

**Chaminade University of Honolulu**  
**ED445 - Math Education**  
**Instructor - Joe Monaco**  
**Office Hours - Mon., 5:00-5:30 p.m.**

**Spring 2002**  
**Mon., 5:45-8:45 p.m.**  
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## **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 pre-K thru 4, and how to teach them using concrete models. Since 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 manner.**

## **Course Requirements and Evaluation**

<b>Manual of lesson plans</b>	<b>40%</b>
<b>Attendance and participation</b>	<b>40%</b>
<b>Class/reading reflections (10)</b>	<b>10%</b>
<b>Presentation of original lesson</b>	<b>10%</b>

**Manuals should be in lesson plan format (including a table of contents and rationale). Portfolio sections should be submitted weekly for feedback and review. All corrections need to be made for the final manual.**

**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 and Middle School Mathematics: Teaching Developmentally, 2001.**

## ED445 - SYLLABUS AND SCHEDULE

Jan. 14 Course Introduction, Problem Solving, 3 Period Lesson

Assignment: **Do problem solving lesson plans**  
Read chapters 1-3 (class/reading reflection # 1)

Jan. 21 Pre-number experience

Assignment: Do **pre-number** lesson plans  
Read chapters 4 & 6 (class/reading reflection #2)

Jan. 28 Numeration to Ten

Assignment: Do numeration to ten lesson plans  
Read chapter 9 (class/reading reflection #3)

Feb. 4 Introduction to Place Value  
Using different bases

Assignment: Do place value lesson plans  
Read chapter 7 (class/reading reflection #4)

Feb. 11 Linear Counting  
Meanings of Operations

Assignment: Do linear counting lesson plans  
Read chapters 8 & 10 (class/reading reflection #5)

Feb. 18 Holiday

Feb. 25 Number Theory/ Number Sense  
Operations on Whole Numbers (part 1)

Assignment: Do operations lesson plans

March 4 Operations on Whole Numbers (part 2)

Assignment: Do operations lesson plans  
Read chapter 12

**March 11    Fraction Concepts**

**Assignment: Do fraction concepts lesson plans  
Read chapter 13**

**March 18    Fraction Operations**

**Assignment: Do fraction operations lesson plans  
Read chapter 14**

**March 25    Spring Break**

**April 1      Decimal Concepts**

**Assignment: Do decimal concepts lesson plans**

**April 8      Decimal Operations**

**Assignment: Do decimal operations lesson plans  
Read chapter 18**

**April 15    Probability**

**Assignment: Do probability lesson plans**

**April 22    Measurement**

**Assignment: Complete all lesson plans for final manual  
Prepare for lesson presentation**

**April 29    Student Presentations of Lessons  
(xerox a lesson plan for each member of the class)**

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