be provided by the Math Department
39,40,41	9.1 pgs.548-560	TRAVELLING ROADS and VISITING CITIES Introduction to Graphs Euler Circuits, Graphs, Pentrating, Puzzles Hamiltonian Circuits	561/1,2,3,4,5,7,9,11,13,15,16 563/17,19,21,23,24,26,27,30 565/33,35,37,39,40,41,42,43,44,45, 46a,b
42,43	9.2 pgs.567-579	EFFICIENT ROUTES Weighted Graphs Algorithms in Complete Graphs Applications of Weighted Graphs Extending Greedy Algorithms	579/1,4,6,7,10,11 580/13,15,17,21,24
44		PROBLEM SESSION; Chapter 9	Chapter 9 Test, 617/1 to 8

LESSON	SECTION	TOPICS	HOMEWORK PROBLEMS
45,46	10.1 pgs.622-630	SIMPLE INTEREST	
		Simple Interest	632/1,2,3,5,7,9,11,15,21,25,31,34,36
		Future and Maturity Value	633/37,39,40,41,43,44,46,47
		Stocks and Bonds	634/50,52,53,55,57
47,48,49	10.2 pgs.636-646	COMPOUND INTEREST	
		Compound Interest	651/1,3,5,7,15,18,27,31,35,40,45
		Present Value, Inflation	652/21,26,37,47,55, 57,59
50		PROBLEM SESSION; Chapter 10	Chapter 10 Test, 689/1 to 11
51		REVIEW for TEST 3	
52		TEST 3	
53,54,55, 56		REVIEW for FINAL	