FE '02

MATH 100 30
SURVEY OF MATHEMATICS

Course Description

This is an introductory course in mathematics designed for humanities majors. It fulfills the general education requirement in mathematics but is not recommended for students who intend to take Math 103, 110, or 210. It is a terminal course in mathematics and does not prepare you for these courses.

The survey course is designed to acquaint you with a wide variety of topics in mathematics with emphasis on mathematical reasoning. You should be proficient in the arithmetic operations on whole numbers, fractions, decimals and percents, but will not need to use any advanced algebra or geometry. You will, however, need a scientific calculator to help you do the calculations required in several areas of study.

Class Meetings / Attendance

DAYS:	Saturdays: October 12 through December 14, 2002	
TIMES:	08:00 - 12:10	
INSTRUCTOR:	Ms. Beth Motoki	Phone: 779 - 8382 (cel. phone / voicemail)
	e-mail: bmotoki@aol.com	293 - 9308 (home - not after 8:00 pm)

Students are expected to attend all classes. The nature of the course (which covers many different topics in a short period of time) as well as the schedule of class meetings makes it very difficult to keep up if you miss one or more days. If you are unable to attend a class, you are still responsible for the material that was covered, including completing the homework exercises that accompany that material. You will receive 5 points for each complete class that you attend. If you have a legitimate reason for absence (illness, family emergency, TDY) when a test is being given, contact the instructor immediately to schedule a make-up. If you miss an exam and do not contact the instructor before the next class meeting, you will receive 0 points for that exam.

Textbook / Homework

Required text: Smith, Karl J., THE NATURE OF MATHEMATICS (8th edition), Brooks/Cole Publishing Co., 1998

As much as possible, we will follow the attached course schedule. You should preview the material that will be covered in class each week by reading the appropriate chapter sections before the class meeting. We will be covering 2 - 3 sections each class meeting. Problems will be assigned as each section is discussed in class, and should be completed before the next class meeting. There will be opportunity to ask questions about any previously assigned exercises at the beginning of each class session. Problems should be kept NEATLY in a notebook which will be collected for grading at the second to last class. You will only receive credit for problems which are clearly legible and for which you have shown reasoning. ("No work shown, no credit given") Be sure that the textbook page number and problem numbers are clearly labeled.

Grading

Your grade will be based on a total of **600** points as follows:

3 exams (100 points each)	300 points
assigned problems (20 points / unit)	60 points
attendance (5 points / class)	100 points
a research paper and presentation	140 points

At the end of the term the course grade will be computed using the total number of points earned, as follows:

520 - 600	A
460 - 519	B
400 - 459	C
300 - 399	D
0 - 299	F

Please note: There will be NO EXTRA CREDIT given, with the possible exception of bonus questions on exams. Also, the above point totals will be strictly adhered to; if you earn 459 points, you will get a **C**, not a **B**.

Topics Covered

(The 3 exams will cover the 3 units described below.)

UNIT I - The Nature of Logical Thinking and Problem Solving

Problem Solving, Sets, Inductive and Deductive Reasoning, Formal Logic, Truth Tables, Laws of Logic, and Proof

Chapter 1 - Sections 1, 2, and 3
Chapter 2 - Sections 1, 2, 3, 4, and 5

UNIT II - The Nature of Calculation, Numbers, and Geometry

Different Numeration Systems, Computers and the Binary System, Types of Numbers, Spreadsheets, Similar Triangles, Golden Rectangles, Networks, Topology, and Fractals

Chapter 3 - Sections 3 and 5
Chapter 4 - Sections 2 and 5
Chapter 5 - Section 3
Chapter 7 - Sections 4, 5, 6, and 7

UNIT III - Probability, Statistics, and Financial Management

Probability, Mathematical Expectation, Probability Models, Counting Formulas, Calculated Probabilities, Simple and Compound Interest, Installment Buying, Frequency Distributions, Graphs, and Statistics

Chapter 9 - Sections 1, 2, 3, and 4
Chapter 6 - Sections 1 and 2
Chapter 10 - Sections 1 and 2

MATH 100 - COURSE SCHEDULE

OCT. 12 Read course information, complete information sheet
Unit I - Chapter 1: Sections 1, 2, and 3

OCT. 19 ***Unit I*** - Chapter 2: Sections 1, 2, 3, 4, and 5

OCT. 26 EXAMINATION ON ***Unit I***
TOPIC PROPOSAL FOR RESEARCH PAPER DUE

NOV. 2 ***Unit II*** - Chapter 3: Sections 3 and 5
Chapter 4: Sections 2 and 5
Chapter 5: Section 3

NOV. 9 ***Unit II*** - Chapter 7: Sections 4, 5, 6, and 7

NOV. 16 EXAMINATION ON ***Unit II***
OUTLINE FOR RESEARCH PAPER DUE

NOV. 23 ***Unit III*** - Chapter 9: Sections 1, 2, 3, 4, and 5

NOV. 30 ***Unit III*** - Chapter 6: Sections 1 and 2
Chapter 10: Sections 1 and 2
RESEARCH PAPER DUE (written portion)

DEC. 7 ASSIGNMENT NOTEBOOK DUE
EXAMINATION ON ***Unit III***

DEC. 14 CLASS PRESENTATION OF RESEARCH PAPER