

Chaminade University of Honolulu
ED446 - Advanced Math and Geometry
Instructor - Joe Monaco, 395-9201 (h)

Spring 1999
Tues., 2:00-5:00 p.m.
Office Hours - Tues. 5:00-5:30

Rationale

The National Council of Teachers of Mathematics (NCTM) states that "knowing math is doing math." This applies to all levels of instruction, K-12. In this spirit, this course focuses on math concepts presented in grades 4-8 and how to teach them using concrete models. As we know that students need to talk about how they think about math, emphasis is on student involvement in their own learning through communication and cooperative learning activities.

Outcomes

1. Students will model cooperative learning strategies in order to better facilitate communication and mathematical reasoning.
2. Students will use concrete models in order to improve their capacity to teach/ learn mathematical concepts.
3. Students will learn how to teach mathematics in a developmentally appropriate way.

Course Requirements and Evaluation

Manual of lesson plans	50%
Attendance and participation	40%
Presentations of lessons	10%

- Manuals should be in lesson plan format (including a table of contents).
Lesson plans should include the following information:
Objective(s), Materials, Procedure, Assessment (immediate and/or future), and any appropriate pictures, drawings, or diagrams
- This class involves many hands-on activities in addition to lectures and readings from the textbook. Attendance and participation in class is a necessity.

Textbook

Van de Walle, John A. Elementary School Mathematics: Teaching Developmentally, 1998.

March 2 Discuss chapter 19
Video - "Math in the Middle Grades" - part 3
Probability and statistics

Assignment: Read chapter 17
Do probability and statistics lesson plans

March 9 Discuss chapter 17
Geometry

Assignment: Do geometry lesson plans

March 16 Geometry

Assignment: Read chapter 16
Do geometry lesson plans

March 23 Spring Break

March 30 Discuss chapter 16
Measurement

Assignment: Read chapter 20
Do measurement lesson plans

April 6 Discuss chapter 20
Number theory and algebra

Assignment: Do number theory and algebra lesson plans

April 13 Algebra

Assignment: Read chapters 22 & 23
Do algebra lesson plans

April 20 Discuss chapters 22 & 23
Algebra

Assignment: Read chapters 5 & 24
Do algebra lesson plans

April 27 Discuss chapters 5 & 24
Alternative assessment, technology

Note: Schedule is subject to change to **meet** the needs of the class.

ED446 - SYLLABUS AND SCHEDULE

Jan. 12 Class **Introductions**, Syllabus, Mathphobia, Cooperative Learning Strategies

Assignment: Read chapters 1-4 - be prepared to discuss in class

Jan. 19 Discuss chapters 1-4
Problem solving
Sign up for teaching assignments

Assignment: Read chapter 12
Do problem **solving** lesson plans

Jan. 26 Discuss chapter 12
Video - "Math in the Middle Grades" - part 1
Developing fraction concepts

Assignment: Read chapter 13
Do fraction lesson plans (concepts)

Feb. 2 Discuss chapter 13
Adding and subtracting **fractions**

Assignment: Do **fraction** lesson plans (adding and subtracting)

Feb. 9 Video - "Math in the Middle Grades" - part 2
Multiplying and dividing fractions

Assignment: Read chapter 14
Do fraction lesson plans (multiplying and dividing)

Feb. 16 Discuss chapter 14
Decimals and percents

Assignment: Read chapter 15
Do **decimal** and percent lesson plans

Feb. 23 Discuss chapter 15
Ratio and proportion

Assignment: Read chapter 19
Do ratio and proportion lesson plans