

## EDUCATION 475-4

### DESIGNS FOR LEARNING: MATHEMATICS

Regular Semester, 1987  
May 4 - July 21  
Wednesdays, 1:00-4:50

Instructor: Daphne Trivett  
Phone: 922-6683 (home)  
Location: MPX 7500B

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**PREREQUISITE:** Educ. 401/402 or equivalent

#### **GENERAL OBJECTIVES:**

- \* To extend students' knowledge of mathematics taught in elementary schools;
- \* to examine objectives and rationale for the teaching and learning of math so that practical approaches to topics can be developed;
- \* to broaden the awareness of the range of resources available to teachers of school mathematics.

#### **MATHEMATICS CONTENT:**

- \* sets, relations, and operations
- \* place value and work in other bases
- \* number theory and the development of systems taught in schools including integers, fractions, decimals, irrational numbers
- \* geometry and measurement
- \* graphing, functions, data collection and interpretation

#### **PEDAGOGICAL CONTENT:**

- \* problem solving
- \* use of concrete materials
- \* the role of drill, rote, practice, exploration, and play
- \* B.C. Math Curriculum, textbooks and other materials available for implementation of curriculum
- \* planning lessons and units of study
- \* dealing with mistakes, discoveries, creativity and conjecture in terms of developing strategies for teaching, evaluation and remediation
- \* integration of math into other areas of curriculum

#### **REQUIRED ACTIVITIES:**

- \* do readings and assignments
- \* participate in class activities and discussions
- \* keep a journal reflecting on personal development re the teaching and learning of math (to be submitted at least twice)
- \* record, report and question through feedback folder system
- \* read issues of the Arithmetic Teacher and Mathematics Teaching and submit parallel analysis
- \* submit a culminating project at close of course. This project is to be a study or an exploration of a topic or area in mathematics teaching of interest or of future use to the students. It must reflect things learned in the course and include ideas for classroom activities to enrich and illustrate mathematics
- \* present to the class the beginning of a lesson (10 minutes maximum).

#### **GRADING:**

Students will be involved in developing evaluation criteria and in self-evaluation of work done in the course.

#### **REQUIRED TEXT:**

Trivett, John V. ...And so on. Detselig Ent., 1980.