

FE 01

MATH 100 30
SURVEY OF MATHEMATICS

Course Description

This is an introductory course in mathematics 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: Thursdays: October 4 through December 13, 2001
TIMES: 17:30 - 21:40
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 the exercises at the beginning of each class session about any previously assigned problems. 75% of examination questions will be based on the problems assigned.

Grading

Your grade will be based on a total of **350** points as follows:

| | |
|-------------------------------|------------|
| 2 exams (100 points each) | 200 points |
| attendance (5 points / class) | 50 points |
| a research paper | 100 points |

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

| | |
|-----------|---|
| 300 - 350 | A |
| 260 - 299 | B |
| 220 - 259 | C |
| 175 - 219 | D |
| 0 - 174 | 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 259 points, you will get a **C**, not a **B**.

Topics Covered

Chapter 1 - Sections 1, 2, and 3

Problem Solving: Patterns, Sets, Inductive and Deductive Reasoning

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

Formal Logic: Truth Tables, Laws of Logic, Proof

Chapter 3 - Sections 3 and 5

Numeration: Different Systems, Computers and the Binary System

Chapter 4 - Sections 2 and 5

Number Theory: Types of Numbers (Prime, Composite; Real, Rational, Irrational)

Chapter 7 - Sections 4, 5, 6, and 7

Geometry: Similar Triangles, Golden Rectangles, Networks, Topology, and Fractals

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

Probability: Mathematical Expectation, Probability Models, Counting Formulas, Calculated Probabilities

Chapter 10 - Sections 1 and 2

Statistics: Frequency Distributions, Graphs

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MATH 100 - COURSE SCHEDULE

- OCT 4 Read course information, complete information sheet
Overview of course
Chapter 1: Sections 1, 2 and 3
- OCT 11 Chapter 2: Sections 1 and 2
- OCT 18 Chapter 2: Sections 3, 4 and 5
TOPIC FOR TERM PROJECT DUE
- OCT 25 Chapter 3: Sections 3 and 5
- NOV 1 MID-TERM EXAMINATION (Chapters 1 - 3)
- NOV 8 Chapter 4: Sections 2 and 5
OUTLINE FOR TERM PROJECT DUE
- NOV 15 Chapter 7: Sections 4, 5, 6 and 7
- NOV 29 Chapter 9: Sections 1, 2, 3 and 4
- DEC 6 Chapter 10: Sections 1 and 2
TERM PROJECT DUE
- DEC 13 FINAL EXAMINATION (Chapters 4, 7, 9 and 10)