

San Francisco State University
Department of Mathematics
Course Syllabus

MATH 165
Concepts of the Number System

Prerequisites

Satisfactory completion of ELM requirement.

Bulletin Description

Designed for prospective multiple subjects credential candidates.
Understanding operations with whole numbers, fractions, and decimals.
Problem solving strategies, numeration systems, and elementary number theory.

Course Objectives

- ⑩ Help you learn and explore the number strand for the elementary curriculum.
- ⑩ Help you see math as interesting and relevant.
- ⑩ Help you see yourself as capable of learning mathematics and solving mathematical problems on your own.
- ⑩ Introduce you to materials to teach content in the number strand to elementary school students.
- ⑩ Convince you that math is not a bunch of formulas to be memorized but problems to solve and patterns to find.

Evaluation of Students

There will be a Midterm and a Final Exam. Weekly homework will be assigned and there will be two projects required.

Course Outline

Topics	Weeks
Functions	1
Sets and Venn Diagrams	1
Symbols, Bases, Concrete Representations	1
Addition, Subtraction Algorithms	1
Multiplication Algorithms & Representations	1.5
Division Algorithms & Representations	1.5
Fractions, Concrete Representations	1
Equivalent Forms, Fraction Addition & Subtraction	1
Fraction Comparison	1
Fraction Multiplication	1
Fraction Division	1
Tests and Projects	2

Textbooks and Software

None. There will be handouts in class.

Submitted by: Eric Hsu

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