CHAMINADE UNIVERSITY
MATH 100 SURVEY OF MATHEMATICS
SYLLABUS

Instructor

Dr. David Lani   (phone: 538-3669)

Textbook

The Nature of Mathematics / Smith, Karl J. — 8th edition

Supplies

a *scientific* calculator—with fraction capability—is required
11" x 8.5" lined paper; or, if tearing is needed, perforated notebooks are suggested
#2 (or darker) pencils only

Course Objectives

(1) To introduce students to the nature of mathematics;

(2) To help students develop problem-solving techniques;

(3) To emphasize pattern recognition, critical reasoning, and inductive and deductive reasoning.

Course Requirements

Attendance

Attendance is mandatory. A score of 100, 75, 50, or 0 is recorded for each class: no more than 15 minutes missed = 100; no more than one hour missed = 75; no more than two hours missed = 50; otherwise = 0. The lowest score is discarded; the rest count towards the final course grade. Thus, students should score well on this component.

In-Class Exercises

As the name implies, these are exercises that are completed in class—there is no make-up for any missed assignment. At times, notes and the textbook are allowed; at times, they are not. The same is true for calculators. Students must work alone. The lowest score is discarded; the rest count towards the final course grade.

Homework

Assignments are due at the beginning of class; otherwise, they are considered late. Work that is no more than one day late (next class meeting) is accepted but assessed a 25% deduction. Work that is more than one day late is not accepted; a score of 0 is recorded. The lowest score is discarded; the rest count towards the final course grade.

Problem solving is a major focus of this course and mathematics in general. Therefore, all work and/or explanations leading to solutions must be included, unless otherwise indicated. Points for work are awarded/deducted as part of the overall score for a problem. In general, the answer alone is not sufficient to earn a perfect score for a problem.

Tests

All tests are closed-book, with no notes allowed. Some have "no calculator" parts; some have "calculator allowed" parts. No borrowing of calculators is permitted on tests for which a calculator is allowed or needed. The time limit for the final examination is two hours; each of the previous two tests has a time limit of about one hour. Consult the course calendar for test dates and inform the instructor of any conflict as soon as possible.

Grading

Attendance — 10% of final grade (lowest score discarded)
In-Class Exercises — 10% of final grade (lowest score discarded)
Homework — 15% of final grade (lowest score discarded)
Two Tests — 30% of final grade
Final Exam — 35% of final grade; comprehensive, covering the entire course

> **NOTE**: In fairness to all students, missing the final exam without previous clearance from the instructor results in an automatic score of zero (0), with no possibility of a make-up. Exceptions are medical illness, family emergency or temporary duty. Responsibility rests with the student to contact the instructor before final grades are forwarded to the registrar. A make-up will be granted only if <u>valid</u> documentation is presented. The student and the instructor then sign a contract by which an "I" for incomplete is recorded, and the student has about 90 days from the end of the term to remove the incomplete. After 90 days, "F" is automatically recorded as the final course grade.

Letter Grades: $100 - 90 = A$; $89 - 80 = B$; $79 - 70 = C$; $69 - 60 = D$; below $60 = F$.

Topics Covered

Problem Solving (chapter 1)
Sets; inductive and deductive reasoning; order of operations; exponential notation; scientific notation.

Sets of Numbers and Their Properties (chapter 4)
Natural numbers; prime and composite numbers; integers; rational numbers; irrational numbers; Pythagorean Theorem; real numbers.

Logic (chapter 2)
Deductive reasoning; truth tables; operators; laws of logic; proofs.

Elements of Algebra (chapter 5)
Expressions; equations; inequalities; polynomials; factoring; ratios; proportions; applications.

Measurement (chapter 8)
Units of measurement; length; area; volume.

Student Exercises

Attendance and completion of all tests and homework assignments as described in the course requirements.