

Chaminade University of Honolulu
ED 446 Advanced Math
Instructor: Sylvia Ching
Hours: By appointment only

Fall 2002
396-8462 (home)

RATIONALE

The National Council of Teachers of Mathematics (NCTM) states, "knowing math is doing math." This applies to all levels of instruction K - 12. In this spirit, this course focuses on the use of manipulatives to teach math concepts presented in grades 4 - 8. Part of the process includes students expressing their thoughts on how they solve problems.

OUTCOMES

1. Students will use strategies that will involve their own students in the learning process.
2. Students will take to their prospective schools knowledge about research about how children learn math and be able to lead faculty discussions on research topics for the purpose of improving math instruction in their home school.
3. Students will model cooperative learning strategies and the use of manipulatives in teaching/learning math.
4. Students will know more about math and their own learning process.

COURSE REQUIREMENTS AND EVALUATION

Attendance and Participation	40%
Lesson Plan Manual	30%
Presentations/ Journals	30%

PLEASE PROVIDE COPIES OF THE LESSON PLAN FOR YOUR PRESENTATION.

TEXTBOOK: Van de Walle, John A. Elementary School Mathematics: Teaching Developmentally, 1994.

Aug.31

Syllabus -

a) course format

b) Manuals should include :

1. lesson plans of the activities completed in class in conceptual order.
2. lesson plans of the presentations.
3. additional lesson plans which would show development of the concepts (minimum 1 original lesson per concept).

NCTM standards - integrating of problem solving, communication, reasoning and connections.

Math Autobiography - Writing in math

Cooperative group activities - Consecutive sums

- Pattern blocks

- cooperative group activity

ASSIGNMENTS DUE NEXT WEEK-

Read chapters 1,2,3 - be prepared to discuss these chapters

Sept. 7

Problem Solving - How to assess

Discuss chapters 1,2,3

ASSIGNMENTS DUE NEXT WEEK- 1) read chapter 4 and 14

Sept. 14

Decimals/ Percents

ASSIGNMENTS DUE NEXT WEEK-1) read chapters 12

Sept. 21

Development of fractions

ASSIGNMENTS DUE NEXT WEEK- 1) read chapter 13

Sept. 28

Addition and Subtraction of fractions

ASSIGNMENTS DUE NEXT WEEK- 1) Lesson plans on problem solving and decimals

Oct. 5

Multiplication of fractions

ASSIGNMENTS DUE NEXT WEEK 1) Lesson plans on
a. development of fractions
b. addition and subtraction of fractions

- Oct. 12 Division of fractions
Presentations
ASSIGNMENTS DUE NEXT WEEK - 1) read chapter 15
- Oct. 19 Ratio & Proportion
Presentations
ASSIGNMENTS DUE NEXT WEEK - 1) read chapter 16
- Oct. 26 Measurements
Presentations
ASSIGNMENTS DUE NEXT WEEK - 1) Lesson plans on multiplication
and division of fractions
- Nov. 2 Geometry
ASSIGNMENTS DUE NEXT WEEK - 1) read chapter 17
- Nov. 9 Probability and Statistics
Presentations
ASSIGNMENTS DUE NEXT WEEK - 1) read chapter 19
2) Lesson plans on
a. ratio and proportion
b. measurements
- Nov. 16 Number Theory
Presentations
ASSIGNMENTS DUE NEXT WEEK - 1) Lesson plans on
a. geometry
b. probability and statistics
2) read chapter 20
- Nov. 23 Algebra/ Functions/Technology
Nov. 30 Children of Special Needs
Presentations

LESSONS PLAN FORMAT:

- A. Objective**
- B. Materials needed**
- C. Procedures**
- D. Assessment**
- E. Communication - Writing / integration**