

DESIGNS FOR LEARNING: MATHEMATICS

Summer Session, 1988
July 4 - August 12
Tuesday and Thursday, 8:30 - 12:20
Location: 7500B

Instructor: Daphne Trivett
Phone: 922-6683 (home)

PREREQUISITE: Educ. 401/402 or equivalent

GENERAL OBJECTIVES:

- * Extend students' knowledge of mathematics taught in elementary schools
- * Examine objectives and rationale for the teaching and learning of math so that practical approaches to topics can be developed
- * 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, 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
- * record, report, reflect and question through feedback folder system
- * 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).

REQUIRED TEXT:

Children Teaching Themselves, A collection compiled by A. J. Sandy Dawson.

Helping Children Learn Mathematics, Robert E. Reys, Marilyn N. Suydam, Mary Lindquist
(ISBN #0-13-387027-8)